



431 River Road
Bow, NH 03304

GSP MERRIMACK LLC

December 31, 2023

VIA E-MAIL

Ken Moraff, Director
Water Division
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

Re: **Permit Modification Application
NPDES Permit No. NH0001465 for Merrimack Station**

Dear Mr. Moraff:

GSP Merrimack LLC (“GSP Merrimack”) provides the following additional information in support of its pending permit modification application for the above-referenced NPDES Permit and its accompanying request to participate in the low utilization electric generating unit (“LUEGU”) compliance subcategory for Merrimack Station Units 1 and 2. GSP Merrimack is providing this information even though the facility’s NPDES permit has not yet been modified to incorporate any terms and conditions consistent with the LUEGU compliance subcategory. GSP Merrimack submitted a permit modification request on January 11, 2021, and submitted its LUEGU Notice of Planned Participation on October 13, 2021. This is a supplemental permit application in support of the permit modification request.

Consistent with 40 C.F.R. § 423.19(e), each Merrimack Station Unit has a two-year average annual capacity utilization rating of less than 10 percent. Data from January 1, 2022 through December 31, 2023, are provided below. The nameplate capacity utilized below is from Energy Information Administration (“EIA”) Form EIA-860. Available EIA documentation is enclosed, as is the bottom ash best management practices plan, which is needed after LUEGU permit conditions have been incorporated into a modified, effective NPDES permit.

Total MWH production		Y2022	Y2023	2022 & 2023
MK1	MWH	121,142	33,888	155,030
MK2	MWH	184,877	127,457	312,334
Hours per year		8760	8760	
MK1	x nameplate capacity (113.6)	995,136	995,136	1,990,272
MK2	x nameplate capacity (345.6)	3,027,456	3,027,456	6,054,912
Capacity Utilization rating - CUR				
MK1	%	12.2%	3.4%	7.8%
MK2	%	6.1%	4.2%	5.2%

If EPA Region 1 requires any additional information, or if GSP Merrimack can assist in any other manner, please do not hesitate to contact us at your convenience.

Sincerely,



Elizabeth H. Tillotson,
GSP Merrimack LLC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Elizabeth H. Tillotson,
Responsible Official, GSP Merrimack LLC

cc: Mark A. Stein, Senior Assistant Regional Counsel, Region 1 (stein.mark@epa.gov)

Power Plant Operations Report

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS FUEL CONSUMPTION AND GENERATION

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	28,630	Tons	26.4	1.92	7.7
ST	1	OP	DFG	91	Barrels	5.8		
ST	2	OP	BIT	39,530	Tons	26.4	1.92	7.7
ST	2	OP	DFG	273	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		60,121
ST	2	OP		89,454

Power Plant Operations Report

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Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting:

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	15,460	Tons	26.3	1.92	7.7
ST	1	OP	DFO	60	Barrels	5.8		
ST	2	OP	BIT	27,746	Tons	26.3	1.92	7.7
ST	2	OP	DFO	179	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		29,152
ST	2	OP		58,344

**SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS
 FUEL CONSUMPTION AND GENERATION**

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 Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	50	Tons	26.3	1.92	7.7
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	2,639	Tons	26.3	1.92	7.7
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		545
ST	2	OP		7,107

U.S. Department of Energy
Energy Information Administration
Form EIA-923M 2022

Power Plant Operations Report

Form Approval
OMB No. 1905-0129
Approval Expires 05/31/2023

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS FUEL CONSUMPTION AND GENERATION

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Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	IDFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	IDFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

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Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (Δ.D.Btu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	619	Tons	26.4	1.92	7.7
ST	1	OP	DFO	25	Barrels	5.8		
ST	2	OP	BIT	1,428	Tons	26.4	1.92	7.7
ST	2	OP	DFO	76	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		1,104
ST	2	OP		2,445

U.S. Department of Energy
Energy Information Administration
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Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP	0	0
ST	2	OP	0	0

**Power Plant Operations
Report**

**SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS
FUEL CONSUMPTION AND GENERATION**

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Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: [1] [<] [>]

Prime Mover	Boiler ID	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	5,987	Tons	26.3	1.92	7.7
ST	2	OP	DFO	31	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		11,747

**Power Plant Operations
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FUEL CONSUMPTION AND GENERATION**

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Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: [] [] []

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	2,979	Tons	26.3	1.92	7.7
ST	1	OP	DFO	42	Barrels	5.8		
ST	2	OP	BIT	6,550	Tons	26.3	1.92	7.7
ST	2	OP	DFO	126	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify: []

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		5,312
ST	2	OP		11,923

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS
FUEL CONSUMPTION AND GENERATION

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Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
 Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

Power Plant Operations Report

Form Approval
 OMB No. 1905-0129
 Approval Expires 05/31/2023

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 FUEL CONSUMPTION AND GENERATION**

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Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

Power Plant Operations Report

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS FUEL CONSUMPTION AND GENERATION

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh. Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: [Month Selection]

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MBtu per ton, barrel, or Mcf)	Sulfur Content (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO		Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify: [Dropdown]

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

Power Plant Operations Report

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Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MWh/Btu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	12,378	Tons	26.5	1.9	7.7
ST	1	OP	DFCO	292	Barrels	5.8		
ST	2	OP	BIT	2,530	Tons	26.5	1.9	7.7
ST	2	OP	DFCO	97	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		24,908
ST	2	OP		3,857

Power Plant Operations Report

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Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	375	Tons	26.5	1.9	7.7
ST	1	OP	DFO	37	Barrels	5.8		
ST	2	OP	BIT	11,052	Tons	26.5	1.9	7.7
ST	2	OP	DFO	112	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		17
ST	2	OP		23,268

Power Plant Operations Report

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Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	9,830	Tons	26.5	1.9	7.8
ST	1	OP	DFO	30	Barrels	5.8		
ST	2	OP	BIT	20,945	Tons	26.5	1.9	7.8
ST	2	OP	DFO	89	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		25,845
ST	2	OP		51,018

Power Plant Operations Report

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Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	33	Tons	26.5	1.9	7.7
ST	1	OP	DFG	0	Barrels	5.8		
ST	2	OP	BIT	108	Tons	26.5	1.9	7.7
ST	2	OP	DFG	0	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		74
ST	2	OP		212

Power Plant Operations Report

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Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (M.D.Btu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP	0	0
ST	2	OP	0	0

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ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

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Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

U.S. Department of Energy
 Energy Information Administration
 Form EIA-923M 2023

Power Plant Operations Report

Form Approval
 OMB No. 1905-0129
 Approval Expires 05/31/2023

**SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS
 FUEL CONSUMPTION AND GENERATION**

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
 Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	2,371	Tons	25.4	1.9	7.7
ST	1	OP	DFO	27	Barrels	5.8		
ST	2	OP	BIT	3,229	Tons	25.4	1.9	7.7
ST	2	OP	DFO	80	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		5,035
ST	2	OP		7,061

Power Plant Operations Report

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS FUEL CONSUMPTION AND GENERATION

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP	0	0
ST	2	OP		0

Power Plant Operations Report

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS FUEL CONSUMPTION AND GENERATION

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	0	Tons			
ST	1	OP	DFO	0	Barrels			
ST	2	OP	BIT	0	Tons			
ST	2	OP	DFO	0	Barrels			

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		0

**SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS
 FUEL CONSUMPTION AND GENERATION**

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
 Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT	309	Tons	26.4	1.92	7.8
ST	1	OP	DFO	12	Barrels	5.8		
ST	2	OP	BIT	8,975	Tons	26.4	1.92	7.8
ST	2	OP	DFO	35	Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		240
ST	2	OP		18,170

**Power Plant Operations
Report**

**SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS
FUEL CONSUMPTION AND GENERATION**

If the generator ID is not on the drop down list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.
Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content (as burned) (MMBtu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT		Tons	26.5	1.9	7.8
ST	1	OP	DFO		Barrels	5.8		
ST	2	OP	BIT		Tons	26.5	1.9	7.8
ST	2	OP	DFO		Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		2,677
ST	2	OP		2,870

Power Plant Operations Report

SCHEDULE 3. PART A. BOILER AND GENERATOR INFORMATION FOR STEAM-ELECTRIC COMBUSTIBLE-FUELED PLANTS FUEL CONSUMPTION AND GENERATION

If the generator ID is not on the drop list, contact EIA immediately.

If no fuel is consumed or electricity generated, enter zero; do not leave blank. However, industrial and commercial sector plants that do not measure net generation may leave it blank.

Gross Generation: Enter the total amount of electricity produced by each steam generating unit and measured at the generating terminal, in MWh.

Net Generation: Net generation is gross generation minus the parasitic station load, i.e. station use, in MWh.

Enter the month for which you are reporting: 1

Prime Mover	Boiler Id	Boiler Status	Energy Source	Quantity	Type Of Units	Avg Heat Content, (as burned) (M.D.Btu per ton, barrel, or Mcf)	Sulfur Content, (Coal, Residual oil and PC only, to nearest 0.01%)	Ash Content, (coal and PC only, to nearest 0.1%)
ST	1	OP	BIT		Tons	26.5	1.9	7.8
ST	1	OP	DFO		Barrels	5.8		
ST	2	OP	BIT		Tons	26.5	1.9	7.8
ST	2	OP	DFO		Barrels	5.8		

If Energy Source reported is OTH, OBS, OBG, OBL, or OG, please specify:

Prime Mover	Generator Id	Gen Status	Gross Generation (MWh)	Net Generation (MWh)
ST	1	OP		0
ST	2	OP		24,858

U.S. Department of Energy, The Energy Information Administration (EIA)
 EIA-923 Monthly Generation and Fuel Consumption Time Series File, 2022 Final Data
 Sources: EIA-923 and EIA-860 Reports

Plant Id	Combined Heat And Power Plant	Nuclear Unit Id	Plant Name	Operator Name	Operator Id	Plant State	Census Region	NERC Region	Reserved	NAICS Code	EIA Sector Number	Sector Name
2364	N		Merrimack	Granite Shore Power	62032	NH	NEW	NPCC		22	2	NAICS-22 Non-Cogen
2364	N		Merrimack	Granite Shore Power	62032	NH	NEW	NPCC		22	2	NAICS-22 Non-Cogen
2364	N		Merrimack	Granite Shore Power	62032	NH	NEW	NPCC		22	2	NAICS-22 Non-Cogen

		Quantity Consumed in Physical Units For Electric Generation																	Hi
Quantity November	Quantity December	Elec_Quantity January	Elec_Quantity February	Elec_Quantity March	Elec_Quantity April	Elec_Quantity May	Elec_Quantity June	Elec_Quantity July	Elec_Quantity August	Elec_Quantity September	Elec_Quantity October	Elec_Quantity November	Elec_Quantity December	MMBtuPer_Unit January	MMBtuPer_Unit February	MMBtuPer_Unit March	MMBtuPer_Unit April	MMBtuPer_Unit May	
0	14,908	68,160	43,206	2,689	0	2,047	0	5,987	9,529	0	0	0	14,908	26.40	26.30	26.30	0.00	26.40	
0	389	364	239	0	0	101	0	31	168	0	0	0	389	5.80	5.80	0.00	0.00	5.80	
.	0	.	.	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.

Quantity Consumed For Electricity (MMBtu)												Electricity Net Generation (MWh)						
Elec_MMBtu January	Elec_MMBtu February	Elec_MMBtu March	Elec_MMBtu April	Elec_MMBtu May	Elec_MMBtu June	Elec_MMBtu July	Elec_MMBtu August	Elec_MMBtu September	Elec_MMBtu October	Elec_MMBtu November	Elec_MMBtu December	Netgen January	Netgen February	Netgen March	Netgen April	Netgen May	Netgen June	Netgen July
1,799,424	1,136,318	70,721	0	54,041	0	157,458	250,613	0	0	0	395,062	149,400	87,389	7,652	0	3,511	0	11,734
2,111	1,386	0	0	586	0	180	974	0	0	0	2,256	175	107	0	0	38	0	13
-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-

U.S. Department of Energy, The Energy Information Administration (EIA)
 EIA-923 Monthly Generation and Fuel Consumption Time Series File, 2023 October
 Sources: EIA-923 and EIA-860 Reports

Plant Id	Combined Heat And Power Plant	Nuclear Unit Id	Plant Name	Operator Name	Operator Id	Plant State	Census Region	NERC Region	Reserved	NAICS Code	EIA Sector Number
2364	N		Merrimack	Granite Shore Power	62032	NH	NEW	NPCC		22	2
2364	N		Merrimack	Granite Shore Power	62032	NH	NEW	NPCC		22	2
2364	N		Merrimack	Granite Shore Power	62032	NH	NEW	NPCC		22	2

							Total Quantity Consumed In Physical Units (Consumption)					
Sector Name	Reported Prime Mover	Reported Fuel Type Code	AER Fuel Type Code	Balancing Authority Code	Reserved	Physical Unit Label	Quantity January	Quantity February	Quantity March	Quantity April	Quantity May	Quantity June
NAICS-22 Non-Cogen	ST	BIT	COL	ISNE		short tons	11,427	30,775	141	0	0	0
NAICS-22 Non-Cogen	ST	DFO	DFO	ISNE		barrels	149	119	0	0	0	0
NAICS-22 Non-Cogen	ST	RFO	RFO	ISNE		barrels	-	-	-	-	-	-

		Heat Content Of Fuels (MMBtu Per Unit)													
Elec_Quantity November	Elec_Quantity December	MMBtuPer_Unit January	MMBtuPer_Unit February	MMBtuPer_Unit March	MMBtuPer_Unit April	MMBtuPer_Unit May	MMBtuPer_Unit June	MMBtuPer_Unit July	MMBtuPer_Unit August	MMBtuPer_Unit September	MMBtuPer_Unit October	MMBtuPer_Unit November	MMBtuPer_Unit December	Tot_MMBtu January	Tot_MMBtu February
-	-	26.50	26.50	26.50	0.00	0.00	0.00	25.40	0.00	0.00	26.40	-	-	302,816	815,538
-	-	5.80	5.80	0.00	0.00	0.00	0.00	5.80	0.00	0.00	5.80	-	-	864	690
-	-	-	-	-	-	-	-	-	-	-	0.00	-	-	-	-

		Year-To-Date					
Netgen November	Netgen December	Total Fuel Consumption Quantity	Electric Fuel Consumption Quantity	Total Fuel Consumption MMBtu	Elec Fuel Consumption MMBtu	Net Generation (Megawatthours)	YEAR
.	.	57,227	57,227	1,509,429	1,509,429	130,736	2023
.	.	422	422	2,448	2,448	204	2023
.	.	0	0	0	0	0	2023

**Bottom Ash Transport Water
Best Management Practice Plan**

MERRIMACK STATION
Bow, New Hampshire

Prepared for GSP Merrimack LLC
File No. 2025.14
October 2023

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INITIAL CERTIFICATION

Management Certification

GSP Merrimack LLC (GSP) is committed to working towards reducing bottom ash transport water (BATW) discharges from the Merrimack Station facility and will provide the manpower, equipment, and materials necessary to implement this BATW Best Management Practices (BMP) Plan. The undersigned authorized facility representative attests that:

- a) I have personally examined and am familiar with the included BATW BMP Plan;
- b) I believe that the information in the BATW BMP Plan and any supporting documentation used in the development of this plan is true, accurate, and complete; and
- c) The BATW BMP Plan, to the best of my knowledge and belief, meets the requirements of 40 CFR 423.

ELIZABETH H. TILLOTSON Elizabeth H. Tillotson October 31, 2023
 Printed Name of Facility Representative Signature Date

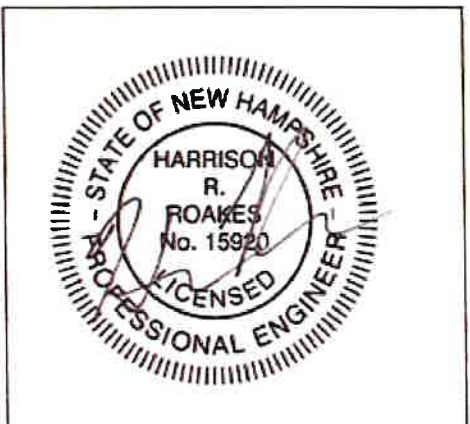
Professional Engineer Certification

The BATW BMP Plan was prepared by Sanborn, Head & Associates, Inc. for the Merrimack Station facility located in Bow, New Hampshire. I, the undersigned Registered Professional Engineer, certify the following information in respect to the Merrimack Station BATW BMP Plan), subject to the assumptions and limitations contained within the BATW BMP Plan.

- a) I am a licensed professional engineer in the State of New Hampshire.
- b) I am familiar with the 40 CFR Part 423(k)(3) requirements for the BATW BMP Plan.
- c) I am familiar with the Merrimack Station BATW system;
- d) The BATW BMP Plan is included with this certification statement; and
- e) The BATW BMP Plan, to the best of my knowledge and belief, will be implemented by GSP if the MK1 Boiler and MK2 Boiler units are designated low utilization electric generating units (LUEGUs).

Harrison R. Roakes
 Printed Name of Licensed Professional Engineer

HRR
 Signature



15920
 License Number

New Hampshire
 Licensing State

October 31, 2023
 Date

INTRODUCTION

This Bottom Ash Transport Water (BATW) System Best Management Practices (BMP) Plan is prepared to meet the requirements of the Final Steam Electric Reconsideration Rule 40 CFR Part 423.13(k)(3). Sanborn, Head & Associates, Inc. (Sanborn Head) prepared this BATW BMP Plan for GSP Merrimack LLC (GSP). This BATW BMP and the services provided by Sanborn Head are subject to the Limitations provided in Appendix A.

This BATW BMP Plan is intended to be a working document. Therefore, certain aspects of the BATW BMP Plan require continued review, and action must be documented in support of the annual certification process. Key aspects of the BATW BMP Plan that GSP is responsible for implementing are highlighted below.

- Note and address any needed editorial updates to the BATW BMP Plan.
- Routinely (at least annually) review the feasibility of implementing new BMPs to include in this plan that have the potential to reduce BATW discharges at the facility.
- Investigate options to minimize slag sluice operations to reduce the volume of BATW discharges, such as optimizing intermittent operations to reduce sluice flows.
- Maintain records to document BATW flows.
- Maintain records to document the average amount of recycled BATW.
- Complete regular BATW maintenance and inspections, including preparation of inspection reports and summaries of preventative and corrective maintenance performed.

1.0 GENERATING UNIT IDENTIFICATION

The coal-fired generating units that contribute bottom ash (BA) to the BATW system are identified as MK1 Boiler and MK2 Boiler. The designation of these units as low utilization (as defined in 40 CFR 423.11) is currently under review by USEPA Region 1. This BMP Plan is prepared to meet the requirements for a BATW BMP Plan for the MK1 Boiler and MK2 Boiler units assuming EPA agrees to designate the units as low utilization electric generating units (LUEGUs).

2.0 SYSTEM DESCRIPTION

A water flow diagram that includes the BATW system is included as Appendix B.

The existing BA transfer system consists of a wet slag tank for collection of BA at the boiler with wet sluice of BA to the slag settling area. Water from the Merrimack MK1 cooling water tunnel and Merrimack MK2 cooling water tunnel are used for the BATW that transports BA from the MK1 Boiler and MK2 Boiler slag tanks, respectively. Bottom ash and water are drawn from the MK1 Boiler and MK2 Boiler slag tanks using jet pumps and travel by sluice to the slag settling area. Slag is collected and stored for beneficial reuse and water from the slag settling area travels to the service water pond. MK1 Boiler and MK2 Boiler slag tank seal water (aka overflow water), which is generated during normal operations to maintain the slag tanks at full level, is sent to the service water pond without passing through the slag sluice settling area. This seal water (overflow water) does not transport or sluice bottom ash (slag).

Some water from the service water pond is pumped at the service water pump house to be recycled for use in the flue gas desulfurization (FGD) absorber. Most of the water drawn for the FGD absorber is removed from the system via evaporation (steam) while much smaller amounts are removed as a component of the gypsum produced, and the remainder is handled as blowdown in the wastewater treatment facilities.

In addition to the flows mentioned above, the service water pond also receives storm drain and yard drain water, boiler blowdown, returned service water, and water from Waste Treatment Plant #1 (National Pollutant Discharge Elimination System [NPDES] Permit NH0001465).

The service water pond discharges via NPDES Permit NH0001465 Internal Outfall 003A to the cooling canal, (designated Waste Treatment Plant #2), for eventual discharge to the Merrimack River via Outfall 003.

3.0 WATER BALANCE

A diagram of the water balance is included as Appendix B, and tabulated values are provided below in Exhibit 1.

Exhibit 1 - Summary of BATW System Additions and Removals

Type	BATW System Component	Normal Station On Line Operation Flow
Water removed from the BA transport system	Outfall: Outfall 003A to Waste Treatment Plant #2	5,350,000 GPD
	Service Water Pump House (primarily for FGD absorber use)	1,100,000 GPD
	Evaporation from the BATW system (e.g., from service water pond)	Not quantified
	Entrained with removed bottom ash	Not quantified
Water entering or recycled to the BA transport system. There is no BATW recycled back to the system in lieu of makeup water.	MK1 Cooling Water Tunnel	2,000,000 GPD (intermittent)
	MK2 Cooling Water Tunnel	4,230,000 GPD
	Service water pump house return	21,000 GPD
	Boiler Blowdown + Seal Water (Overflows) & Storm Drains	11,000 GPD (intermittent)
	Waste Treatment Plant (#1)	83,000 GPD
	Yard Drains	5,000 GPD (intermittent)

Note: As indicated above, some of the values represent typically intermittent flows. There is a non-zero balance of water removed and water added because of the intermittent flows.

4.0 MAINTENANCE AND INSPECTION

A regular maintenance and inspection preventative maintenance management system is used to identify, repair, and replace equipment prior to failures. Preventative maintenance work orders are issued for timely upkeep of critical equipment and components.

The Operations Department does a walk-through every shift (twice per day) to inspect the entire BATW system, including valves, pipe flanges and piping, to identify leaks, spills and other unintended bottom ash transport water escaping from the system. If needed, timely repairs are arranged.

Copies of inspection reports and documentation of preventative and corrective maintenance performed are maintained by GSP personnel and are required to be included as part of the annual certification of this BATW BMP Plan.

5.0 EVALUATION OF BATW ELIMINATION/MINIMIZATION

GSP completed an evaluation of costs and feasibility of full recycling of BATW to eliminate or minimize discharges. The evaluation recommendations were to install a remotely-located submerged flight conveyor (SPF) and associated infrastructure with an estimated cost of roughly \$7,000,000 (2021 dollars). Given the significant changes to Merrimack Station's operational profile in recent years (substantially reduced operations and thus BATW discharges), the installation of SPF technology was no longer economically viable and GSP Merrimack is re-evaluating options with EPA Region 1 for complying with the no-discharge BATW permit limitation, including classification as LUEGUs.

6.0 RECYCLE SYSTEM AND DISCHARGE MINIMIZATION

The following elements are included in the current BATW system for recycling and minimizing BATW discharge.

- BATW is recycled for use in the FDG scrubber.
- Investigate options to minimize slag sluice operations to reduce the volume of BATW discharges, such as optimizing intermittent operations to reduce sluice flows. The MK1 Boiler BATW sluice for emptying the slag tank is operated intermittently at a typically consistent flow, and minimizing the time that they are operating minimizes the BATW discharge.

Recycling BATW through the FDG scrubber reduces BATW discharges from the facility by over 1,000,000 GPD. Reductions in BATW discharges achieved by the other BMPs listed in this plan have not been quantified.

7.0 SCHEDULE FOR IMPLEMENTATION

No changes to the existing BATW system are planned. The BMPs outlined in this plan represent the BATW discharge control measures that GSP determined are technically available and economically achievable for the Merrimack Station facility at this time. The need to reevaluate options and feasibility for BATW elimination or minimization should be considered at least annually, and a new evaluation should be completed if operating conditions are changed or if additional information or technologies become available.

8.0 RECYCLE SYSTEM DOCUMENTATION

A regular maintenance and inspection preventative maintenance management system for the FGD system is used to identify, repair, and replace equipment prior to failures. Preventative maintenance work orders are issued for timely upkeep of critical equipment and components.

The Operations Department does a walk-through every shift (twice per day) to inspect the entire FGD system. If needed, timely repairs are arranged.

Copies of inspection reports and documentation of preventative and corrective maintenance performed are maintained by GSP personnel and will be included as part of the annual certification of this BATW BMP Plan.

9.0 FLOW MONITORING

Measurements associated with the flow monitoring are to be recorded on at least a weekly basis and kept in the BATW system maintenance and operation file.

Exhibit 1 - Summary of BATW System Additions and Removals

BATW System Component	Weekly Monitoring Method	During Normal Station On-line Operation	
		Flow Type	Typical Flow
MK1 water added to the BATW system, including the BATW slag sluice	Record start and stop times of water being added from the MK1 cooling water tunnel to the MK1 sluice system. Sum the total run time of the MK1 sluice water addition and multiple by the typical operational flow rate to obtain the weekly flow volume.	Intermittent	2,000,000 GPD
MK2 water added to the BATW system, including the BATW slag sluice	Record start and stop times of water being added from the MK2 cooling water tunnel to the MK2 sluice system. Sum the total run time of the MK2 sluice water addition and multiple by the typical operational flow rate to obtain the weekly flow volume.	Continuous	4,230,000 GPD
Total BATW discharged	Continuous flow monitoring data are collected at Internal Outfall 003A.	Continuous	5,350,000 GPD
BATW recycled to the FGD absorber	Operational or flow data will be collected to establish flows at the FGD absorber.	Continuous	1,100,000 GPD

Note: As indicated above, some of the values represent typically intermittent flows. There is a non-zero balance of water removed and water added because of the intermittent flows.

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Appendix A Limitations

ATTACHMENT B

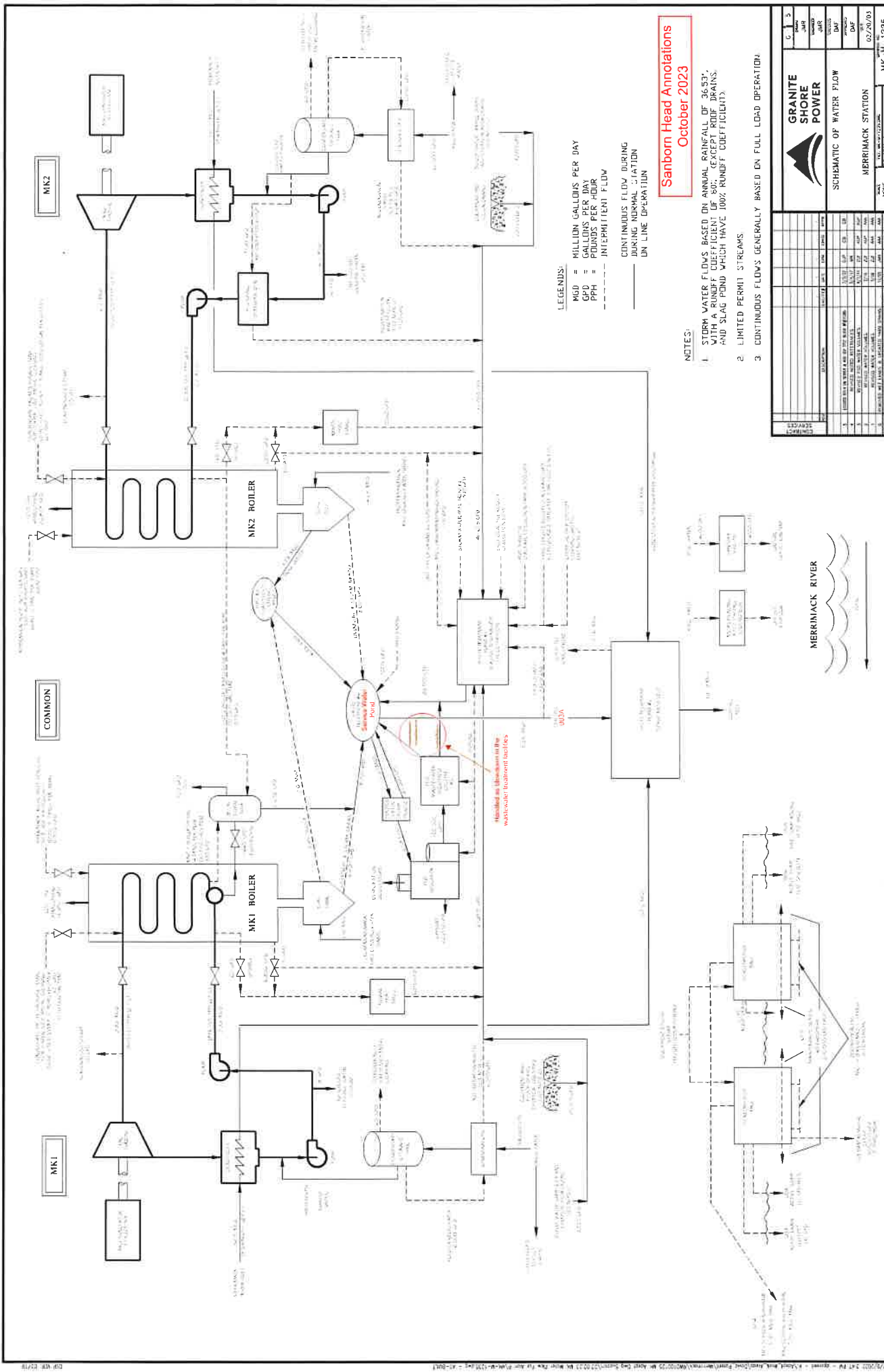
LIMITATIONS

1. The observations described in this report were made under the conditions stated herein. The conclusions presented in this report were based solely upon the services described herein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by the Client.
2. In preparing this report, Sanborn Head has relied on certain information provided by other parties referenced herein. Detailed evaluations of this information to verify its validity was not conducted.
3. Should additional information on relevant conditions at the site which is not contained in the report be obtained, such information should be brought to Sanborn Head's attention. We will evaluate such information and, on the basis of our evaluation, may modify the conclusions stated in this report.
4. This report was prepared for the exclusive use of GSP Merrimack LLC (GSP) for specific application for 40 CFR Part 423(k)(3) compliance for GSP's Merrimack Station bottom ash transport water system for MK1 Boiler and MK2 Boiler electric generating units in Bow, New Hampshire, and was prepared in accordance with generally-accepted environmental engineering practices. No warranty, express or implied, is made.

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Appendix B

Schematic of Water Flow



Sanborn Head Annotations
 October 2023

SCHEMATIC OF WATER FLOW MERRIMACK STATION	
SHEET NO. 100-0000000000 DATE 02/20/03	PROJECT NO. 100-0000000000 SCALE 1" = 100'-0"
DRAWN BY [Name] CHECKED BY [Name]	DATE 02/20/03 PROJECT MERRIMACK STATION

