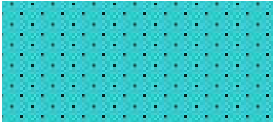


MASS
Maximum

	Arsenic (µg/l)	Arsenic (µg/l)	Mercury (µg/l)
$C_{SSP-MAX\ CONC}$	1.90	1.90	0.0060
$Q_{FGD(make\ up)}$	1.08	1.08	1.08
$Q_{FGD\ WWTS}$	0.05	0.07	0.05
$C_{FGD\ WWTS}$	41.04	29.31	0.13
Outfall 003C Permit Limits	20.0	20.0	0.014
More/Less Strict	More	More	More

$$C_{fgd\ wwts} = [(C_{ssp(p)})(Q_{fgd(makeup)})] / Q_{fdg\ wwts}$$



Mercury (µg/l)

0.0060

1.08

0.07

0.09

JGA

0.014

More

	Aluminum (µg/l)	Arsenic (µg/l)
C _{SSP-WQ LIMIT}	1.09	2.27
Q _{FGD(make up)}	1.08	1.08
Q _{SSP(P)}	6.33	6.33
Q _{SSP(F)}	5.30	5.20
Q _{FGD WWTS}	0.07	0.07
C _{FGD WWTS}	32.86	71.67

**Outfall 003C
Permit Limits**

N/A

20.0

More/Less Strict

More

$$C_{FGD WWTS} \leq \left(C_{SSP-MAXCONC} \times (Q_{FGD(make up)} + Q_{SSP(P)} - Q_{SSP(F)}) \right)$$

MASS
20 per cent

	Aluminum (µg/l)	Arsenic (µg/l)
C _{SSP-WQ LIMIT}	1091.10	2.27
Q _{SSP(F)}	5.30	5.20
C _{SSP-MAX CONC}	650.00	1.90
Q _{FGD(make up)}	1.08	1.08
Q _{SSP(P)}	6.30	6.33
Q _{FGD WWTS}	0.05	0.07
C _{FGD WWTS}	47796.60	26.13

**Outfall 003C
Permit Limits**

N/A

20.0

More/Less Strict

More

$$C_{FGD WWTS} \leq \left[\left(C_{SSP-WQ LIMIT} \times Q_{SSP(F)} \right) + \left(C_{SSP-MAX CONC} \right) (Q_{FGD(make up)} + Q_{SSP(P)} - Q_{SSP(F)}) \right]$$

FGD WWTS

	Aluminum (µg/l)	Arsenic (µg/l)
C _{SSP-WQ LIMIT}	1091.10	2.27
Q _{SSP(F)}	5.30	5.30
C _{SSP-MAX CONC}	650.00	1.90
Q _{SSP(P)}	6.30	6.33
Q _{FGD(make up)}	1.08	1.08
Q _{FGD WWTS}	0.05	0.07
C _{FGD WWTS}	73642.83	29.37
Outfall 003C Permit Limits	N/A	20.0
More/Less Strict		More

$$C_{fgd\ wwts} = [(C_{ssp\ wqlimit} \times Q_{ssp(f)}) - (C_{ssp(p)} \times Q_{ssp(P)} + Q_{fgd(makeup)})] / Q_{fdg\ wwts}$$

	Aluminum (µg/l)	Arsenic (µg/l)
C _{SSP-MAX CONC}	650.00	1.90
Q _{FGD(make up)}	1.08	1.08
Q _{FGD WWTS}	0.07	0.05
C _{FGD WWTS}	10028.57	41.04
Outfall 003C Permit Limits	N/A	20.0
More/Less Strict		More

$$C_{fgd\ wwts} = [(C_{ssp(p)})(Q_{fgd(makeup)})] / Q_{fdg\ wwts}$$

Copper (µg/l)	Mercury (µg/l)
28.00	0.0072
1.08	1.08
6.33	6.33
5.20	5.20
0.07	0.07
884.00	0.23

More

More

$$)/Q_{FGDWWTS}$$

BALANCE
Assimulative Capacity

Copper (µg/l)	Mercury (µg/l)
28.00	0.0072
5.30	5.20
9.60	0.0051
1.08	1.08
6.30	6.33
0.05	0.07
1965.76	0.15

More

More

$$[make up) - Q_{SSP(P)})]]]$$

Aluminum
47796.6

Copper (µg/l) Mercury (µg/l)

28.00	0.0072
5.30	5.30
9.60	0.0051
6.30	6.33
1.08	1.08
0.05	0.07

1965.76	0.16
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Aluminum

47796.6

30.0	0.014
------	-------

More More

)) + (Cssp(p)

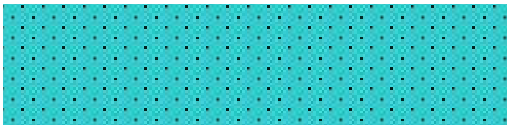
Copper (µg/l) Mercury (µg/l)

9.60	0.0060
1.08	1.08
0.07	0.05

148.11	0.13
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30.0	0.014
------	-------

More More



Copper

1965.76

Copper

1965.76

WQBELs: NO NET MASS INCREASE

Outfall 003A WQBELs translated to Outfall 003C to “hold the load” due

	Arsenic (µg/l)	Mercury (µg/l)
$C_{SSP-MAX\ CONC}$ (µg/l)	1.90	0.006
$Q_{FGD\ MAKE-UP}$ (MGD)	1.08	1.08
$Q_{FGD\ WWTS}$ (MGD)	0.07	0.07
$C_{FGD\ WWTS}$ (µg/l)	29.31	0.09
Outfall 003C Technology Based Permit Limits	15	0.055
More/Less Strict	More	More
Equation Used	$C_{FGD\ WWTS} = [(C_{SSP-MAX\ CONC})(Q_{FGD\ MAKE-UP}) / Q_{FGD\ WWTS}]$	

WQBELs: <20 % WATER QUALITY

Outfall 003A WQBELs translated to Outfall 003C to maintain an insignif

	Aluminum (µg/l)	Copper (µg/l)	Selenium (µg/l)
$C_{SSP-WQ\ LIMIT}$	1091.10	28.00	58.30
$Q_{SSP(F)}$	5.30	5.30	5.30
$C_{SSP-MAX\ CONC}$	650.00	9.60	1.50
$Q_{SSP(P)}$	6.30	6.30	6.30
$Q_{FGD\ MAKE-UP}$	1.08	1.08	1.08
$Q_{FGD\ WWTS}$	0.07	0.07	0.07
$C_{FGD\ WWTS}$	34140.43	1404.11	4302.29
Outfall 003C Technology Based Permit Limits	N/A	16	10
More/Less Strict	N/A	More	More
Equation Used	$C_{FGD\ WWTS} = [(C_{SSP-WQ\ LIMIT} \times (Q_{SSP(F)}) - (C_{SSP-MAX\ CONC} \times Q_{SSP(P)}) + (C_{SSP-MAX\ CONC} \times$		

USE

to marginal/impaired Merrimack River water quality

TY

ificant (<20%) decrease Merrimack River water quality

Chromium (µg/l)	Zinc (µg/l)	Cadmium (µg/l)	Iron (µg/l)
313.80	443.60	10	9861
5.30	5.30	5.30	5.30
1.63	18.58	0.18566	700
6.30	6.30	6.30	6.30
1.08	1.08	1.08	1.08
0.07	0.07	0.07	0.07
23637.59	32201.32	743.30	694418.57
10	15	50	Report
More	More	More	N/A

$Q_{FGD\ MAKE-UP}}/Q_{FGD\ WWTS}$



Lead (µg/l)	Manganese (µg/l)
5.534	971.8
5.30	5.30
1.06	55
6.30	6.30
1.08	1.08
0.07	0.07
339.96	69477.71

100

Report

More

N/A

	Aluminum (µg/l)	Arsenic (µg/l)
$C_{SSP-WQ\ LIMIT}$	1.09	2.27
$Q_{FGD(make\ up)}$	1.08	1.08
$Q_{SSP(P)}$	6.33	6.33
$Q_{SSP(F)}$	5.30	5.20
$Q_{FGD\ WWTS}$	0.07	0.07
$C_{FGD\ WWTS}$	32.86	71.67

**Outfall 003C
Permit Limits**

N/A

20.0

More/Less Strict

More

$$C_{FGD\ WWTS} \leq \left(C_{SSP-MAXCONC} \times (Q_{FGD(make\ up)} + Q_{SSP(P)} - Q_{SSP(F)}) \right)$$

**MASS
20 per cent**

	Aluminum (µg/l)	Arsenic (µg/l)
$C_{SSP-WQ\ LIMIT}$	1091.10	2.27
$Q_{SSP(F)}$	5.30	5.20
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$Q_{FGD(make\ up)}$	1.08	1.08
$Q_{SSP(P)}$	6.30	6.33
$Q_{FGD\ WWTS}$	0.05	0.07
$C_{FGD\ WWTS}$	47796.60	26.13

**Outfall 003C
Permit Limits**

N/A

20.0

More/Less Strict

More

$$C_{FGD\ WWTS} \leq \left[\left(C_{SSP-WQ\ LIMIT} \times Q_{SSP(F)} \right) + \left(C_{SSP-MAX\ CONC} \right) (Q_{FGD(make\ up)} + Q_{SSP(P)} - Q_{SSP(F)}) \right]$$

/ Q_{FGD WWTS}

	Aluminum (µg/l)	Arsenic (µg/l)
C _{SSP-WQ LIMIT}	1091.10	2.27
Q _{SSP(F)}	5.30	5.30
C _{SSP-MAX CONC}	650.00	1.90
Q _{SSP(P)}	6.30	6.33
Q _{FGD(make up)}	1.08	1.08
Q _{FGD WWTS}	0.05	0.07
C _{FGD WWTS}	73642.83	29.37
Outfall 003C Permit Limits	N/A	20.0
More/Less Strict		More

$$C_{fgd\ wwts} = [(C_{ssp\ wqlimit} \times Q_{ssp(f)}) - (C_{ssp(p)} \times Q_{ssp(P)} + Q_{fgd(makeup)})] / Q_{fdg\ wwts}$$

	Aluminum (µg/l)	Arsenic (µg/l)
C _{SSP-MAX CONC}	650.00	1.90
Q _{FGD(make up)}	1.08	1.08
Q _{FGD WWTS}	0.07	0.05
C _{FGD WWTS}	10028.57	41.04
Outfall 003C Permit Limits	N/A	20.0
More/Less Strict		More

$$C_{fgd\ wwts} = [(C_{ssp(p)})(Q_{fgd(makeup)})] / Q_{fdg\ wwts}$$

Copper (µg/l) Mercury (µg/l)

28.00	0.0072
1.08	1.08
6.33	6.33
5.20	5.20
0.07	0.07

884.00	0.23
--------	------

30.0	0.014
------	-------

More More

)/Q_{FGD WWTS}

BALANCE
Assimulative Capacity

Copper (µg/l) Mercury (µg/l)

28.00	0.0072
5.30	5.20
9.60	0.0051
1.08	1.08
6.30	6.33
0.07	0.07

1404.11	0.15
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30.0	0.014
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More More

Aluminum

47796.6

make up) – Q_{SSP(P))})]

Copper (µg/l) Mercury (µg/l)

28.00	0.0072
5.30	5.30
9.60	0.0051
6.30	6.33
1.08	1.08
0.05	0.07

1965.76	0.16
---------	------

30.0	0.014
------	-------

More More

)) + (Cssp(p)

Copper (µg/l) Mercury (µg/l)

9.60	0.0060
1.08	1.08
0.07	0.05

148.11	0.13
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30.0	0.014
------	-------

More More

Aluminum

47796.6



Copper

1404.114286

Copper

1965.76