



Materials Innovation and Recycling Authority
Regular Board of Directors Meeting
Supplemental Information
May 13, 2020

I. Finance

1. Informational Reports for the period ending March 31, 2020 (***Attachment A***).

CSWS Financials	CSWS Improvement Fund
CSWS Electricity	Property Division Financials
CSWS Solid Waste Summary	MIRA Cash Flow
CSWS Recycling Summaries	Authority Budget

II. Summary of Project Activities

1. An update is provided on each project's monthly operations for the period ending March 31, 2020 (***Attachment B***).
2. An update is provided on waste deliveries to the CSWS project for the period ending March 31, 2020 (***Attachment C***).

III. Communications

1. Legal Expenditure Report FY 2020 (***Attachment D***).
2. Final Activity report for the MIRA Connecticut Solid Waste System Facility (***Attachment E***).

TAB A



BOARD OF DIRECTORS FINANCIAL REPORT
PERIOD ENDING

March 31, 2020

CSWS Financials - This report reflects the budget versus actual financial performance of the CSWS for the current month and on a year to date basis. This is an accrual basis report in that revenues are recognized when earned and expenses are recognized when incurred.

As indicated in this report, total operating revenue for March was \$4.81 million (19% below budget). Deficits were experienced in all categories of revenue excepting other contract waste and miscellaneous revenue. Year to date operating revenue is 12% under budget. Total accrued expenditures for March were \$5.76 million (15% under budget). Year to date accrued expenditures are 8% under budget. Year to date the CSWS has generated operating income of \$1.38 million which is \$2.64 million below budget (before Prior Year Cost Recovery).

CSWS Electricity - This report reflects CSWS budget versus actual electricity production, revenue and price for the current month and year to date. Energy revenue reconciles to CSWS Financials. **Effective April 1, 2019 through March 31, 2020 a new energy contract is effective for CSWS energy.** The first 20 MW of CSWS energy is sold under fixed contract at the rate of \$.03911 / Kwh (up from \$.03527). Remaining energy is sold in the wholesale energy market.

As indicated in this report, the CSWS total average energy price including hedged and wholesale prices was \$0.0291 per kwh in March which is \$0.0162 per kwh (35.8%) below budget. Year to date energy price is 16.9% under budget. The CSWS generated 26.70 million Kwh of energy in March which was 3.39 million Kwh (14.5%) above budget. Year to date energy generation is 4.7% under budget. The plant ran at full capacity for 6 out of 31 days. Overall boiler availability was 72.2%. Boiler 11 was off line for only 44.87 hours for a cleaning outage (94.0% availability). Boiler 12 was off line for only 27.79 hours due to an internal SSC derail (96.3% availability). However, Boiler 13 was off line for a total of 548.86 hours initially due to an inability to achieve negative air flow which began last month and subsequently for its scheduled major outage (26.2% availability). Turbine 5 was reported on line for the entire month. Turbine 6 was reported off line for 17 days initially to complete last month's repair of a lube oil leak and subsequently to undertake a lube oil system startup and condenser cleaning. On a year to date basis, in comparison to this period of fiscal year 2019, energy price is down 7%, production is up 45% and revenue is up 36%.

CSWS Solid Waste Summary - This report reflects the budget versus actual MSW tons delivered, revenue and price per ton for member towns, other contracts, waste haulers and spot.

March deliveries totaled 41,639 tons which is 5,549 tons (11.8%) under budget. Member town deliveries were 1,875 tons (5.6%) under budget while non-participating deliveries were 3,674 tons (26.7%) below budget. Prices for waste hauler tons averaged \$87.40 per ton in March reflecting the adopted \$4.00 per ton surcharge on non-participating town deliveries to transfer stations and \$2.00 per ton adopted surcharge on non-participating town direct deliveries. Pricing for other contract waste averaged \$68.00 per ton. Price and delivery volume by contract type combine to produce total solid waste delivery revenue presently 12.0% under budget on a year to date basis.



BOARD OF DIRECTORS FINANCIAL REPORT
PERIOD ENDING March 31, 2020

CSWS Recycling Summary - This report reflects current month and year to date recyclable tons delivered to and exported from the CSWS recycling center including the rate per ton and corresponding revenue reconciled to CSWS financials. Deliveries and exports are stated in terms relevant to the contract operation of this facility.

Total recycling facility revenues were 12% under budget in March. FCR delivery revenue was 18.6% above budget due to surplus paid residue and deliveries of CSWS-sourced single stream recycling. However, FCR export revenue was 95.2% below budget due to the absence of revenue shares on CSWS-sourced ONP, OCC and containers. There were again no reported exports of FCR-sourced material in March, or on a year to date basis. Authority surcharges for delivery of non-participating recycling were 30% below budget in March, and 1.3% above budget year to date. Year to date total recycling facility revenues are 2% above budget. As indicated separately on the metal sales report, metal sales and excess residue revenue was just 3% under budget in March due to sharp increases in metals pricing and sales volume. The average per ton price in March was \$61.36 which is \$7.42 per ton (11%) under budget.

Property Division Financials - This report reflects the budget versus actual financial performance of the Authority's Property Division for the current month and on a year to date basis. This is an accrual basis report in that revenues are recognized when earned and expenses are recognized when incurred irrespective of the timing of cash receipts or payments.

As indicated, revenue to the Property Division was 3.1% above budget in March due to surplus capacity payments and interest / miscellaneous income. Operating expenses were 42.2% below budget due to Jets operating charges. Total operating income is 10.4% above budget year to date.

MIRA Cash Flow - This "cash basis" report reflects the monthly flow of cash through the bank accounts and STIF reserve funds that represent all of the Authority's ongoing operations. The flow of funds is executed monthly in accordance with Board-approved criteria.

As indicated in this report, Property Division cash receipts for March were sufficient to distribute \$679,864 to the Tip Fee Stabilization Fund bringing year to date distributions to the initially authorized maximum of \$8,700,000. Additional receipts of \$180,073 were therefore transferred to the Property Division General Fund. CSWS cash receipts were not sufficient to execute budgeted distributions to the CSWS Operating STIF, Improvement and Major Maintenance funds causing a \$1,485,616 draw from the Tip Fee Stabilization Fund. After the distribution of February receipts, \$48,054,244 remained contingently due to the Tip Fee Stabilization Fund from CSWS.

CSWS Improvement & Major Maintenance Funds - These reports reflect budget versus actual funds advanced primarily to the operator of the Resource Recovery Facility for major maintenance and capital improvement projects approved monthly by the Authority. Actual costs initially reflect funds advanced which are subsequently adjusted when the project is completed. In March, the Authority received a net true up of prior project funds of \$66,744 into the Improvement Fund and transferred a net amount of \$1,092,876 from the Major Maintenance Fund to NAES for boiler and baghouse work and site repairs.

Segmented Income Statements - This report reflects the revenues and expenses of each Authority project and division in the format ultimately to appear in its annual independent audit report. This includes a summary reconciliation to budget versus actual report formats.

Materials Innovation and Recycling Authority
FY 2020 Board of Directors Financial Report

[Narrative](#)

CSWS Monthly Financial Report

Period Ending: **March 31, 2020**

	Current Month		Variance Better (Worse) than Budget		Year to Date		Variance Better (Worse) than Budget	
	Budget	Actual	\$	%	Budget	Actual	\$	%
REVENUES								
Member Towns	\$ 2,780,232	\$ 2,623,664	\$ (156,568)	-6%	\$ 26,840,788	\$ 25,309,502	\$ (1,531,286)	-6%
Other Contracts	\$ -	\$ 146,870	\$ 146,870	#DIV/0!	\$ -	\$ 616,738	\$ 616,738	#DIV/0!
Hauler - Direct	\$ 615,805	\$ 551,383	\$ (64,422)	-10%	\$ 4,801,337	\$ 4,655,094	\$ (146,243)	-3%
Hauler - TS	\$ 592,234	\$ 138,881	\$ (453,353)	-77%	\$ 4,617,557	\$ 1,337,550	\$ (3,280,006)	-71%
Spot Waste	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
Bypass, Delivery & Other Charges	\$ 159,588	\$ (13,022)	\$ (172,610)	-108%	\$ 478,764	\$ (61,634)	\$ (540,398)	-113%
Member Service Fee	\$ 2,016	\$ 2,062	\$ 46	2%	\$ 19,536	\$ 18,731	\$ (805)	-4%
Metal Sales & Excess Residue	\$ 113,199	\$ 110,048	\$ (3,151)	-3%	\$ 1,009,023	\$ 609,846	\$ (399,177)	-40%
Bulky Waste	\$ 16,697	\$ 17,964	\$ 1,267	8%	\$ 157,106	\$ 177,399	\$ 20,293	13%
Recycling Facility	\$ 160,866	\$ 142,201	\$ (18,665)	-12%	\$ 1,539,517	\$ 1,576,029	\$ 36,512	2%
Electricity Sales	\$ 1,055,883	\$ 776,124	\$ (279,759)	-26%	\$ 8,451,290	\$ 6,691,867	\$ (1,759,423)	-21%
Other Energy Markets	\$ 397,141	\$ 290,265	\$ (106,876)	-27%	\$ 3,531,203	\$ 4,030,069	\$ 498,866	14%
Misc. (Interest, Fees, Other)	\$ 14,167	\$ 27,226	\$ 13,059	92%	\$ 52,503	\$ 216,641	\$ 164,138	313%
TOTAL ACCRUED REVENUES	\$ 5,907,828	\$ 4,813,666	\$ (1,094,161)	-19%	\$ 51,498,624	\$ 45,177,832	\$ (6,320,792)	-12%
EXPENDITURES								
Administrative Expenses	\$ 192,614	\$ 163,447	\$ 29,167	15%	\$ 1,850,447	\$ 1,645,476	\$ 204,971	11%
Operational Expenses	\$ 236,281	\$ 210,056	\$ 26,225	11%	\$ 2,280,585	\$ 2,667,182	\$ (386,597)	-17%
PILOTS & Fees	\$ 205,767	\$ 196,201	\$ 9,566	5%	\$ 1,876,717	\$ 1,789,195	\$ 87,522	5%
Waste Transport	\$ 1,998,672	\$ 1,005,967	\$ 992,705	50%	\$ 12,542,979	\$ 8,948,145	\$ 3,594,834	29%
Recycling Facility	\$ 75,807	\$ 58,244	\$ 17,563	23%	\$ 686,513	\$ 594,536	\$ 91,977	13%
Murphy Road Operations	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
MIRA Facilities Operating Exp.	\$ 91,598	\$ 136,256	\$ (44,658)	-49%	\$ 830,257	\$ 941,273	\$ (111,016)	-13%
NAES Contract Operating Charges	\$ 3,607,752	\$ 3,650,093	\$ (42,341)	-1%	\$ 24,154,201	\$ 24,152,677	\$ 1,524	0%
NAES On-Site Incentive Comp.	\$ 80,129	\$ 80,129	\$ -	0%	\$ 721,161	\$ 680,652	\$ 40,509	6%
NAES Management Fees	\$ 102,336	\$ 93,643	\$ 8,693	8%	\$ 921,024	\$ 818,748	\$ 102,276	11%
Transfer Station - Ellington	\$ 984	\$ 314	\$ 670	68%	\$ 11,356	\$ 12,849	\$ (1,493)	-13%
Transfer Station - Essex	\$ 64,669	\$ 61,779	\$ 2,890	4%	\$ 583,571	\$ 560,994	\$ 22,577	4%
Transfer Station - Torrington	\$ 49,265	\$ 46,437	\$ 2,828	6%	\$ 444,935	\$ 429,234	\$ 15,701	4%
Transfer Station - Watertown	\$ 64,315	\$ 61,529	\$ 2,786	4%	\$ 580,385	\$ 560,946	\$ 19,439	3%
TOTAL ACCRUED EXPENDITURES	\$ 6,770,189	\$ 5,764,095	\$ 1,006,094	15%	\$ 47,484,131	\$ 43,801,907	\$ 3,682,224	8%
Prior Year Cost Recovery	\$ 158,333	\$ -	\$ 158,333	n/a	\$ 1,424,997	\$ -	\$ 1,424,997	n/a
TOTAL BUDGET EXPENDITURES	\$ 6,928,522	\$ 5,764,095	\$ 1,164,427	17%	\$ 48,909,128	\$ 43,801,907	\$ 5,107,221	10%
OPERATING INCOME								
(Before Reserves / Transfers)	\$ (1,020,694)	\$ (950,429)	\$ 70,265	-7%	\$ 2,589,496	\$ 1,375,925	\$ (1,213,571)	-47%
DISTRIBUTION OF CSWS OPERATING INCOME								
Debt Service Fund	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
CSWS Improvement Fund	\$ 1,100,000	\$ 1,100,000	\$ -	0%	\$ 11,000,000	\$ 11,000,000	\$ -	0%
CSWS Risk Fund	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
CSWS Legal Reserve	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
MIRA Severance Reserve	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
TOTAL DISTRIBUTIONS	\$ 1,100,000	\$ 1,100,000	\$ -	0%	\$ 11,000,000	\$ 11,000,000	\$ -	0%
SURPLUS / (DEFICIT)	\$ (2,120,694)	\$ (2,050,429)	\$ 70,265	-3%	\$ (8,410,504)	\$ (9,624,075)	\$ (1,213,571)	14%

Materials Innovation and Recycling Authority
FY 2020 Board of Directors Financial Report

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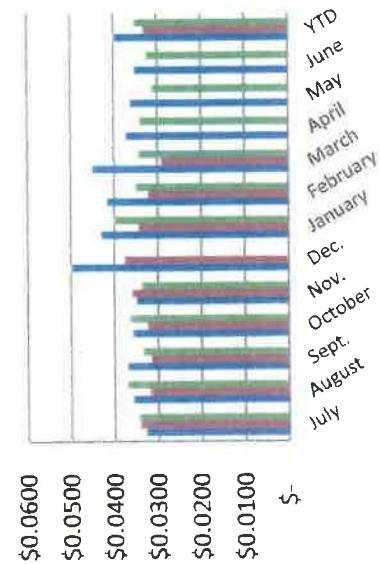
CSWS Electricity Production

Period Ending:

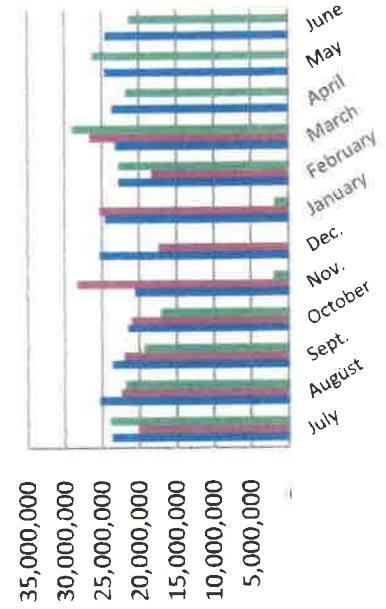
March 31, 2020

	Price			Production			Generation Revenue		
	Budget	Actual	Variance	Budget	Actual	Variance	Budget	Actual	Variance
FY 2019 Budget	\$ 0.0330	\$ 0.0342	\$ 0.0012	23,857,114	20,129,220	(3,727,894)	\$ 787,285	\$ 688,531	\$ (98,754)
July	\$ 0.0360	\$ 0.0319	\$ (0.0041)	25,502,432	22,430,100	(3,072,332)	\$ 917,696	\$ 714,616	\$ (203,079)
August	\$ 0.0373	\$ 0.0315	\$ (0.0058)	23,802,270	22,072,350	(1,729,920)	\$ 887,825	\$ 695,582	\$ (192,243)
Sept.	\$ 0.0360	\$ 0.0323	\$ (0.0037)	21,663,356	21,064,250	(599,106)	\$ 779,881	\$ 681,172	\$ (98,709)
October	\$ 0.0351	\$ 0.0359	\$ 0.0008	20,685,306	28,346,000	7,660,694	\$ 726,054	\$ 1,018,317	\$ 292,263
Nov.	\$ 0.0498	\$ 0.0376	\$ (0.0122)	25,502,432	17,398,090	(8,104,342)	\$ 1,270,021	\$ 654,577	\$ (615,444)
Dec.	\$ 0.0433	\$ 0.0344	\$ (0.0089)	24,679,773	25,361,820	682,047	\$ 1,068,634	\$ 872,889	\$ (195,745)
January	\$ 0.0419	\$ 0.0322	\$ (0.0097)	22,864,249	18,346,930	(4,517,319)	\$ 958,012	\$ 590,059	\$ (367,953)
February	\$ 0.0453	\$ 0.0291	\$ (0.0162)	23,308,674	26,695,730	3,387,056	\$ 1,055,883	\$ 776,124	\$ (279,759)
March	\$ 0.0374	-	n/a	23,802,270		n/a	\$ 890,205		n/a
April	\$ 0.0365	-	n/a	24,679,773		n/a	\$ 900,812		n/a
May	\$ 0.0354	-	n/a	24,652,351		n/a	\$ 872,693		n/a
June	\$ 0.0399	\$ 0.0332	\$ (0.0067)	211,865,606	201,844,490	(10,021,116)	8,451,290	6,591,867	\$ (1,759,423)
YTD			-16.9%			-4.7%			-20.8%
YTD % Var.									

Price / kWh



Production (KWh)



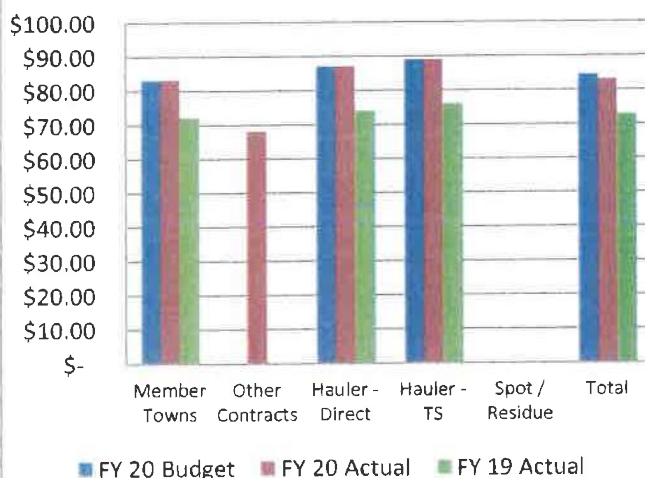
CSWS Solid Waste Summary

Period Ending:

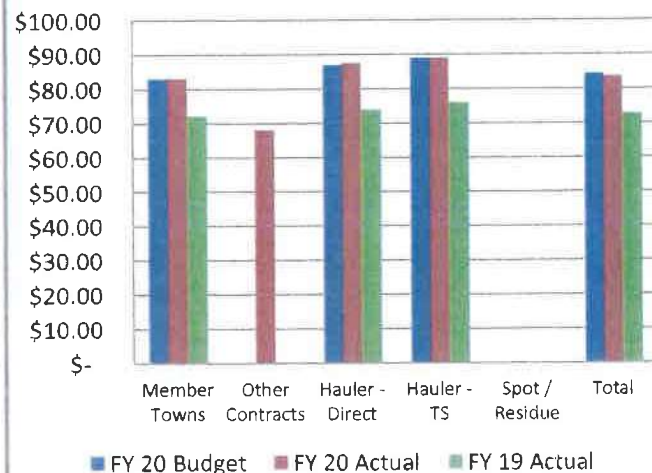
March 31, 2020

	Current Month			Year To Date		
FY 20 Budget	Tons	Revenue	Price	Tons	Revenue	Price
Member Towns	33,456	\$ 2,780,232	\$ 83.10	322,976	\$ 26,840,788	\$ 83.10
Other Contracts	-	\$ -	\$ -	-	\$ -	\$ -
Hauler - Direct	7,078	\$ 615,805	\$ 87.00	55,188	\$ 4,801,337	\$ 87.00
Hauler - TS	6,654	\$ 592,234	\$ 89.00	51,883	\$ 4,617,557	\$ 89.00
Spot / Residue	-	\$ -	\$ -	-	\$ -	\$ -
Total	47,189	\$ 3,988,271	\$ 84.52	430,046	\$ 36,259,682	\$ 84.32
FY 20 Actual	Tons	Revenue	Price	Tons	Revenue	Price
Member Towns	31,581	\$ 2,623,664	\$ 83.08	304,615	\$ 25,309,502	\$ 83.09
Other Contracts	2,160	\$ 146,870	\$ 68.00	9,064	\$ 616,738	\$ 68.04
Hauler - Direct	6,338	\$ 551,383	\$ 87.00	53,178	\$ 4,655,094	\$ 87.54
Hauler - TS	1,560	\$ 138,881	\$ 89.00	15,026	\$ 1,337,550	\$ 89.02
Spot / Residue	-	\$ -	\$ -	-	\$ -	\$ -
Total	41,639	\$ 3,460,798	\$ 83.11	381,883	\$ 31,918,884	\$ 83.58
Variance	Tons	Revenue	Price	Tons	Revenue	Price
Member Towns	(1,875)	\$ (156,568)	\$ (0.02)	(18,361)	\$ (1,531,286)	\$ (0.02)
Other Contracts	2,160	\$ 146,870	\$ 68.00	9,064	\$ 616,738	\$ 68.04
Hauler - Direct	(740)	\$ (64,422)	\$ -	(2,009)	\$ (146,243)	\$ 0.54
Hauler - TS	(5,094)	\$ (453,353)	\$ -	(36,857)	\$ (3,280,006)	\$ 0.02
Spot / Residue	-	\$ -	\$ -	-	\$ -	\$ -
Total	(5,549)	\$ (527,473)	\$ (1.40)	(48,163)	\$ (4,340,798)	\$ (0.73)
Total % Var.	-11.8%	-13.2%	-1.7%	-11.2%	-12.0%	-0.9%

Current Month Average Price / Ton



YTD Average Price / Ton



CSWS Recycling Facility (Deliveries)

Period Ending:

March 31, 2020

	Current Month			Year to Date		
	Budget	Actual	Variance	Budget	Actual	Variance
FCR Delivery Revenue	\$ 86,433	\$ 102,483	\$ 16,051	\$ 842,117	\$ 972,600	\$ 130,483
FCR Export Revenue	\$ 18,694	\$ 893	\$ (17,801)	\$ 186,943	\$ 86,362	\$ (100,581)
Hauler - Direct Tip Fee	\$ 38,880	\$ 27,170	\$ (11,710)	\$ 350,400	\$ 402,370	\$ 51,970
Hauler - TS Tip Fee	\$ 12,880	\$ 11,655	\$ (1,225)	\$ 124,246	\$ 114,697	\$ (9,549)
MSA without Recycling	\$ 3,979	\$ -	\$ (3,979)	\$ 35,811	\$ -	\$ (35,811)
Total	\$ 160,866	\$ 142,201	\$ (18,665)	\$ 1,539,517	\$ 1,576,029	\$ 36,512
Total % Var.			-12%			2%

Current Month Budget	Deliveries CSWS Sourced			Deliveries FCR Sourced			Delivery Revenue
	Tons	Rate	Revenue	Tons	Rate	Revenue	
Residential Dual	-	\$ 8.50	\$ -	-	\$ 7.50	\$ -	\$ -
Residential Single	5,005.00	\$ 8.50	\$ 42,543	540	\$ 7.50	\$ 4,050	\$ 46,593
Commercial	4.00	\$ -	\$ -	12	\$ -	\$ -	\$ -
Total Paid Residue	n/a	n/a	n/a	480	\$ 83.00	\$ 39,840	\$ 39,840
Total	5,009.00	\$ 8.49	\$ 42,543	1,032	\$ 42.53	\$ 43,890	\$ 86,433
Current Month Actual							
Residential Dual	-	n/a	\$ -	-	n/a	\$ -	\$ -
Residential Single	5,810.87	\$ 8.50	\$ 49,392	-	n/a	\$ -	\$ 49,392
Commercial	13.04	\$ -	\$ -	-	n/a	\$ -	\$ -
Total Paid Residue	n/a	n/a	n/a	640	\$ 83.00	\$ 53,091	\$ 53,091
Total	5,823.91	\$ 8.48	\$ 49,392	640	\$ 83.00	\$ 53,091	\$ 102,483
Current Month Variance							
Residential Dual	-	n/a	-	-	n/a	-	\$ -
Residential Single	805.87	-	6,850	(540)	n/a	(4,050)	\$ 2,800
Commercial	9.04	-	-	(12)	n/a	-	\$ -
Total Paid Residue	n/a	n/a	n/a	160	-	13,251	\$ 13,251
Total	814.91	\$ (0.01)	\$ 6,850	(392)	-	\$ 9,201	\$ 16,051

Year To Date Budget	Deliveries CSWS Sourced			Deliveries FCR Sourced			Total Revenue
	Tons	Rate	Revenue	Tons	Rate	Revenue	
Residential Dual	-	\$ 8.50	\$ -	-	\$ 7.50	\$ -	\$ -
Residential Single	47,840.00	\$ 8.50	\$ 406,640	7,500	\$ 7.50	\$ 56,250	\$ 462,890
Commercial	43.00	\$ -	\$ -	135	\$ -	\$ -	\$ -
Total Paid Residue	n/a	n/a	n/a	4,569	\$ 83.00	\$ 379,227	\$ 379,227
Total	47,883.00	\$ 8.49	406,640.00	12,204	\$ 35.68	\$ 435,477	\$ 842,117
Year To Date Actual							
Residential Dual	-	n/a	\$ -	-	n/a	\$ -	\$ -
Residential Single	56,565.48	\$ 8.50	\$ 480,807	-	n/a	\$ -	\$ 480,807
Commercial	288.34	\$ -	\$ -	-	n/a	\$ -	\$ -
Total Paid Residue	n/a	n/a	n/a	5,925	\$ 83.00	\$ 491,793	\$ 491,793
Total	56,853.82	\$ 8.46	480,806.58	5,925	\$ 83.00	\$ 491,793	\$ 972,600
Year To Date Variance							
Residential Dual	-	n/a	-	-	n/a	-	\$ -
Residential Single	8,725.48	-	74,167	(7,500)	n/a	(56,250)	\$ 17,917
Commercial	245.34	-	-	(135)	n/a	-	\$ -
Total Paid Residue	n/a	n/a	n/a	1,356	-	112,566	\$ 112,566
Total	8,970.82	(0.04)	74,166.58	(6,279)	\$ 47.32	\$ 56,316	\$ 130,483

CSWS Recycling Facility (Exports)

Period Ending:

March 31, 2020

	Current Month			Year to Date		
	Budget	Actual	Variance	Budget	Actual	Variance
FCR Delivery Revenue	\$ 86,433	\$ 102,483	\$ 16,051	\$ 842,117	\$ 972,600	\$ 130,483
FCR Export Revenue	\$ 18,694	\$ 893	\$ (17,801)	\$ 186,943	\$ 86,362	\$ (100,581)
Hauler - Direct Tip Fee	\$ 38,880	\$ 27,170	\$ (11,710)	\$ 350,400	\$ 402,370	\$ 51,970
Hauler - TS Tip Fee	\$ 12,880	\$ 11,655	\$ (1,225)	\$ 124,246	\$ 114,697	\$ (9,549)
MSA without Recycling	\$ 3,979	\$ -	\$ (3,979)	\$ 35,811	\$ -	\$ (35,811)
Total	\$ 160,866	\$ 142,201	\$ (18,665)	\$ 1,539,517	\$ 1,576,029	\$ 36,512
Total % Var.			-12%			2%

Current Month Budget	Exports CSWS Sourced			Exports FCR Sourced			Export Revenue
	Tons	Rate	Revenue	Tons	Rate	Revenue	
Residential ONP	1,790.00	\$ 1.50	\$ 2,684	188	\$ 0.50	\$ 94	\$ 2,778
Residential OCC	911.00	\$ 5.00	\$ 4,557	104	\$ 1.00	\$ 104	\$ 4,661
Residential Containers	1,353.00	\$ 8.00	\$ 10,826	125	\$ 1.99	\$ 249	\$ 11,075
Commercial	4.00	\$ 42.00	\$ 168	12	\$ 1.00	\$ 12	\$ 180
Total	4,058.00	\$ 4.49	\$ 18,235	429	\$ 1.07	\$ 459	\$ 18,694
Current Month Actual							
Residential ONP	2,522.81	\$ -	\$ -	-	n/a	\$ -	\$ -
Residential OCC	852.73	\$ -	\$ -	-	n/a	\$ -	\$ -
Residential Containers	1,475.51	\$ 0.81	\$ 1,196	-	n/a	\$ -	\$ 1,196
Commercial	13.04	\$ (23.22)	\$ (303)	-	n/a	\$ -	\$ (303)
Total	4,864.09	\$ 0.18	\$ 893	-	n/a	\$ -	\$ 893
Current Month Variance							
Residential ONP	732.81	\$ (1.50)	(2,684)	(188)	n/a	(94)	\$ (2,778)
Residential OCC	(58.27)	\$ (5.00)	(4,557)	(104)	n/a	(104)	\$ (4,661)
Residential Containers	122.51	\$ (7.19)	(9,630)	(125)	n/a	(249)	\$ (9,879)
Commercial	9.04	\$ (65.22)	(471)	(12)	n/a	(12)	\$ (483)
Total	806.09	\$ (4.31)	\$ (17,342)	(429)	n/a	\$ (459)	\$ (17,801)

Year To Date Budget	Exports CSWS Sourced			Exports FCR Sourced			Total Revenue
	Tons	Rate	Revenue	Tons	Rate	Revenue	
Residential ONP	19,158.00	\$ 1.50	\$ 28,739	2,893	\$ 0.50	\$ 1,446	\$ 30,185
Residential OCC	9,430.00	\$ 5.00	\$ 47,149	1,458	\$ 1.00	\$ 1,458	\$ 48,607
Residential Containers	12,812.00	\$ 8.00	\$ 102,498	1,897	\$ 2.00	\$ 3,792	\$ 106,290
Commercial	43.00	\$ 40.14	\$ 1,726	135	\$ 1.00	\$ 135	\$ 1,861
Total	41,443.00	\$ 4.35	\$ 180,112	6,383	\$ 1.07	\$ 6,831	\$ 186,943
Year To Date Actual							
Residential ONP	23,044.54	\$ -	\$ -	-	n/a	\$ -	\$ -
Residential OCC	7,608.28	\$ -	\$ -	-	n/a	\$ -	\$ -
Residential Containers	14,115.55	\$ 6.85	\$ 96,704	-	n/a	\$ -	\$ 96,704
Commercial	288.34	\$ (35.87)	\$ (10,342)	-	n/a	\$ -	\$ (10,342)
Total	45,056.71	\$ 1.92	\$ 86,362	-	n/a	\$ -	\$ 86,362
Year To Date Variance							
Residential ONP	3,886.54	\$ (1.50)	(28,739)	(2,893)	n/a	(1,446)	\$ (30,185)
Residential OCC	(1,821.72)	\$ (5.00)	(47,149)	(1,458)	n/a	(1,458)	\$ (48,607)
Residential Containers	1,303.55	\$ (1.15)	(5,794)	(1,897)	n/a	(3,792)	\$ (9,586)
Commercial	245.34	\$ (76.01)	(12,068)	(135)	n/a	(135)	\$ (12,203)
Total	3,613.71	\$ (2.43)	\$ (93,750)	(6,383)	n/a	\$ (6,831)	\$ (100,581)

Materials Innovation and Recycling Authority
FY 2020 Board of Directors Financial Report
CSWS Metal Recovery Operations

Narrative

Period Ending: **March 31, 2020**

Metal Sales

FY 2020	Budget			Actual			Variance Better (Worse) than Budget		
	Tons	Revenue	Rate per Ton	Tons	Revenue	Rate per Ton	Tons	Revenue	Rate per Ton
July	1,499.17	103,112.50	\$ 68.78	1,535.88	\$ 68,156	\$ 44.38	36.71	\$ (34,956)	\$ (24.40)
August	1,499.17	103,112.50	\$ 68.78	1,164.29	\$ 58,292	\$ 50.07	(334.88)	\$ (44,821)	\$ (18.71)
September	1,499.17	103,112.50	\$ 68.78	1,602.23	\$ 64,607	\$ 40.32	103.06	\$ (38,506)	\$ (28.46)
October	1,499.17	103,112.50	\$ 68.78	1,316.22	\$ 41,418	\$ 31.47	(182.95)	\$ (61,694)	\$ (37.31)
November	1,499.17	103,112.50	\$ 68.78	1,281.90	\$ 44,470	\$ 34.69	(217.27)	\$ (58,642)	\$ (34.09)
December	1,499.17	103,112.50	\$ 68.78	1,358.86	\$ 58,694	\$ 43.19	(140.31)	\$ (44,419)	\$ (25.59)
January	1,499.17	103,112.50	\$ 68.78	1,435.99	\$ 83,111	\$ 57.88	(63.18)	\$ (20,002)	\$ (10.90)
February	1,499.17	103,112.50	\$ 68.78	1,144.55	\$ 54,001	\$ 47.18	(354.62)	\$ (49,111)	\$ (21.60)
March	1,499.17	103,112.50	\$ 68.78	1,670.44	\$ 102,499	\$ 61.36	171.28	\$ (614)	\$ (7.42)
April	1,499.17	103,112.50	\$ 68.78	-	\$ -	n/a	n/a	n/a	n/a
May	1,499.17	103,112.50	\$ 68.78	-	\$ -	n/a	n/a	n/a	n/a
June	1,499.17	103,112.50	\$ 68.78	-	\$ -	n/a	n/a	n/a	n/a
YTD	13,492.50	\$ 928,013	\$ 68.78	12,510.36	\$ 575,248	\$ 45.98	(982.14)	\$ (352,764)	\$ (22.80)

Excess Ferrous Residue

FY 2020	Budget			Actual			Variance Better (Worse) than Budget		
	Tons	Revenue	Rate per Ton	Tons	Revenue	Rate per Ton	Tons	Revenue	Rate per Ton
July	241	\$ 9,633	\$ 40.00	-	\$ -	n/a	(240.84)	(9,633.46)	#VALUE!
August	262	\$ 10,484	\$ 40.00	-	\$ -	n/a	(262.09)	(10,483.52)	#VALUE!
September	223	\$ 8,910	\$ 40.00	195.85	\$ 7,834	\$ 40.00	(26.90)	(1,075.82)	\$ -
October	209	\$ 8,377	\$ 40.00	119.37	\$ 4,775	\$ 40.00	(90.05)	(3,602.08)	\$ -
November	248	\$ 9,926	\$ 40.00	36.33	\$ 1,453	\$ 40.00	(211.82)	(8,472.68)	\$ (0.00)
December	210	\$ 8,389	\$ 40.00	85.84	\$ 3,434	\$ 40.00	(123.89)	(4,955.70)	\$ -
January	166	\$ 6,654	\$ 40.00	96.17	\$ 3,847	\$ 40.00	(70.19)	(2,807.62)	\$ -
February	214	\$ 8,550	\$ 40.00	142.64	\$ 5,706	\$ 40.00	(71.12)	(2,844.74)	\$ -
March	252	\$ 10,087	\$ 40.00	188.73	\$ 7,549	\$ 40.00	(63.44)	(2,537.72)	\$ -
April	252	\$ 10,099	\$ 40.00			n/a			
May	234	\$ 9,368	\$ 40.00			n/a			
June	188	\$ 7,522	\$ 40.00			n/a			
YTD	2,025.26	\$ 81,011	\$ 40.00	864.93	\$ 34,597	\$ 40.00	(1,160.33)	\$ (46,413)	-

Total Metal Sales and Excess Residue

FY 2020	Budget			Actual			Variance Better (Worse) than Budget		
	Tons	Revenue	Rate per Ton	Tons	Revenue	Rate per Ton	Tons	Revenue	Rate per Ton
July	1,740.00	112,746	\$ 64.80	1,535.88	68,156.38	\$ 44.38	(204.12)	(44,589.58)	(20.42)
August	1,761.25	113,596	\$ 64.50	1,164.29	58,291.91	\$ 50.07	(596.96)	(55,304.11)	(14.43)
September	1,721.91	112,022	\$ 65.06	1,798.08	72,440.55	\$ 40.29	76.17	(39,581.77)	(24.77)
October	1,708.59	111,489	\$ 65.25	1,435.59	46,193.23	\$ 32.18	(273.00)	(65,296.15)	(33.08)
November	1,747.31	113,038	\$ 64.69	1,318.23	45,923.40	\$ 34.84	(429.08)	(67,114.98)	(29.86)
December	1,708.90	111,502	\$ 65.25	1,444.70	62,127.51	\$ 43.00	(264.20)	(49,374.29)	(22.24)
January	1,665.53	109,767	\$ 65.91	1,532.16	86,957.38	\$ 56.75	(133.37)	(22,809.54)	(9.15)
February	1,712.93	111,663	\$ 65.19	1,287.19	59,707.05	\$ 46.39	(425.74)	(51,955.79)	(18.80)
March	1,751.34	113,199	\$ 64.64	1,859.17	110,048.18	\$ 59.19	107.83	(3,151.24)	(5.44)
April	1,751.65	113,212	\$ 64.63	-	-	n/a			
May	1,733.37	112,481	\$ 64.89	-	-	n/a			
June	1,687.21	110,634	\$ 65.57	-	-	n/a			
YTD	15,517.76	\$ 1,009,023	\$ 65.02	13,375.29	\$ 609,846	\$ 45.59	(2,142.47)	\$ (399,177)	(19.43)

Property Division Monthly Financial Report

Period Ending: **March 31, 2020**

	Current Month		Variance Better (Worse) than Budget		Year to Date		Variance Better (Worse) than Budget	
	Budget	Actual	\$	%	Budget	Actual	\$	%
REVENUES								
Jets Electric:								
Capacity Payments	\$ 1,044,271	\$ 1,064,592	\$ 20,321	1.9%	\$ 9,398,442	\$ 9,567,963	\$ 169,521	1.8%
VARS Payments	\$ 4,200	\$ 3,183	\$ (1,017)	-24.2%	\$ 37,800	\$ 28,769	\$ (9,031)	-23.9%
Reserve Credits	\$ 50,000	\$ 54,335	\$ 4,335	8.7%	\$ 450,000	\$ 636,787	\$ 186,787	41.5%
Real Time Energy	\$ 25,000	\$ -	\$ (25,000)	n/a	\$ 225,000	\$ 123,235	\$ (101,765)	-45.2%
Total Jets Electric	\$ 1,123,471	\$ 1,122,110	\$ (1,361)	-0.1%	\$ 10,111,242	\$ 10,356,754	\$ 245,512	2.4%
Lease Income:								
CSWS Murphy Road	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
Golf Center	\$ 1,664	\$ 1,664	\$ -	0.0%	\$ 14,974	\$ 14,974	\$ -	0.0%
Wheelabrator Lease	\$ 35,946	\$ 38,079	\$ 2,133	5.9%	\$ 323,511	\$ 342,712	\$ 19,201	5.9%
Jets Billboard	\$ -	\$ -	\$ -	n/a	\$ 45,350	\$ 45,350	\$ -	0.0%
Total Lease Income	\$ 37,609	\$ 39,743	\$ 2,133	5.7%	\$ 383,835	\$ 403,035	\$ 19,201	5.0%
South Central Facility Capacity	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
Education & Trash Museum	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
Interest / Misc. Income	\$ 37,500	\$ 74,273	\$ 36,773	98.1%	\$ 112,500	\$ 265,514	\$ 153,014	136.0%
TOTAL ACCRUED REVENUES	\$ 1,198,581	\$ 1,236,126	\$ 37,545	3.1%	\$ 10,607,577	\$ 11,025,303	\$ 417,727	3.9%
EXPENDITURES								
MIRA Non-Personnel Services	\$ 19,769	\$ 124	\$ 19,645	99.4%	\$ 187,863	\$ 167,748	\$ 20,115	10.7%
MIRA Allocated Costs	\$ 61,076	\$ 52,888	\$ 8,188	13.4%	\$ 588,088	\$ 527,525	\$ 60,563	10.3%
Railroad Maintenance	\$ -	\$ -	\$ -	n/a	\$ 10,500	\$ 10,050	\$ 450	4.3%
211 Murphy Road Ops. Center	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
1410 Honey Spot Road	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
171 Murphy Road	\$ 2,243	\$ 1,068	\$ 1,175	52.4%	\$ 20,186	\$ 11,528	\$ 8,658	42.9%
Education & Trash Museum	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
South Central Facility Operating C	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
Jets Operating Charges	\$ 327,325	\$ 183,118	\$ 144,207	44.1%	\$ 1,536,424	\$ 1,183,823	\$ 352,601	22.9%
TOTAL ACCRUED EXPENDITURES	\$ 410,412	\$ 237,198	\$ 173,214	42.2%	\$ 2,343,062	\$ 1,900,674	\$ 442,388	18.9%
OPERATING INCOME (Before Reserves / Transfers)	\$ 788,169	\$ 998,928	\$ 210,759	26.7%	\$ 8,264,515	\$ 9,124,629	\$ 860,114	10.4%
DISTRIBUTION OF PD OPERATING INCOME								
General Fund	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
MIRA Severance	\$ 100,000	\$ 100,000	\$ -	0.0%	\$ 500,000	\$ 500,000	\$ -	0.0%
Jets Major Maintenance	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
PD Improvement Fund	\$ 25,000	\$ 25,000	\$ -	0.0%	\$ 125,000	\$ 125,000	\$ -	0.0%
TOTAL DISTRIBUTIONS	\$ 125,000	\$ 125,000	\$ -	0.0%	\$ 625,000	\$ 625,000	\$ -	0.0%
SURPLUS / (DEFICIT)	\$ 663,169	\$ 873,928	\$ 210,759	31.8%	\$ 7,639,515	\$ 8,499,629	\$ 860,114	11.3%

Property Division and CSWS Flow of Funds

Period Ending: **March 31, 2020**
Transfer Date: **April 7, 2020**
Funding: **May 2020**

Property Division Receipts	Beginning Balance	Interest (+)	Receipts (+)	Adjustments (+/-)	Net Receipts to Distribution (-)	Ending Balance
Clearing Account	\$ 1,000.00		\$ 1,165,943.82		\$ 1,165,943.82	\$ 1,000.00
Property Division Disbursements	Beginning Balance	Interest (+)	Expenditures (-)	Adjustments (+/-)	Distribution of Net Receipts (+/-)	Ending Balance
Operating Fund	\$ 2,276,306.75	\$ 3,502.45	\$ 240,236.97		\$ 181,004.55	\$ 2,220,598.78
PD General Fund	\$ 13,523,812.37	\$ 13,346.00			\$ 180,073.00	\$ 13,717,231.37
PD Improvement Fund	\$ 268,715.05		\$ 111,000.00	\$ 1,300.00	\$ 25,000.00	\$ 184,015.05
Jets Major Maintenance	\$ 1,353,000.00		\$ 200,000.00			\$ 1,153,000.00
Severance Fund	Combined Below				\$ 100,000.00	Combined Below
CSWS Improvement Fund	Combined Below					Combined Below
CSWS Major Maintenance	Combined Below					Combined Below
CSWS Tip Fee Stabilization	Combined Below				\$ 679,864.22	Combined Below
Total	\$ 17,421,834.17	\$ 16,848.45	\$ 551,236.97	\$ 1,300.00	\$ 1,165,943.82	\$ 17,274,845.20
CSWS Division Receipts	Beginning Balance	Interest (+)	Receipts (+)	Adjustments (+/-)	Net Receipts to Distribution (-)	Ending Balance
Clearing Account	\$ 40,000.00		\$ 4,086,408.07		\$ 4,086,408.07	\$ 40,000.00
CSWS Division Disbursements	Beginning Balance	Interest (+)	Expenditures (-)	Adjustments (+/-)	Distribution of Net Receipts (+/-)	Ending Balance
Operating STIF	\$ 6,583,893.44	\$ 3,684.77	\$ 5,061,905.23		\$ 4,722,023.92	\$ 6,247,696.90
Debt Service Fund	\$ 3,875.01					\$ 3,875.01
General Fund	\$ 1,097.74	\$ 1.09				\$ 1,098.83
CSWS Risk Fund	\$ 894,156.55	\$ 882.40				\$ 895,038.95
CSWS Legal Fund	\$ 636,969.04	\$ 628.60				\$ 637,597.64
Severance Fund	Combined Below					Combined Below
CSWS Improvement Fund	Combined Below					Combined Below
CSWS Major Maintenance	Combined Below				\$ 850,000.00	Combined Below
CSWS Tip Fee Stabilization	Combined Below				\$ (1,485,015.85)	Combined Below
Total	\$ 8,119,991.78	\$ 5,196.86	\$ 5,061,905.23	\$ -	\$ 4,086,408.07	\$ 7,785,307.33
Combined						
Severance Fund	\$ 2,173,953.69	\$ 2,112.22			\$ 100,000.00	\$ 2,276,065.91
CSWS Improvement Fund	\$ 127,365.74			\$ 37,877.05	\$ -	\$ 165,242.79
CSWS Major Maintenance	\$ 1,642,711.55	\$ 481.65	\$ 1,140,917.27	\$ 76,907.18	\$ 850,000.00	\$ 1,429,183.11
CSWS Tip Fee Stabilization	\$ 4,354,804.81	\$ 4,604.76			\$ (805,751.58)	\$ 3,553,657.99
Other Division Balances	Beginning Balance	Interest (+)	Receipts (+)	Expenditures (-)	Adjustments (+/-)	Ending Balance
General Fund Checking	\$ 1,085,157.43	\$ 7,582.00	\$ 174,344.95	\$ 219,809.00		\$ 1,047,275.38
Hartford Solar Reserve	\$ 333,836.46	\$ 329.43				\$ 334,165.89
Pollution Insurance Reserve	\$ 187,783.03	\$ 185.31				\$ 187,968.34
Landfill Operating Account	\$ 1,981,030.24		\$ 100,000.00	\$ 32,442.12		\$ 2,048,588.02

Mark T. Daley, Chief Financial Officer

Ending balances include the fund transfers represented on this flow of funds as a distribution. Excludes receipt of customer security deposits / guarantees of payment and Mid-Connecticut reserves not subject to disbursement or funding in accordance with adopted flow of funds. \$116,084.23 was deposited into the capital/improvement fund accounts after the NAES quarterly true-up was completed. The CSWS Major Maintenance received \$76,907.18, the CSWS Improvement Fund received \$37,877.05, and the PD Improvement Fund received \$1,300. The CSWS Operating STIF account was short funded by \$175,568.31 due to a shortfall from cash receipts and a lack of unencumbered funds in the CSWS Tip Fee Stabilization reserve. YTD the CSWS Operating Fund has been short funded by \$2,367,704.27. YTD \$1,741,663 in budgeted CSWS operating fund distributions represents prior year cost recovery of turbine failure expenses. At the beginning of January 2020, CSWS received \$5,274,624.92 in prepaid tip fees from waste haulers. This revenue flowed to the CSWS Operating STIF account and was used to reimburse the Tip Fee Stabilization Fund. As of March 31, 2020, \$1,720,967 in prepaid tip fees have been applied to pay customer invoices and \$3,553,658 remained available on customer accounts. After the distribution of March receipts, \$48,054,244.10 remained due to the Tip Fee Stabilization Fund from CSWS. YTD \$8,700,000.00 has been contributed to the CSWS Tip Fee Stabilization reserve.

**Materials Innovation and Recycling Authority
FY 2020 Board of Directors Financial Report
CSWS Improvement Fund Status**

Narrative

Period Ending:

03/31/20

WASTE PROCESSING FACILITY	Current Month			Year to Date		
	Budget	Actual	Variance	Budget	Actual	Variance
Trommels	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Conveyors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
MSW / RDF Tip Floor Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roof Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loaders	\$ 50,000	\$ -	\$ 50,000	\$ 450,000	\$ -	\$ 450,000
Other Rolling Stock	\$ -	\$ -	\$ -	\$ 60,000	\$ 59,971	\$ 29
Site Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Shredders	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
WPF Sub-total	\$ 50,000	\$ -	\$ 50,000	\$ 510,000	\$ 59,971	\$ 450,029
POWER BLOCK FACILITY						
Boiler 11	\$ -	\$ 281	\$ (281)	\$ -	\$ 281	\$ (281)
Boiler 12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Boiler 13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Turbine 5	\$ -	\$ (14,398)	\$ 14,398	\$ 150,000	\$ 1,395,029	\$ (1,245,029)
Turbine 6	\$ -	\$ (17,178)	\$ 17,178	\$ 50,000	\$ 27,382	\$ 22,618
Baghouse	\$ -	\$ (2,004)	\$ 2,004	\$ -	\$ (2,004)	\$ 2,004
Auxiliary Systems	\$ -	\$ (31,198)	\$ 31,198	\$ -	\$ (31,198)	\$ 31,198
Building Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Roof Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Site Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Switch Yard / Switchgear	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Stack / Common Duct	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ash System / Load Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
M Caps	\$ -	\$ (2,247)	\$ 2,247	\$ -	\$ (2,247)	\$ 2,247
PBF Sub-total	\$ -	\$ (66,744)	\$ 66,744	\$ 200,000	\$ 1,387,242	\$ (1,187,242)
TRANSFER STATIONS						
Essex	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Torrington	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Watertown	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Transfer Stations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL CSWS IMPROVEMENT FUND	\$ 50,000	\$ (66,744)	\$ 116,744	\$ 710,000	\$ 1,447,213	\$ (737,213)

Materials Innovation and Recycling Authority
FY 2020 Board of Directors Financial Report
CSWS Major Maintenance Fund Status

Narrative

Period Ending:

03/31/20

WASTE PROCESSING FACILITY	Current Month			Year to Date		
	Budget	Actual	Variance	Budget	Actual	Variance
Trommels	\$ -	\$ -	\$ -	\$ 105,000	\$ 105,000	\$ -
Conveyors	\$ -	\$ 5,737	\$ (5,737)	\$ 425,000	\$ 272,332	\$ 152,668
MSW / RDF Tip Floor Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Building Repairs	\$ -	\$ -	\$ -	\$ 95,000	\$ -	\$ 95,000
Roof Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loaders	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Rolling Stock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Site Repairs	\$ -	\$ 43,500	\$ (43,500)	\$ -	\$ 138,802	\$ (138,802)
Shredders	\$ -	\$ -	\$ -	\$ 100,000	\$ -	\$ 100,000
WPF Sub-total	\$ -	\$ 49,237	\$ (49,237)	\$ 725,000	\$ 516,134	\$ 208,866
POWER BLOCK FACILITY						
Boiler 11	\$ 1,575,000	\$ (18,406)	\$ 1,593,406	\$ 2,175,000	\$ 2,341,396	\$ (166,396)
Boiler 12	\$ -	\$ 366,308	\$ (366,308)	\$ 3,150,000	\$ 4,672,541	\$ (1,522,541)
Boiler 13	\$ -	\$ 638,809	\$ (638,809)	\$ 2,050,000	\$ 919,529	\$ 1,130,471
Turbine 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Turbine 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Baghouse	\$ -	\$ 75,000	\$ (75,000)	\$ 1,830,000	\$ 1,568,000	\$ 262,000
Auxiliary Systems	\$ 625,000	\$ -	\$ 625,000	\$ 1,281,000	\$ 12,010	\$ 1,268,990
Building Repairs	\$ -	\$ -	\$ -	\$ 175,000	\$ -	\$ 175,000
Roof Repairs	\$ -	\$ (35)	\$ 35	\$ 100,000	\$ 181,978	\$ (81,978)
Site Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Switch Yard / Switchgear	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Stack / Common Duct	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ash System / Load Out	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
M Caps	\$ -	\$ (18,037)	\$ 18,037	\$ 75,000	\$ 88,200	\$ (13,200)
PBF Sub-total	\$ 2,200,000	\$ 1,043,640	\$ 1,156,360	\$ 10,836,000	\$ 9,783,654	\$ 1,052,346
TRANSFER STATIONS						
Essex	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Torrington	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Watetown	\$ -	\$ -	\$ -	\$ 100,000	\$ 4,425	\$ 95,575
Total Transfer Stations	\$ -	\$ -	\$ -	\$ 100,000	\$ 4,425	\$ 95,575
TOTAL CSWS IMPROVEMENT FUND	\$ 2,200,000	\$ 1,092,876	\$ 1,107,124	\$ 11,661,000	\$ 10,304,212	\$ 1,356,788

Materials Innovation and Recycling Authority
FY 2020 Board of Directors Financial Report

Segmented Income Statement

DRAFT

Period Ending: March 31, 2020

	General Fund	Connecticut Solid Waste System	Mid-Connecticut Project	Southeast Project	Property Division	Landfill Division	Eliminations	Total
Operating Revenues								
Service charges:								
Members	\$	\$ 25,310	\$	\$				\$ 25,310
Others	-	6,601	-	-	-			6,601
Energy sales	-	10,722	-	-	10,357	107		21,186
Other operating revenues	-	2,452	-	-	415	116		2,983
Total Operating Revenues	-	45,085	-	-	10,772	223	-	56,080
Operating Expenses								
Solid waste operations	-	39,830	-	-	1,186	41	(195)	40,862
Maintenance and utilities	-	11,039	-	-	390			11,429
Legal services - external	-	522	-	-	-	3		525
Administrative and Operational services	-	2,652	-	-	518	591		3,761
Total Operating Expenses	-	54,043	-	-	2,094	635	(195)	56,577
Operating Income (Loss) before Depreciation and Amortization	-	(8,958)	-	-	8,678	(412)	195	(497)
Depreciation and amortization	10	-	-	-	8,997	103	0	9,110
Operating Income (Loss)	(10)	(8,958)	-	-	(319)	(515)	195	(9,607)
Non-Operating Revenues (Expenses)								
Investment income	-	94	27	-	253	7	-	381
Settlement income (expenses)	-	-	-	-	-	-	-	-
Other income (expenses)	-	-	-	-	(273)	-	-	(273)
Distribution to SCRRRA	-	-	-	-	-	-	-	-
Non-Operating Revenues (Expenses), net	-	94	27	-	(20)	7	-	108
Income (Loss) before Transfers	(10)	(8,864)	27	-	(339)	(508)	195	(9,499)
Transfers in (out)	500	2,209	-	-	(2,709)	-	(195)	(195)
Change in Net Position	490	(6,655)	27	-	(3,048)	(508)	-	(9,694)
Total Net Position, beginning of period	2,582	4,496	2,024	-	71,330	21,297	-	101,729
Total Net Position, end of period	\$ 3,072	\$ (2,159)	\$ 2,051	\$	\$ 68,282	\$ 20,789	\$	\$ 92,035
RECONCILIATION TO VARIANCE REPORT:								
Add: Expenses paid from reserves	-	10,304	-2026	-	310	-	-	8,588
Add: Amortization	10	-	-	-	8,997	103	-	9,110
less: GAAP Exp (Deferred for Budget)	-	-	-	-	273	-	-	273
add: Spare parts and fuel inventory adjustment	-	(64)	-	-	(116)	-	-	(180)
add: Capitalized expenses net of asset disposals	-	-	-	-	-	-	-	-
add: Settlement income	-	-	-	-	-	-	-	-
Operating Income (Loss) per Variance report	n/a	1,376	n/a	n/a	9,125	n/a	n/a	10,501

ties with PD financials tab

ties with CSWS financials tab

ties with CSWS financials tab

Note: Monthly variance report produced for General fund, Property Division and CSWS only.

Note: Eliminations and depreciation are preliminary amounts.

THE AUTHORITY - FINANCIAL RESULTS

For the Period Ending Mar 31, 2020

DETAILS	MONTH TO DATE				YEAR TO DATE			
	Budget	Actual	Variance		Budget	Actual	Variance	
<u>Authority Budget</u>								
Personnel Services (a)	\$ 192,681	\$ 182,524	\$ 10,157	5.27%	\$ 1,878,321	\$ 1,777,887	\$ 100,434	5.35%
Non-Personnel Services (b)	\$ 58,669	\$ 38,347	\$ 20,322	34.64%	\$ 536,402	\$ 394,882	\$ 141,520	26.38%
Total Authority Budget	\$ 251,350	\$ 220,870	\$ 30,480	12.13%	\$ 2,414,723	\$ 2,172,769	\$ 241,954	10.02%
LESS: STIF Interest Income	\$ -	\$ 7,582	\$ (7,582)	100.00%	\$ -	\$ 25,526	\$ (25,526)	100.00%
TOTAL AUTHORITY BUDGET ALLOCATED	\$ 251,350	\$ 213,288	\$ 38,062	15.14%	\$ 2,414,723	\$ 2,147,243	\$ 267,480	11.08%
<u>Authority Budget Allocation</u>								
Landfill Division (2.814%)	\$ 7,072	\$ 6,002	\$ 1,070	15.13%	\$ 67,942	\$ 60,423	\$ 7,519	11.07%
Property Division (20.554%)	\$ 51,663	\$ 43,839	\$ 7,824	15.14%	\$ 496,327	\$ 441,344	\$ 54,983	11.08%
CSWS Division (76.632%)	\$ 192,615	\$ 163,447	\$ 29,168	15.14%	\$ 1,850,454	\$ 1,645,475	\$ 204,979	11.08%
TOTAL AUTHORITY BUDGET ALLOCATED	\$ 251,350	\$ 213,288	\$ 38,062	15.14%	\$ 2,414,723	\$ 2,147,243	\$ 267,480	11.08%
<u>MIRA Direct Personnel</u>								
Landfill Division	\$ -	\$ -	\$ -	n/a	\$ -	\$ -	\$ -	n/a
Property Division	\$ 9,413	\$ 9,049	\$ 364	3.87%	\$ 91,762	\$ 86,181	\$ 5,581	6.08%
CSWS Division	\$ 129,974	\$ 122,539	\$ 7,435	5.72%	\$ 1,267,033	\$ 1,179,813	\$ 87,220	6.88%
TOTAL MIRA DIRECT	\$ 139,387	\$ 131,588	\$ 7,799	5.60%	\$ 1,358,795	\$ 1,265,994	\$ 92,801	6.83%
<u>Total Allocation</u>								
Landfill Division (1.807%)	\$ 7,072	\$ 6,002	\$ 1,070	15.13%	\$ 67,942	\$ 60,423	\$ 7,519	11.07%
Property Division (15.617%)	\$ 61,076	\$ 52,888	\$ 8,188	13.41%	\$ 588,089	\$ 527,526	\$ 60,563	10.30%
CSWS Division (82.576%)	\$ 322,589	\$ 285,986	\$ 36,603	11.35%	\$ 3,117,487	\$ 2,825,288	\$ 292,199	9.37%
TOTAL AUTHORITY & MIRA DIRECT	\$ 390,737	\$ 344,876	\$ 45,861	11.74%	\$ 3,773,518	\$ 3,413,237	\$ 360,281	9.55%
TOTAL RESOURCE REDISCOVERY *	\$ 25,000	\$ (1,061)	\$ 26,061	104.25%	\$ 590,900	\$ 534,876	\$ 56,024	9.48%

YTD VARIANCE EXPLANATION

- (a) Favorable due to lower than budgeted direct and indirect labor & benefits allocation; Employee departures resulted to vacancies and restructuring of positions.
- (b) Favorable due to lower than budgeted IT consulting services, legal fees, and bank fees and timing of auditor fees, engineering consulting services, computer hardware and software; partially offset by higher than budgeted rent, temp agency services, and insurance premium.

* Reflects legal and engineering consulting fees related to facility assessment; On 06/21/19, the BOD approved a budget of \$300k for legal fees and other expenses to be funded using funds from the Landfill Division. On 08/14/19, the BOD approved an additional funding of \$365,900.00 for engineering consulting services, which increased the total budget to \$665,900.00 for FY20.

TAB B

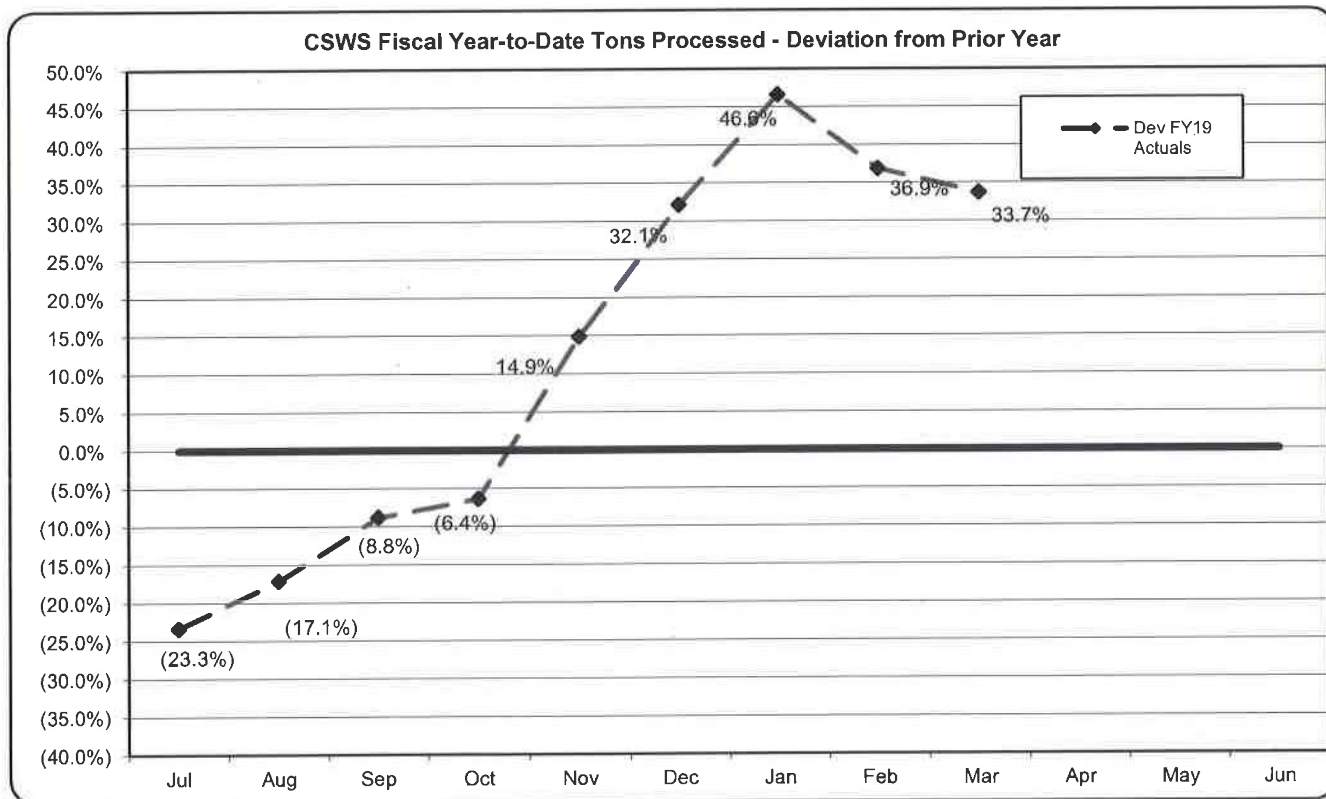
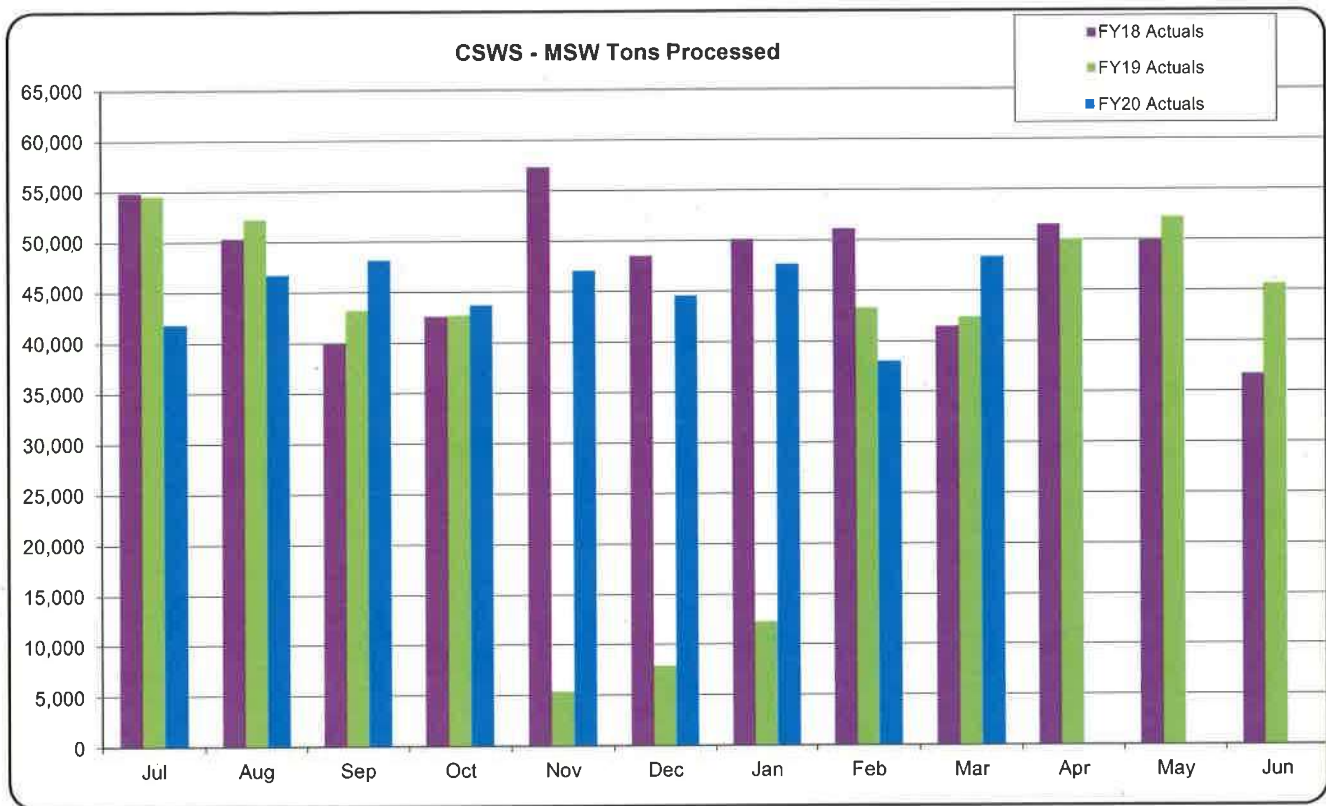
MATERIALS INNOVATION AND RECYCLING AUTHORITY

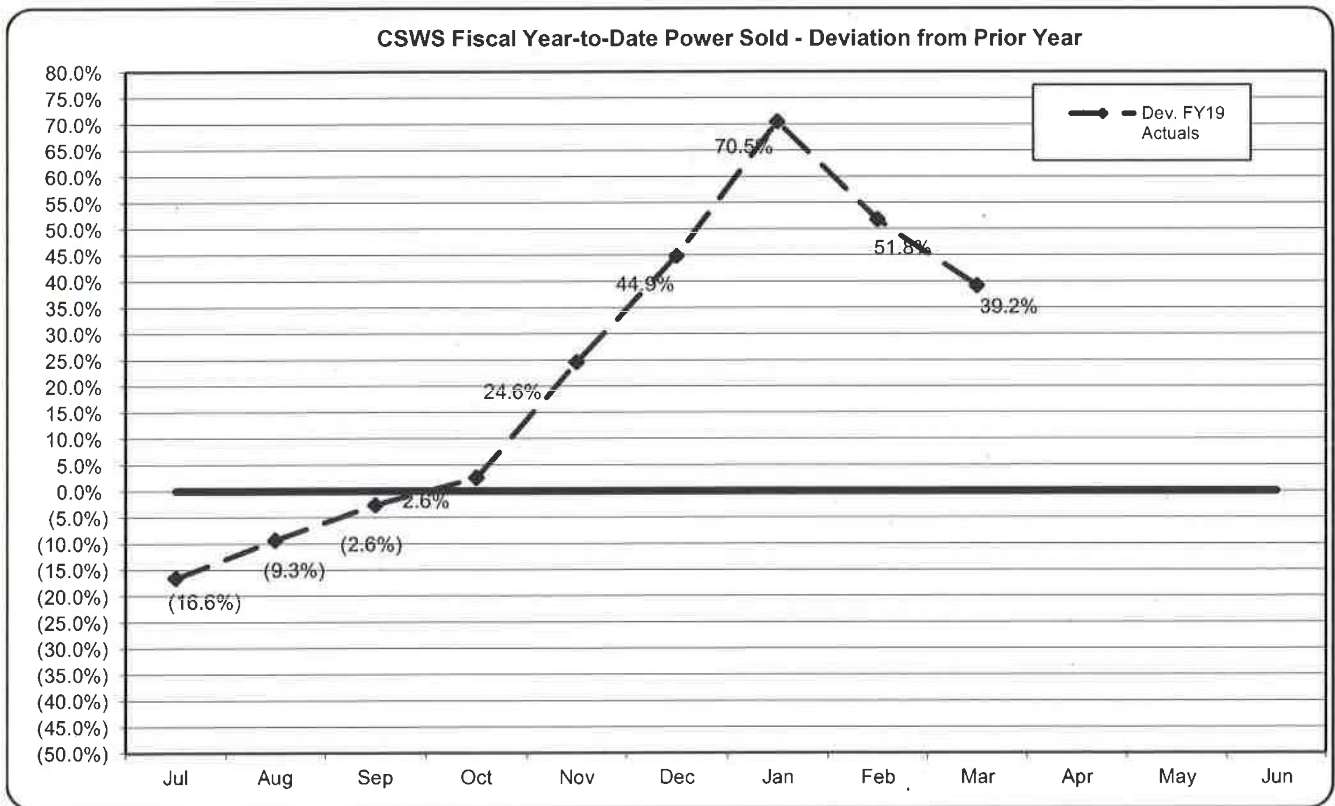
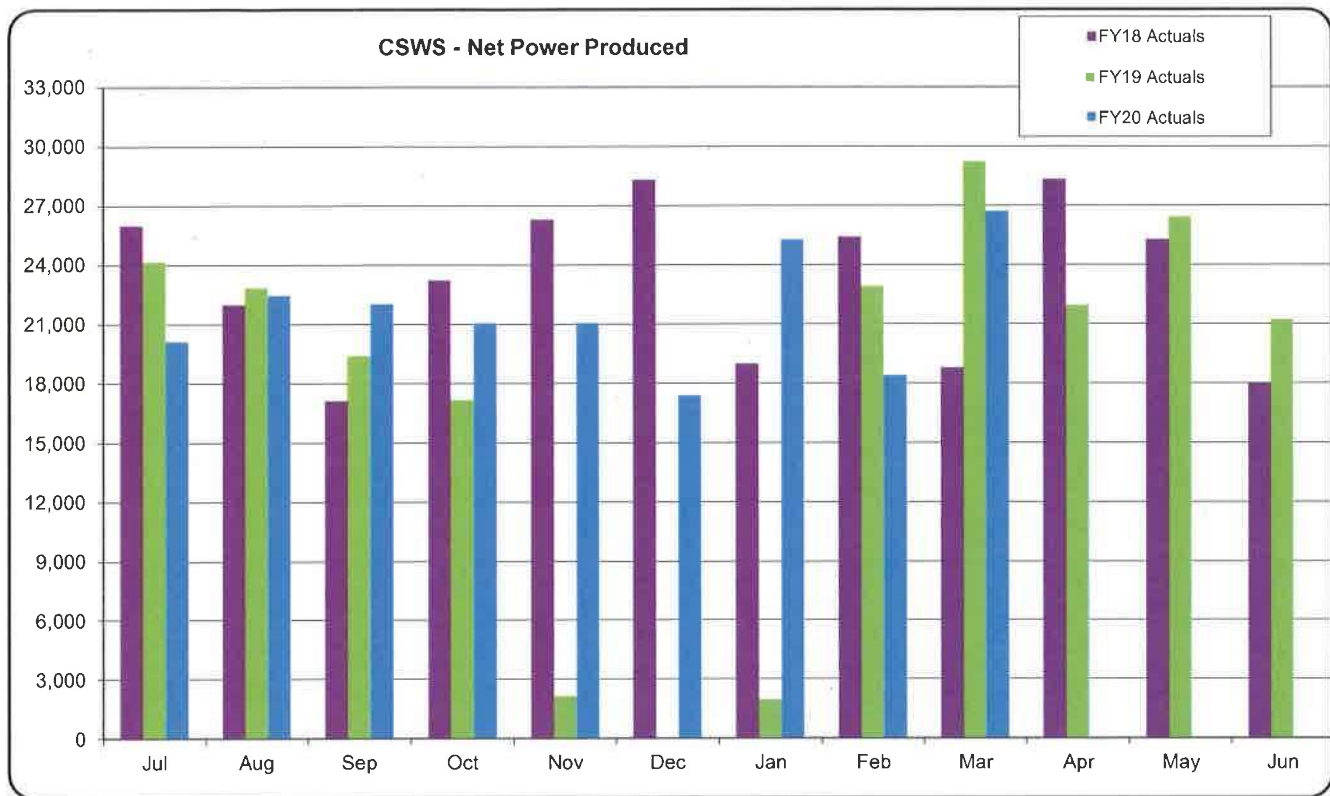
Monthly Operational Summary

March-20

This report provides information on the operations of the CSWS waste-to energy plant along with the South Meadows Jets. The following table provides a summary of key operating parameters.

Project/ Item	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Change	2019	2020	Change	Mar 19	Mar 20	Change
CSWS									
Tons MSW Processed	574,439	451,568	(21.4%)	303,689	405,990	33.7%	42,354	48,326	14.1%
Steam (klbs)	3,411,233	2,566,195	(24.8%)	1,726,181	2,418,569	40.1%	342,931	308,168	(10.1%)
(% MCR)	56.2%	42.3%		37.9%	52.9%		66.5%	59.8%	
Power (Net MWh)	277,692	209,352	(24.6%)	139,764	201,798	44.4%	29,214	26,700	(8.6%)
South Meadow Jets									
Net MWh	1,479	1,932	30.6%	1,715	1,241	(27.6%)	96	0	100.0%





CSWS Waste to Energy Plant Monthly Operational Summary

Unit Capacity Factors

Month	Boiler 11	Boiler 12	Boiler 13
Mar 20	78%	80%	22%

Unscheduled Downtime

Date Began	Date Ended	Boiler	Duration (Hrs.)	Reason
07/01/19	07/06/19	11	144.00	Single TG Operation.
07/07/19	07/07/19	11	5.00	High Baghouse Delta P
07/14/19	07/16/19	11	18.20	High Baghouse Delta P
07/19/19	07/20/19	11	8.60	Reduce Load due to TG6 High Stator Temp
07/28/19	07/31/19	11	92.90	High Baghouse Delta P
08/01/19	08/04/19	11	96.00	High Baghouse Delta P
08/07/19	08/09/19	11	57.20	Black Plant to Fix Multiple Issues
08/17/19	08/26/19	11	209.00	High Baghouse Delta P, Plugged Baghouse
09/11/19	09/11/19	11	8.30	Wet RDF- RDF Auger Screw B Starts/Stops
09/12/19	09/12/19	11	0.80	Wet RDF- RDF Auger Screw B Starts/Stops
11/24/19	11/28/19	11	102.20	Grounded ID Fan Drive Motor
01/02/20	01/02/20	11	8.90	Reduce Load due to Low RDF Inventory
02/05/20	02/07/20	11	72.00	Furnace Waterwall leaks
02/08/20	02/08/20	11	4.00	Low RDF Inventory
02/24/20	02/24/20	11	0.30	Low RDF Inventory
02/25/20	02/27/20	11	72.00	Unscheduled Cold Iron
07/01/19	07/01/19	12	0.90	Distribution Spout Failure
07/05/19	07/14/19	12	220.20	Distribution Spout Failure. Broken Auger Screws
07/15/19	07/15/19	12	5.00	Reduce Load due to TG6 High Stator Temp
07/19/19	07/19/19	12	5.70	Reduce Load due to TG6 High Stator Temp
07/21/19	07/21/19	12	1.10	Reduce Load due to TG6 High Stator Temp
07/24/19	07/29/19	12	119.10	Derailed SSC & Furnace Waterwall Leaks
08/13/19	08/16/19	12	65.20	Economizer Tube Leaks
08/17/19	08/17/19	12	2.30	Rebalanced PDA Fan
09/06/19	09/08/19	12	45.80	Derailed SSC & Furnace Waterwall Leaks
09/11/19	09/13/19	12	67.00	Waterwall Tube leaks
09/14/19	09/14/19	12	15.60	Master Fuel Trip Relay & Wiring Issues
09/28/19	09/28/19	12	34.60	Failed Ash Transfer Belt
09/29/19	09/29/19	12	34.60	Distribution Spout- Constant Failure
10/09/19	10/13/19	12	87.70	Tube Leak & RDF Auger Screw Repair
10/21/19	10/21/19	12	0.70	RDF Vibrating Pan Plugs
11/18/19	11/18/19	12	0.10	WPF Having trouble Keeping Up With Fuel Demand
12/29/19	12/29/19	12	9.00	Unit back in Service
12/30/19	12/31/19	12	28.10	Unit back in Service- RDF Auger Screw/Pump Issues
01/01/20	01/04/20	12	79.90	RDF Auger Screw/Pump Issues
01/20/20	01/24/20	12	85.00	RDF Auger Screw Broken/Distribution Spout not Working
02/14/20	02/16/20	12	59.60	Generation Tube Leaks
02/17/20	02/18/20	12	45.10	RDF Distribution Spout not Working/Low RDF Inventory
02/24/20	02/27/20	12	96.00	Unscheduled Cold Iron
02/28/20	02/28/20	12	13.10	Delta T Restricted due to Single TG Operation
03/26/20	03/26/20	12	2.70	Low RDF Inventory
03/27/20	03/27/20	12	24.00	Low RDF Inventory
03/28/20	03/28/20	12	0.90	Low RDF Inventory
07/05/19	07/05/19	13	9.90	Broken Auger Screw, Loss of Feedwater & Plugged Atomizer Wheel
07/14/19	07/14/19	13	9.60	Broken Auger Screw, Reduce Load due to TG6 High Stator Temp
07/15/19	07/15/19	13	24.00	Broken Auger Screw
07/16/19	07/20/19	13	120.00	Single RDF Train/Belt rolled, High Baghouse Delta P
07/21/19	07/21/19	13	1.00	Reduce Load due to TG6 High Stator Temp
08/07/19	08/09/19	13	59.10	Black Plant to Fix Multiple Issues
09/04/19	09/08/19	13	91.00	Large Clunker Tripping Grate- Also start Cleaning Outage

Unscheduled Downtime**Continued**

09/18/19	09/26/19	13	211.00	Plugged Baghouse/Hopper/Inlet Duct/Tube Leaks
09/27/19	09/30/19	13	96.00	Unbalanced ID Fan
10/01/19	10/06/19	13	144.00	Unbalanced ID Fan
10/31/19	10/31/19	13	3.10	Wet RDF- Auger Screw Starts/Stops
11/16/19	11/17/19	13	37.50	Furnace Tube Leak
12/04/19	12/15/19	13	281.10	Multiple Secondary Superheater Tube Leaks
01/07/20	01/11/20	13	120.00	Furnace Waterwall/ Superheater Tube Leaks
01/12/20	01/12/20	13	19.70	Loss of TG#5 Stop Valve Controller
01/13/20	01/15/20	13	51.80	Single TG Operation
02/20/20	02/23/20	13	91.60	Superheater Tube Repairs
02/24/20	02/29/20	13	144.00	Unscheduled Cold Iron
03/01/20	03/03/20	13	68.90	Unscheduled Cold Iron/Control Network Issues

Scheduled Downtime

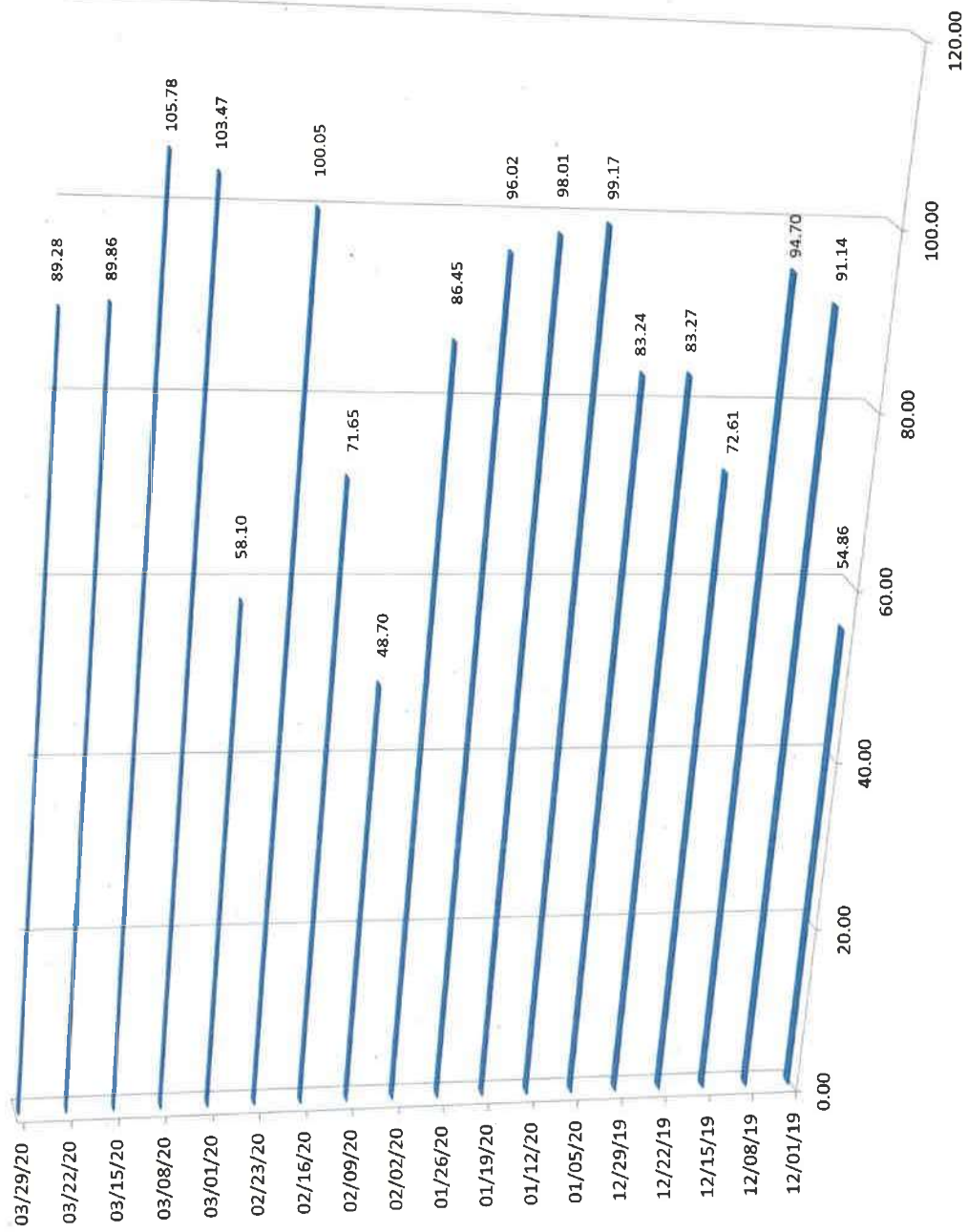
07/21/19	07/25/19	11	116.80	Scheduled Cleaning Outage
09/30/19	09/30/19	11	24.00	Scheduled Fall Outage
10/01/19	10/31/19	11	744.00	Scheduled Fall Outage- Extended due to ID Fan Rotor Repairs
11/01/19	11/03/19	11	52.50	Scheduled Fall Outage- Extended due to ID Fan Rotor Repairs
01/03/20	01/09/20	11	168.00	Scheduled Boiler Cleaning Outage
03/09/20	03/10/20	11	44.90	Scheduled Cleaning Outage
08/05/19	08/12/19	12	169.10	Scheduled Cleaning Outage
11/08/19	11/15/19	12	176.00	Scheduled Fall Cleaning Outage
12/02/19	12/28/19	12	648.00	Scheduled Annual Outage
08/11/19	08/15/19	13	86.20	Scheduled Cleaning Outage
11/04/19	11/09/19	13	132.00	Scheduled Fall Cleaning Outage
02/01/20	02/15/20	13	341.10	Scheduled Cleaning Outage/Tube Repairs/IRIS Testing
03/12/20	03/31/20	13	480.00	Scheduled Annual Major Outage

SOUTH MEADOWS JETS

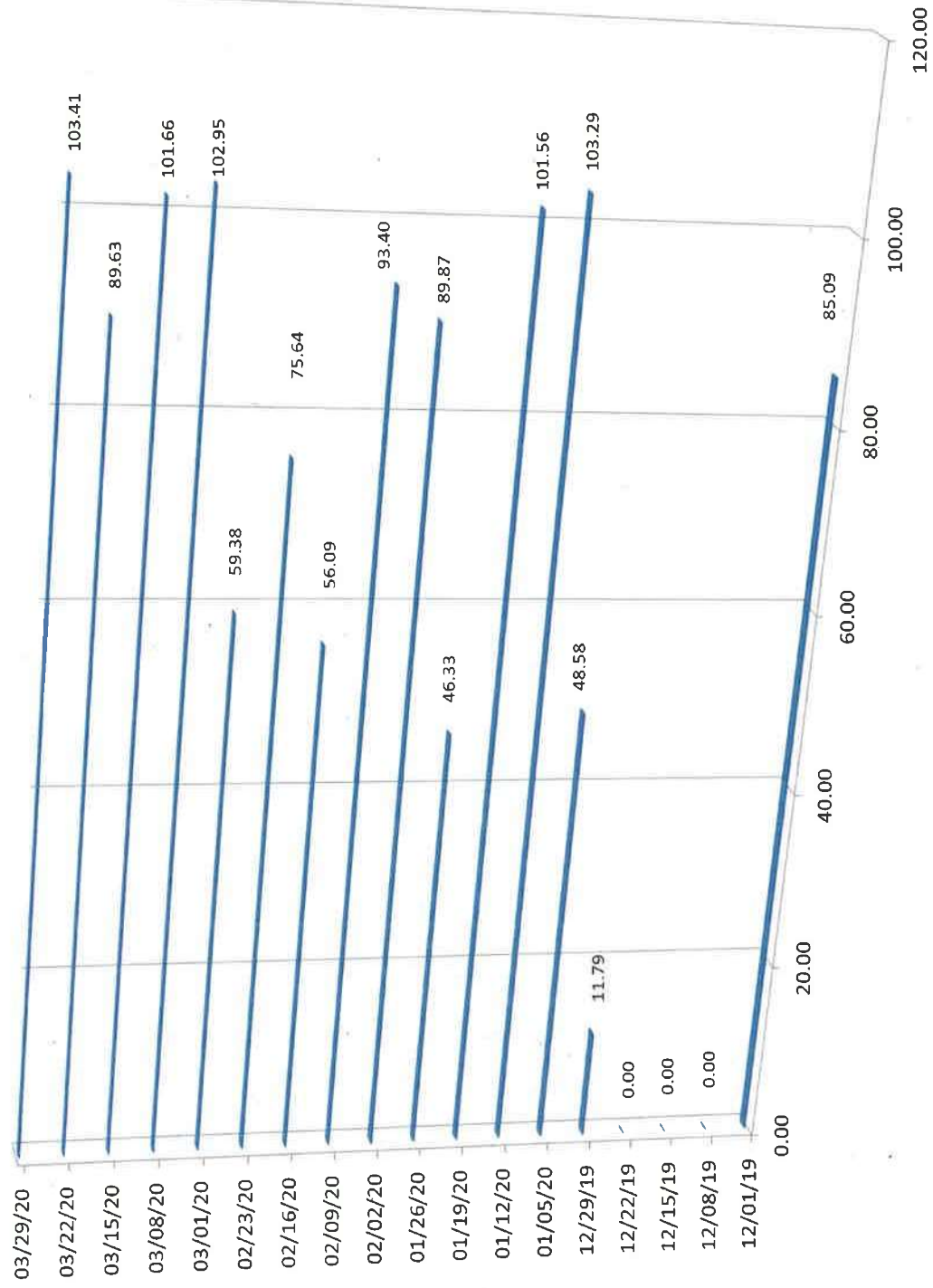
Monthly Operational Summary

Date	Net Generation (MWH)	Comment
07/15/19	87.94	Summer SCCA Testing
07/20/19	116.63	ISO-NE Dispatch
08/27/19	61.67	ISO-NE Dispatch
09/06/19	0.86	Testing After 11B Free Turbine Change Out
09/09/19	2.20	Testing After 11B Free Turbine Vibration
09/10/19	4.45	Testing After 11B Free Turbine Vibration After Sensor Connector Repair
09/17/19	9.83	Testing After 11B Free Turbine Vibration After Sensor Replacement
09/26/19	43.91	ISO-NE Dispatch
10/22/19	202.93	Emission Testing Unit 11
10/23/19	192.34	Emission Testing Unit 12
10/24/19	193.41	Emission Testing Unit 13
10/25/19	180.37	Emission Testing Unit 14
11/18/19	64.57	ISO-NE Dispatch
11/21/19	55.70	ISO-NE Dispatch
01/26/20	3.34	ISO-NE Dispatch
01/29/20	3.67	Testing Unit 14
02/04/20	2.09	Vibration Testing/ Trouble Shooting Unit 11
02/11/20	14.28	Vibration Testing/ Trouble Shooting Unit 11
02/12/20	1.16	Vibration Testing/ Trouble Shooting Unit 11

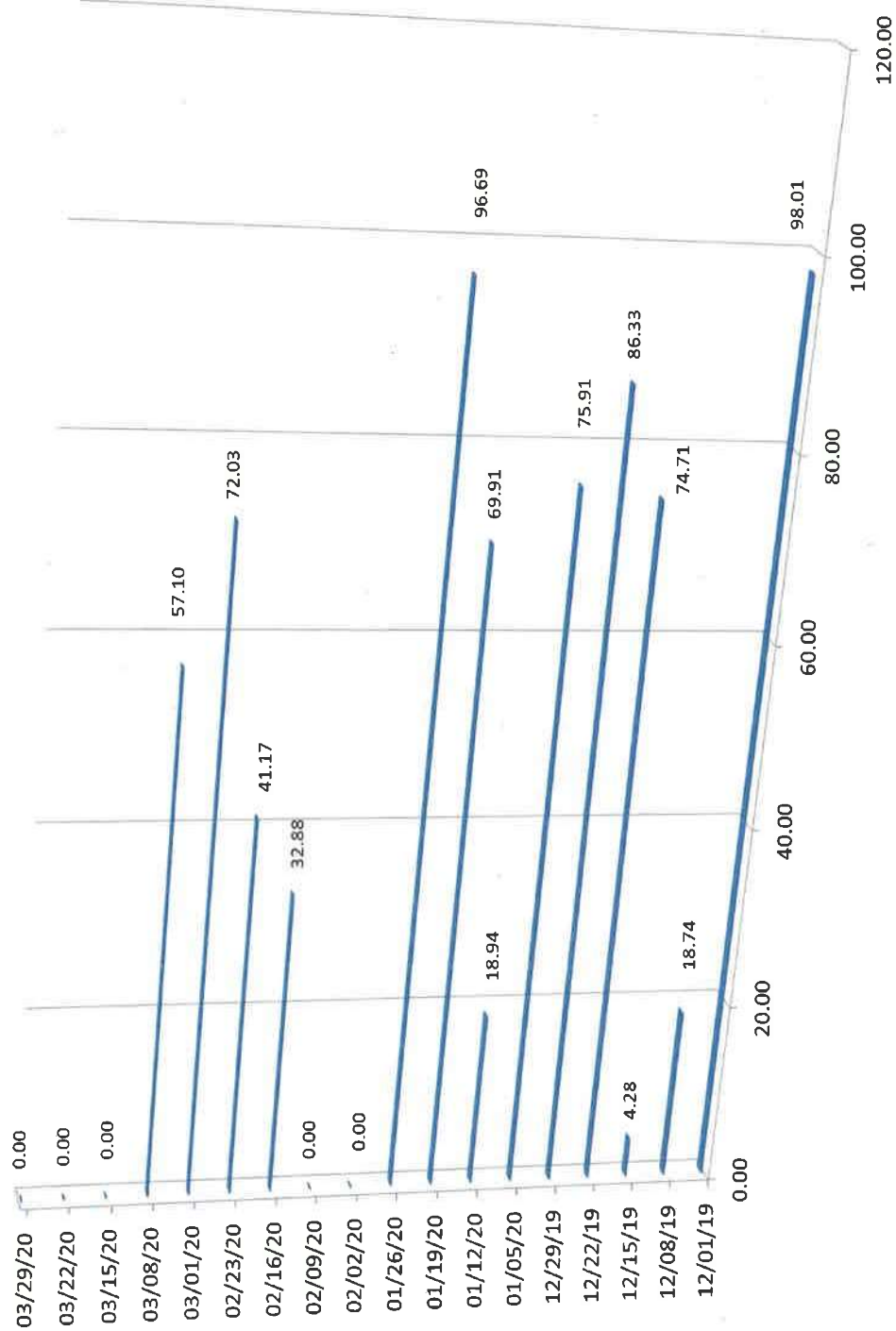
BLR#11 Steam Flow % of Target Steam flow Production



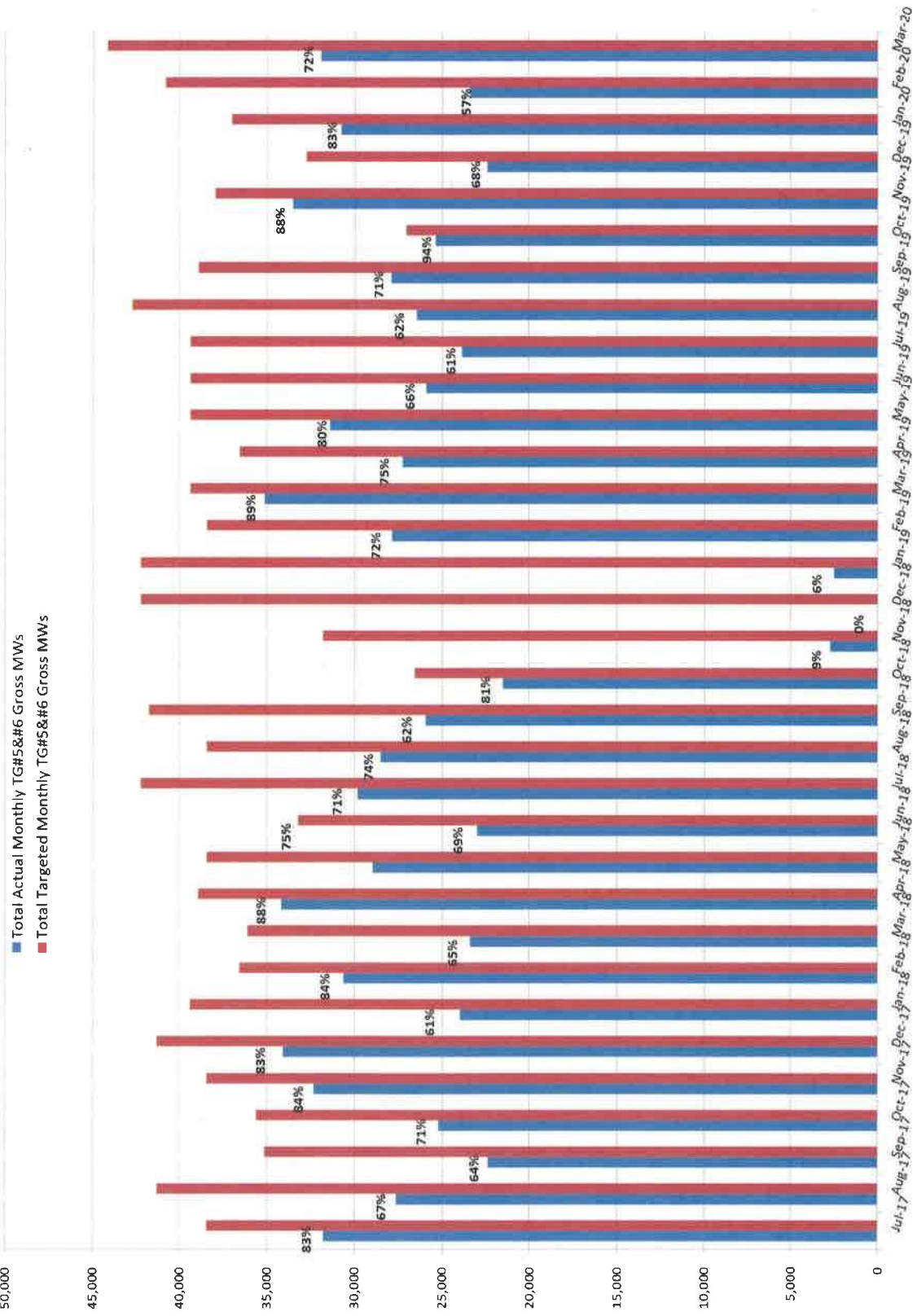
BLR#12 Steam Flow % of Target Steam flow Production



BLR#13 Steam Flow % of Target Steam flow Production



Combined Monthly TG#5 Gross MWs -Actual to Targeted



TAB C

MATERIALS INNOVATION AND RECYCLING AUTHORITY

Monthly Customer MSW and Recyclables Deliveries

March-20

Monthly Customer Delivery Report

Project/Contract	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
CSWS MSW									
Tier 1	345,731	406,257	18%	297,511	295,301	(1%)	29,918	30,550	2%
Tier 2	13,388	12,879	(4%)	9,593	9,365	(2%)	948	1,031	9%
Tier 3	16	16	6%	12	0	(100%)	1	0	(100%)
Tier 4	15,097	0	(100%)	0	0	-	0	0	-
Non-Processible MSW	2,037	2,086	2%	1,234	1,733	40%	85	175	106%
Hauler Contract	201,005	126,128	(37%)	82,056	77,496	(6%)	9,176	10,058	10%
Contract (FCR Residue)	9,010	9,888	10%	7,940	8,722	10%	804	902	12%
Ferrous Residue (excess)	2,679	1,427	(47%)	1,052	865	(18%)	53	189	100%
In-State Spot	3,718	0	(100%)	0	0	-	0	0	-
Out-of-State Spot	0	0	-	0	0	-	0	0	-
MSW TOTAL	592,681	558,680	(6%)	399,398	393,482	(2%)	40,984	42,904	4%

Project/Contract	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
CSWS Recyclables									
Tier 1	47,566	52,317	10%	39,220	41,418	6%	3,837	4,531	18%
Tier 4	3,483	0	(100%)	0	0	-	0	0	-
Hauler Contract	9,773	21,714	122%	16,192	15,589	(4%)	1,591	1,357	(15%)
Contractor Sourced	6,173	346	(94%)	346	0	(100%)	0	0	-
In-State Spot	0	0	-	0	0	-	0	0	-
Out-of-State Spot	0	0	-	0	0	-	0	0	-
RECYC. TOTAL	66,996	74,377	11%	55,758	57,007	2%	5,429	5,888	8%

CSWS Diversions, Exports, Re-Directed Tons

Type	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
CSWS Facility and/or TS	20,170	103,273	412%	103,273	4,416	(96%)	468	0	(100%)
Re-Directed Material (1)	3,273	13,458	311%	13,458	93	(99%)	0	0	-
TOTAL TONNAGE	23,444	116,732	398%	116,732	4,509	(96%)	468	0	(100%)

(1) INCLUDES Tons re-directed to Non-MIRA Facility.

(2) Tons suspended or reduced due to Force Majeure Event (suspended FY19 11/7/18 to 3/11/19), (both FY20 7/15/19 - 8/15/19)

Breakdown of Participating towns attached

Connecticut Solid Waste System Monthly Customer MSW Deliveries

CSWS Tier 1 Participating Municipality MSW

Town	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
Avon	11,509	11,942	4%	8,929	9,280	4%	852	972	14%
Bethlehem	1,477	1,598	8%	1,167	1,276	9%	118	143	21%
Bloomfield	15,591	17,990	15%	13,412	12,169	(9%)	1,382	1,248	(10%)
Canaan	440	447	2%	329	347	5%	33	37	12%
Canton	4,942	4,885	(1%)	3,622	3,466	(4%)	361	379	5%
Clinton	6,340	7,089	12%	4,944	6,126	24%	529	684	29%
Chester (4)	0	0	-	0	782	-	0	111	-
Colebrook	616	609	(1%)	456	448	(2%)	51	37	(27%)
Cornwall	531	529	(1%)	406	378	(7%)	32	34	7%
Deep River	2,545	3,121	23%	2,127	2,683	26%	260	264	1%
Durham/Middlefield	6,695	6,599	(1%)	4,722	5,011	6%	414	531	28%
East Granby	2,896	2,446	(16%)	1,792	1,831	2%	172	204	19%
East Hartford (2)	0	28,551	-	20,990	20,529	(2%)	2,108	2,106	(0%)
East Hampton	6,241	6,075	(3%)	4,322	4,964	15%	468	508	8%
Ellington	5,663	5,756	2%	4,210	3,836	(9%)	425	395	(7%)
Essex	3,710	3,455	(7%)	2,548	2,305	(10%)	220	194	(12%)
Farmington	14,793	13,227	(11%)	9,414	10,520	12%	1,020	1,053	3%
Glastonbury	19,417	19,957	3%	14,703	14,216	(3%)	1,453	1,411	(3%)
Goshen	1,330	1,351	2%	1,006	1,057	5%	82	116	41%
Granby	4,209	4,259	1%	3,144	3,194	2%	314	327	4%
Haddam	3,189	3,509	10%	2,487	2,500	1%	238	284	19%
Hartford	84,275	87,763	4%	64,448	61,409	(5%)	6,931	6,318	(9%)
Harwinton	1,906	1,960	3%	1,443	1,476	2%	137	150	10%
Killingworth	1,932	1,964	2%	1,396	1,536	10%	154	173	12%
Litchfield	4,952	5,436	10%	4,012	3,976	(1%)	357	415	16%
Lyme	745	752	1%	565	547	(3%)	50	61	23%
Marlborough	2,138	2,237	5%	1,603	1,784	11%	142	229	61%
Middlebury	2,698	3,397	26%	2,617	1,794	(31%)	269	166	(38%)
Naugatuck	14,572	16,473	13%	12,151	9,541	(21%)	1,180	1,121	(5%)
Newington (3)	0	17,389	-	11,659	14,974	28%	1,507	1,484	(2%)
Norfolk	785	800	2%	596	561	(6%)	56	65	16%
North Canaan	2,114	2,107	(0%)	1,590	1,520	(4%)	140	162	16%
North Branford (5)	0	0	-	0	3,737	-	0	416	-
Old Lyme	3,354	4,061	21%	2,997	2,962	(1%)	252	275	9%
Old Saybrook	8,989	8,846	(2%)	6,480	6,594	2%	542	641	18%
Portland	3,695	3,998	8%	2,964	2,730	(8%)	278	280	1%
Rocky Hill	11,362	12,784	13%	9,170	9,391	2%	873	904	4%
Roxbury	694	513	(26%)	386	475	23%	36	53	45%
RRDD#1	11,270	11,585	3%	8,490	8,225	(3%)	822	906	10%
Salisbury/Sharon	3,308	3,208	(3%)	2,417	2,329	(4%)	206	253	23%
Simsbury	12,755	11,776	(8%)	8,507	8,605	1%	849	892	5%
Thomaston	4,372	4,623	6%	3,510	3,189	(9%)	333	357	7%
Torrington	22,869	23,654	3%	17,457	17,130	(2%)	1,750	1,827	4%
Watertown	10,790	12,748	18%	9,739	8,284	(15%)	845	895	6%
Westbrook (1)	3,354	3,703	10%	2,900	2,160	(26%)	205	189	(7%)
Wethersfield	16,218	17,257	6%	12,721	10,729	(16%)	1,202	960	(20%)
Woodbury	4,448	3,827	(14%)	2,963	2,726	(8%)	271	317	17%
TOTAL TIER 1 PART.	345,731	406,257	18%	297,511	295,301	(1%)	29,918	30,550	2%

(1) Westbrook signed with MIRA as T1S effective 11/1/2017

(2) East Hartford switched from Tier 4 to Tier 1L 7/1/18

(3) Newington signed with MIRA as T1L effective 7/1/2018

(4) Chester switched from Tier 3 to Tier 1L 7/1/19

(5) North Branford signed with MIRA as Tier 1L effective 7/1/19

(a) INCLUDES Tons re-directed to Non-MIRA Facility. (FY18 Oct, Jan, Feb), (FY19 Jul, Aug, Sep, Oct, Nov, Dec, Jan, Feb), (FY20 Jul)

CSWS Tier 2 Participating Municipality MSW									
Town	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
Manchester	13,388	12,879	(4%)	9,593	9,365	(2%)	948	1,031	9%
TOTAL TIER 2 PARTICIPATING MUNICIPALITIES	13,388	12,879	(4%)	9,593	9,365	(2%)	948	1,031	9%

(a) INCLUDES Tons re-directed to Non-MIRA Facility. (FY18 Jan ,Feb), (FY19 Nov)

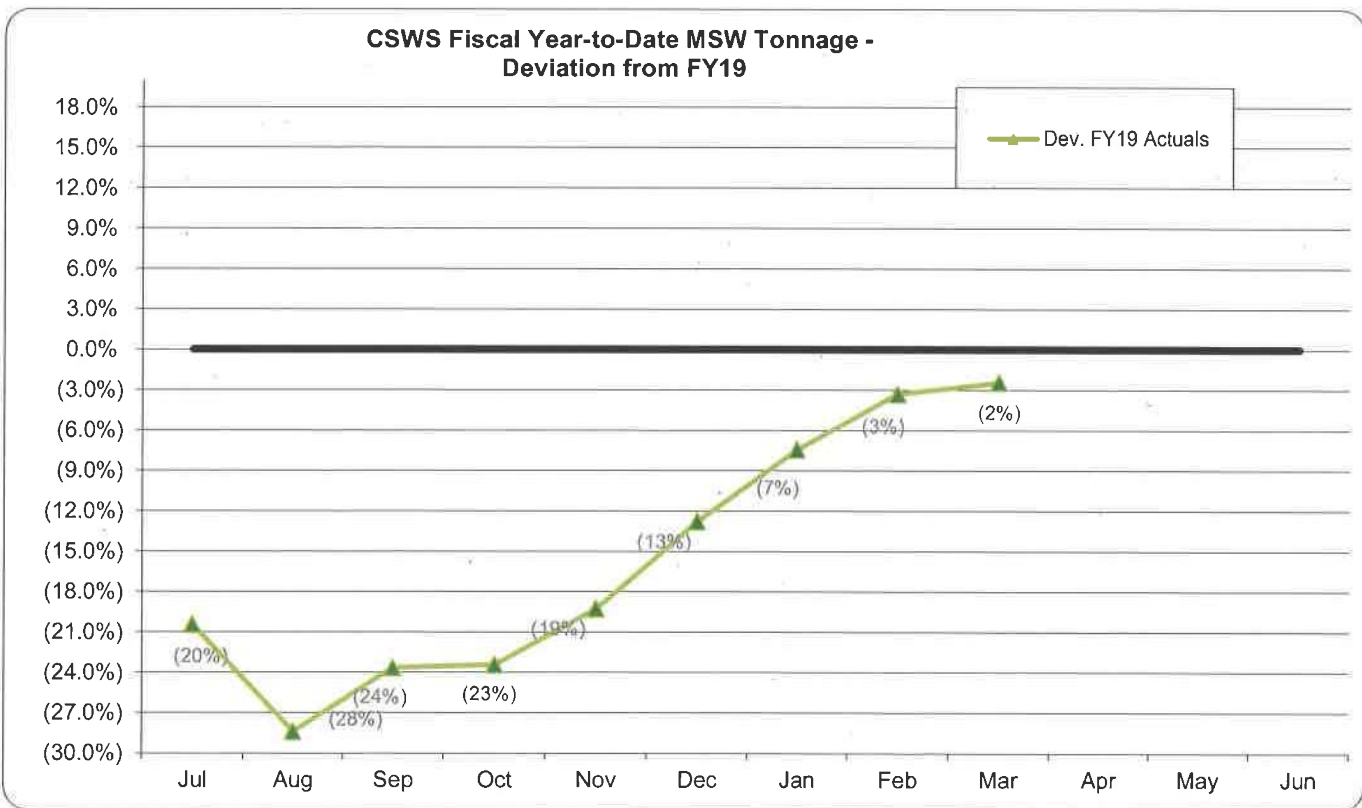
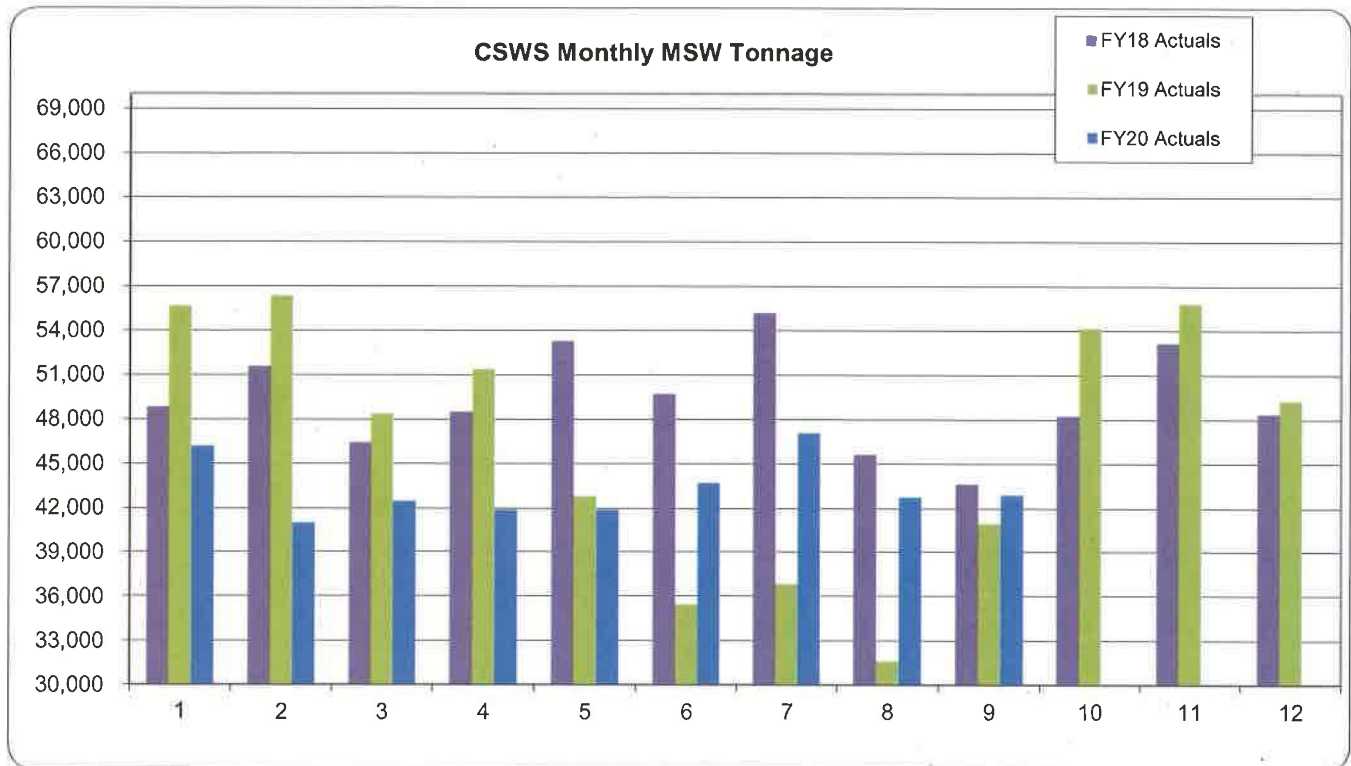
CSWS Tier 3 Participating Municipality MSW									
Town	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
Chester (2)	16	16	6%	12	0	(100%)	1	0	(100%)
TOTAL TIER 3 PARTICIPATING MUNICIPALITIES	16	16	6%	12	0	(100%)	1	0	(100%)

(2) Chester switched from Tier 3 to Tier 1L 7/1/2019

CSWS Tier 4 Participating Municipality MSW									
Town	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
East Hartford (1)	15,097	0	(100%)	0	0	-	0	0	-
TOTAL TIER 4 PARTICIPATING MUNICIPALITIES	15,097	0	(100%)	0	0	-	0	0	-

(1) East Hartford switched from T4 to Tier T1L 7/1/2018

CSWS MSW Trends



Connecticut Solid Waste System

Monthly Customer Recyclables Deliveries

CSWS Tier 1 Participating Municipality Recycling

Town	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2018	2019	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
Avon	2,130	2,121	(0%)	1,558	1,395	(10%)	152	164	8%
Bethlehem	344	337	(2%)	252	274	9%	27	29	7%
Bloomfield	1,620	1,569	(3%)	1,164	1,149	(1%)	113	125	11%
Canaan	95	99	4%	73	75	3%	6	8	21%
Canton	1,061	890	(16%)	677	661	(2%)	73	69	(6%)
Chester (5)	0	0	-	0	216	-	0	37	-
Clinton	1,232	1,231	(0%)	943	885	(6%)	98	74	(25%)
Colebrook	185	176	(4%)	134	130	(3%)	13	17	34%
Cornwall	156	159	2%	120	117	(3%)	4	10	168%
Deep River	372	376	1%	258	329	27%	21	30	48%
Durham/Middlefield (4)	0	0	-	0	676	-	0	83	-
East Granby	725	428	(41%)	327	328	0%	32	45	42%
East Hartford (2)	0	3,415	-	2,537	2,483	(2%)	264	273	3%
East Hampton	890	974	9%	737	744	1%	81	71	(12%)
Ellington	1,330	1,310	(1%)	958	919	(4%)	91	109	19%
Essex	794	776	(2%)	571	612	7%	51	58	13%
Farmington	2,389	2,218	(7%)	1,656	1,647	(1%)	165	174	5%
Glastonbury	3,422	3,426	0%	2,589	2,542	(2%)	256	272	6%
Goshen	316	322	2%	248	257	4%	22	28	26%
Granby	1,391	1,286	(8%)	985	962	(2%)	99	100	1%
Haddam	649	668	3%	496	470	(5%)	46	52	14%
Hartford	5,918	5,890	(0%)	4,474	3,001	(33%)	441	313	(29%)
Harwinton	491	479	(2%)	357	344	(4%)	35	33	(5%)
Killingworth	502	477	(5%)	358	361	1%	33	43	30%
Litchfield	825	745	(10%)	567	545	(4%)	56	64	14%
Lyme (4)	0	0	-	0	216	-	0	21	-
Marlborough	582	536	(8%)	401	388	(3%)	35	54	56%
Middlebury	906	906	0%	682	650	(5%)	58	75	29%
Naugatuck (4)	0	0	-	0	1,590	-	0	175	-
Newington (3)	0	2,642	-	2,005	1,826	(9%)	183	204	12%
Norfolk	173	170	(2%)	128	116	(10%)	15	11	(27%)
North Branford (6)	0	0	-	0	855	-	0	119	-
North Canaan	243	254	4%	191	187	(2%)	20	19	(5%)
Old Lyme (4)	0	0	-	0	891	-	0	92	-
Old Saybrook	1,101	1,195	9%	865	940	9%	73	94	30%
Portland	599	806	34%	596	574	(4%)	59	61	3%
Rocky Hill	1,641	1,509	(8%)	1,133	1,144	1%	103	122	19%
Roxbury	198	164	(17%)	124	149	20%	14	14	3%
RRDD#1	1,729	1,668	(4%)	1,251	1,212	(3%)	118	146	24%
Salisbury-Sharon	1,050	1,046	(0%)	770	861	12%	73	92	26%
Simsbury	2,931	2,800	(4%)	2,111	1,940	(8%)	209	206	(2%)
Thomaston	656	741	13%	524	667	27%	68	78	15%
Torrington	2,737	2,839	4%	2,114	2,027	(4%)	208	228	10%
Watertown	2,219	1,632	(26%)	1,249	1,114	(11%)	117	127	8%
Westbrook (1)	396	533	35%	405	410	1%	40	42	3%
Wethersfield	2,662	2,619	(2%)	1,947	1,934	(1%)	193	206	7%
Woodbury	905	887	(2%)	685	607	(11%)	73	64	(13%)
TOTAL TIER 1 PART.	47,566	52,317	10%	39,220	41,418	6%	3,837	4,531	18%

(1) Westbrook signed with MIRA as T1S beginning 11/1/17

(4) Durham/Middlefield, Lyme, Old Lyme, Naugatuck added recycling 7/1/19

(2) East Hartford switched from Tier 4 to Tier 1L 7/1/18

(5) Chester switched from Tier 3 to Tier 1L 7/1/19

(3) Newington signed with MIRA as T1L beginning 7/1/18

(6) North Branford signed with MIRA as T1L beginning 7/1/19

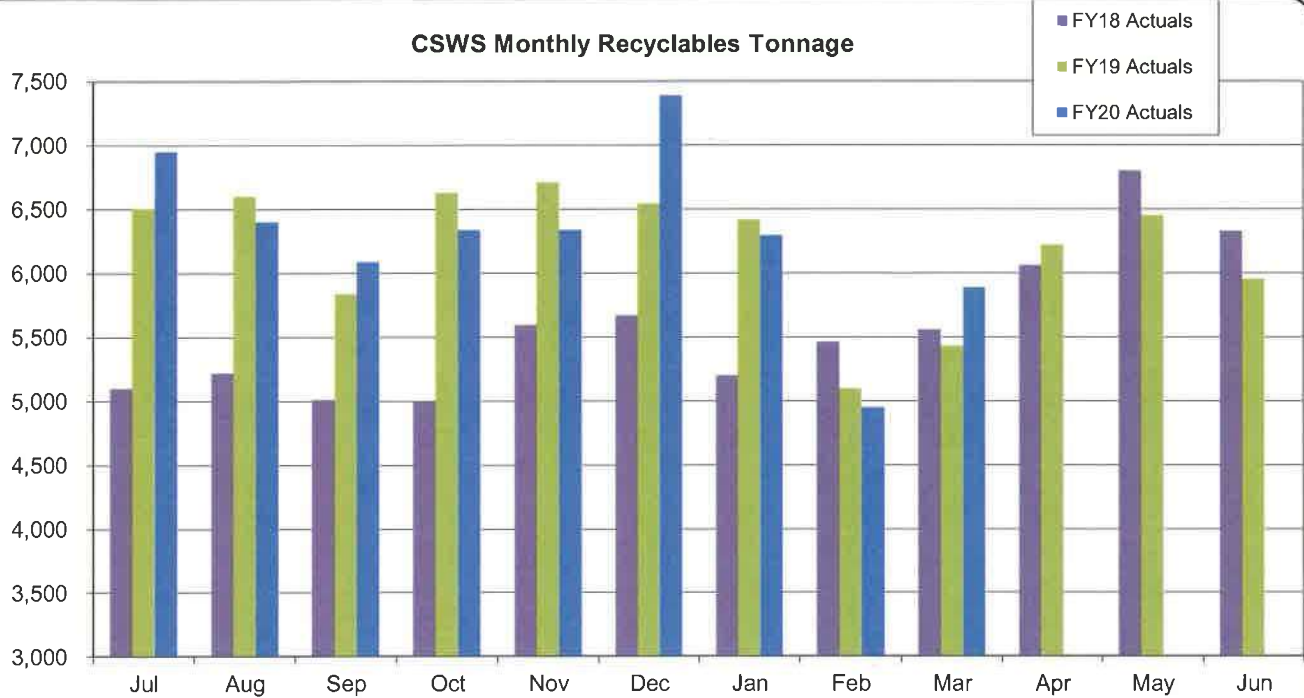
*Starting Oct 2019 Product Codes 320,321,322 fall under Hauler Contract

CSWS Tier 4 Participating Municipality Recycling									
Town	Fiscal Year			Fiscal Year-To-Date			Monthly		
	2017	2018	Growth	2019	2020	Growth	Mar 19	Mar 20	Growth
East Hartford (1)	3,483	0	(100%)	0	0	-	0	0	-
TOTAL TIER 4 MUNICIPALITIES	3,483	0	(100%)	0	0	-	0	0	-

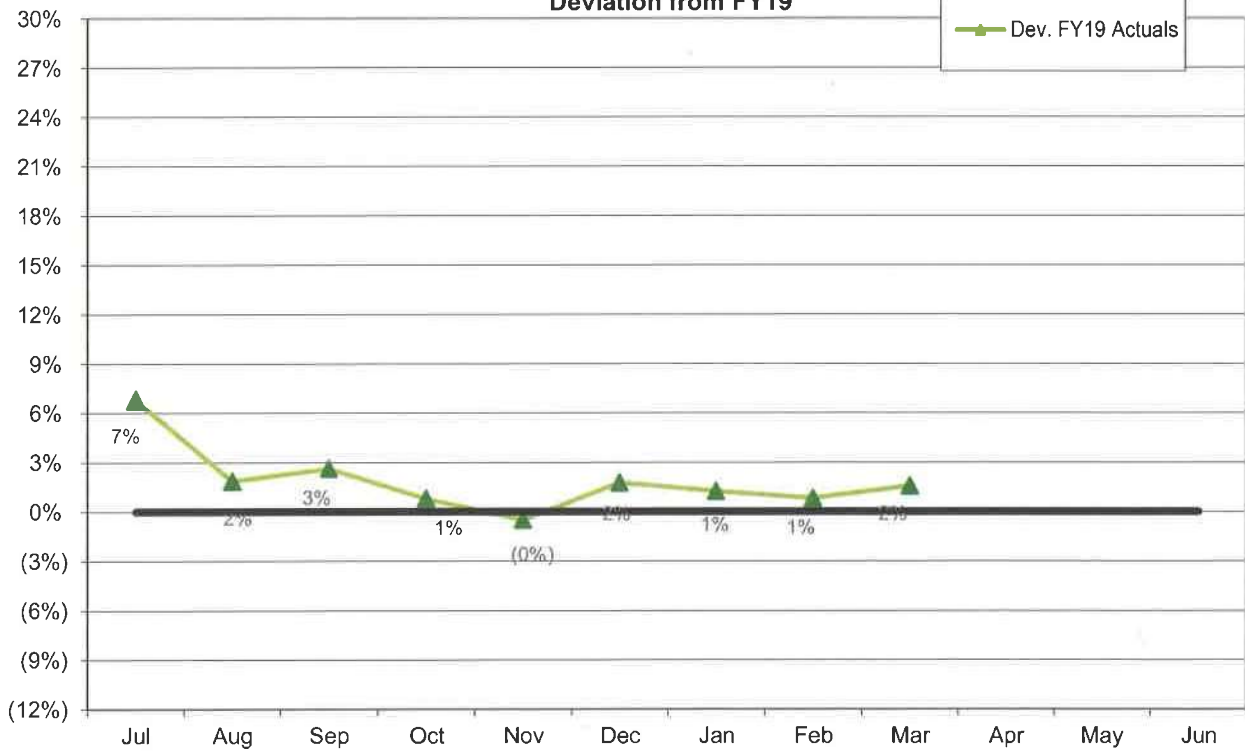
(1) East Hartford switched to T1L 7/1/2018

CSWS Recyclables Trends

CSWS Monthly Recyclables Tonnage



CSWS Fiscal Year-to-Date Recycling Tonnage - Deviation from FY19



TAB D

FISCAL YEAR 2020 LEGAL REQUEST FOR SERVICES

FOR PERIOD ENDING 3/31/2020

LEGAL FIRM	Matter	Board Approval	PO Number	PO Amount	FY20 expenses paid from FY20 PO	FY19 expenses paid from FY20 PO	FY20 accrued estimates	FY19 expenses Paid from FY19 PO (not accrued in FY19)	FY19 over/under accrual, Refunds received etc	Total per General ledger
Cohn Birnbaum & Shea	South Meadows Exit Strategy		PO 0013234	\$ 5,000	\$ 2,271	\$ 923		\$ 1,349	\$ (2,500)	\$ 694
	Ellington							\$ (1,349)	\$	-
Total Cohn Birnbaum & Shea		\$25,000.00		\$ 5,000	\$ 2,271	\$ 923		\$ (2,500)	\$	694
Day Phiney	NPDES Permitting Support			\$ -						-
Total Day Phiney		\$15,000.00		\$ -						-
Halloran & Sage	GC - Authority Budget		PO 0013227	\$ 25,000	\$ 6,156		\$ 3,526			\$ 9,682
	Property Division		PO 0013230	\$ 10,000						\$ -
	CSWS *		PO 0013229	\$ 75,000	\$ 75,000		\$ -		\$ (1,894)	\$ 73,107
			PO 0013302	\$ 100,000	\$ 95,634		\$ 2,024			\$ 97,658
			PO pending	\$ 100,000			\$ 15,000			\$ 15,000
	FCR		PO 0013421	\$ 60,000	\$ 60,000		\$ -			\$ 60,000
			PO 0013499	\$ 200,000	\$ 130,338		\$ 145,931			\$ 276,268
	Resource rediscovery		PO 0013228	\$ 100,000	\$ 100,000		\$ -		\$ 1,721	\$ 101,721
			PO 0013498	\$ 100,000	\$ 32,530		\$ 13,133			\$ 45,663
	Landfill Division		PO 0013226	\$ 5,000	\$ 3,135		\$ 57			\$ 3,192
Beginning Halloran & Sage	inc 1/15/20 \$500K	\$925,000.00		\$ 775,000	\$ 502,792	\$ -	\$ 179,670	\$ -	\$ (173)	\$ 682,290
Kainen, Escalera & McHale	Employment		PO 0013233	\$ 10,000	\$ 944					\$ 944
Total Kainen, Escalera & McHale		\$25,000.00		\$ 10,000	\$ 944	\$ -	\$ -	\$ -	\$ -	\$ 944
Melick & Porter	Tremont									\$ -
										\$ -
Total Melick & Porter				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTALS:		\$990,000.00		\$ 790,000	\$ 506,007	\$ 923	\$ 179,670	\$ -	\$ (2,673)	\$ 683,927

TAB E

**FINAL ACTIVITY REPORT
FOR THE
MATERIALS INNOVATION
AND
RECYCLING AUTHORITY (MIRA)
CONNECTICUT SOLID WASTE SYSTEM
FACILITY**

**Final Report
April 27, 2020**

*Submitted by:
United States Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services
463 West Street
Amherst, MA 01002
(413) 253-6684*

Timothy S. Cozine Staff Wildlife Biologist, Amherst, Massachusetts

*Project was monitored by:
Donald J. Wilda, District Supervisor*

*Assistance Provided by: Wildlife Specialist Michael Parenteau,
Massachusetts, Rhode Island and Connecticut*

Introduction

The United States Department of Agriculture, Animal Plant Health Inspection Service, Wildlife Services (USDA/APHIS/WS) has a long standing working relationship with Connecticut Resources Recovery Authority (CRRRA) now the Materials Innovation and Recycling Authority (MIRA) by providing assistance in the management of migratory bird species causing damage to property and posing a threat to human health and safety.

WS began assisting CRRRA in the management of migratory birds at the Hartford Landfill in 2003. When the Hartford Landfill closed in 2008, WS transitioned operational control activities to the Mid-Connecticut Project, now referred to as the Connecticut Solid Waste System Facility, for the remainder of the agreement. During this time WS provided operational control to reduce threats to human health and safety at the facility. WS also worked closely with Hartford-Brainard Airport to reduce threats to aviation. WS regularly communicated with the airport when performing operational control activities at the facility to prevent any added risk to aircraft.

On July 1, 2019 WS renewed the cooperative agreement with MIRA. The purpose of this agreement was to facilitate APHIS/WS conducting operational control at the Connecticut Solid Waste System Facility to reduce the number of birds and other wildlife that pose a threat to human health and safety and pose a threat to aviation at the adjacent Hartford-Brainard Airport for one year.

Legal Authority of Wildlife Services

The USDA is directed by law to protect American agriculture and other resources from damage associated with wildlife. APHIS, WS has statutory authority under the Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C.426-426b) as amended, and the Act of December 22, 1987 (101 Stat. 1329-331, 7 U.S.C. 426c), to cooperate with States, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a program of wildlife service's involving mammal and bird species that are reservoirs for zoonotic diseases, or animal species that are injurious and/or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health and safety

The WS program is a non-regulatory, federal cooperative wildlife management program whose mission is to provide leadership in reducing conflicts between people and wildlife. WS has the primary responsibility for responding to threats caused by migratory birds. A growing focus of WS is to help promote the safe operation of aircraft by working with airport management to document, monitor and manage wildlife hazards at airports throughout the country.

Legal Status of Wildlife Species

Federal, state, or municipal laws protect most forms of wildlife and their habitats. Before conducting any control action at the Connecticut Solid Waste System Facility, whether lethal or non-lethal, the identification and legal status of the target species should be determined. Regulatory agencies governing wildlife issue permits to trap or kill wild animals depending on the species and method of control involved. MIRA is responsible for adhering to the current regulations regarding wildlife control and for obtaining the appropriate permits to take or harass specific types of wildlife. Potential non-target animals should be identified, as well, to aid in determining the appropriate control methods that would avoid killing or harassing these species.

Federal Regulations

The U.S. Congress has passed several acts for the protection of wildlife including the Migratory Bird Treaty Act (MBTA), the Lacey Act, the Endangered Species Act, Bald and Golden Eagle Protection Act, the National Environmental Policy Act (NEPA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Clean Water Act regulated by the U.S. Army Corps of Engineers. These are the basis of

most wildlife regulations that have been issued in the Codes of Federal Regulations (CFR). Several agencies are responsible for implementing these regulations and many of these regulations affect wildlife management. Federal wildlife laws are administered by the U.S. Fish and Wildlife Service (USFWS) and primarily involve migratory birds protected under the MBTA and all species protected under the Endangered Species Act. Permits from the USFWS must be updated annually unless otherwise stated on the permit.

MIRA is currently managing wildlife under U.S. Fish and Wildlife Service Depredation Permit Number MB 826758-0 (Appendix 1). This permit authorizes MIRA and those listed as a sub-permittee to kill "non-endangered and non-threatened species of migratory birds only after non-lethal techniques have been tried." To avoid lapses in permits, MIRA should "submit a written application at least 30 days prior to the expiration date of the permit." Depredation permits are also subject to the conditions stated in 50 CFR § 21.27 Special Purpose Permits. Under these guidelines MIRA is required to document the permitted activity including type of action, species and numbers involved, and disposition of carcasses. These records should be readily available when needed.

USDA Wildlife Services has long been excluded from activities to control urban rodents under our enacting legislation. However, no definition of urban rodents was provided and Wildlife Services has operated with definition of urban rodents to mean commensal rodents, specifically Norway and black/roof rats and house mice. Due to conflicts with the National Pest Management Association and others, Wildlife Services has redefined and clarified the definition of urban rodents as follows.

For the purposes of activities authorized under the Act of December 22, 1987 (7 U.S.C. 426c), the term "urban rodent control" shall mean actions to directly control mice, rats, voles, squirrels, chipmunks, gophers, woodchucks, and groundhogs in a city or town with a population greater than 50,000 inhabitants and the urbanized area contiguous and adjacent to such a city or town, except actions involving: (1) federal agencies; (2) government entities engaged in a cooperative service agreement with APHIS to provide direct control of rodents as of October 1, 2013; (3) a state in which direct control of the rodent species has been expressly authorized by state law, rulemaking, or a local jurisdiction's ordinance promulgated by public notice and an opportunity for public comment or as otherwise promulgated as required and authorized by the respective state or local law; and (4) railways and airport air sides areas. APHIS will refer all requests for operational assistance with "urban rodent control" from private entities such as home and business owners and associations to the private sector.

Due to the population of the City of Harford and its clear urban setting, Wildlife Services will remain unable to conduct control of woodchucks, also known as groundhogs, on MIRA property in the absence of a state law or local ordinance specifically authorizing Wildlife Services to conduct rodent control. However, woodchuck damage management was a minor part of Wildlife Services activities in the past.

State and Local Regulations

Connecticut state wildlife laws generally follow the federal regulations for migratory bird species and further regulate actions concerning mammals, upland game birds and other vertebrates. The Connecticut Department of Energy and Environmental Protection Wildlife Division (CT DEEP WD) state permit issued to Hartford-Brainard Airport allows for the harassment and lethal removal of game and fur bearing species to protect public safety: white-tailed deer, Eastern wild turkey, coyote, red fox, grey fox, and raccoon. This permit further allows that mammals interfering with bird control measures may be trapped and euthanized from the Connecticut Solid Waste System Facility (MIRA) at 300 Maxim Road in Hartford, CT."

The permit letter is issued by the state to protect property and human health and safety. Wildlife in Connecticut is regulated primarily by Connecticut General Statutes (CGS), Title 26: Chapter 460 Fisheries and Game and Chapter 495 Connecticut Endangered Species.

WILDLIFE SURVEYS RESULTS AND ANALYSIS

Wildlife Service's Employed Methods

WS utilized a variety of equipment to perform operational control at the Connecticut Solid Waste System facility to manage migratory bird species and mammals. WS completed surveys during each visit to the facility. The data gathered during the surveys was used to create wildlife population indices. Indices, unlike true population counts, loosely represent wildlife populations and are useful in showing changes in populations over time or comparing one population to another. The survey information is not intended to represent the total wildlife population at Connecticut Solid Waste System Facility, but the technique allows Wildlife Services to build an index of species presence and behavior which satisfies the intent of this study. Because there was no hypothesis being tested, other statistical analysis was not necessary.

WS utilized a propane cannon to harass wildlife during 2019 and 2020 after several years of not utilizing this tool. WS maintained a decoy trap in the load out area of the yard to capture European starlings to help reduce overall starling numbers. This kind of trap is baited with food and a few European starlings and also provides water and shelter. Birds can enter the trap but cannot escape. All captured starlings were euthanized with carbon dioxide gas, cervical dislocation, or other AVMA approved methods.

WS utilized two types of pyrotechnics to harass wildlife at the Connecticut Solid Waste System Facility. One type, the whistler/screamer, emits a loud scream while the other, the bird bomb/banger, emits a loud bang after discharge. WS would sometimes follow up harassment with the use of an air rifle to target specific American crows and herring gulls at the Connecticut Solid Waste System Facility which did not respond to the harassment. WS utilized vehicle chasing to disperse crows and starlings at the Connecticut Solid Waste System Facility.

Observations

The Connecticut Solid Waste System Facility is highly attractive to a wide variety of wildlife. WS identified three groups of birds that congregate in numbers and pose a threat to human health and safety, property damage, and pose a serious threat to aviation. These birds are blackbirds (European starlings), Corvids (American crows), and gulls (great black-backed, herring, and ring-billed gulls). Rock pigeons also occur in small numbers and pose a minor threat to human health on site and to aviation safety.

Other bird species are attracted to the site due to the volume of other bird species. These include a wide variety of hawk species. These birds do not pose a threat to human health and safety on property at the Connecticut Solid Waste System Facility, but instead pose a serious threat to aviation at the adjacent Hartford-Brainard Airport.

WS has also identified raccoons as another species of wildlife that pose a serious threat to property damage and human health and safety at the Connecticut Solid Waste System Facility.

Free ranging stray domesticated dogs and cats were also an issue that could have potentially caused a threat to human health, since stray domestic pets can transmit disease and are attracted to people for food and affection.

Gull Guild:

Description: Gulls are large bodied, robust birds with webbed feet, long pointed wings, and stout bills. Most adults are white with a gray or black back and wings, however, juveniles are typically mottled brown or gray for the first two to three years of life. Gulls are commonly attracted to areas when food or water is available. Food sources may include refuse from dumpsters or nearby landfills, shellfish, fish, earthworms, insects, or

carion. These birds become habituated quickly to easy sources of food such as handouts at construction sites and parking areas.

Legal Status: Gulls are classified as migratory non-game birds and can be killed with a USFWS depredation permit and a concurrent state depredation permit.

Control Measures: Habitat modifications are the most effective methods for controlling gulls. Clean and contained trash areas, elimination of standing water, and prevention of food handouts will usually deter gulls, especially if combined with an active hazing and shooting program. However, gulls quickly habituate to dispersal techniques (pyrotechnics, bioacoustics and visual scare devices) and individuals may need to be shot to reinforce non-lethal methods.

Damage Threat to Aircraft: Gulls are hazardous to aircraft due to their large body size, abundance, expanding distributions, flocking behavior, and relatively slow flight characteristics. Nationally, gulls account for 10.56% of known species bird-aircraft strikes and 18.93% of damaging strikes with known species in the United States resulting in \$62,608,851 in damage from 1990 to 2018 (Dolbeer et al. 2019). Gulls are the third most commonly struck species group reported to the National Wildlife Strike Database, and when struck they are ranked 10th out of the 21 species causing significant damage to aircraft (Dolbeer et al. 2000).

Observations: WS noted a significant decline in gull numbers between 2009 and 2017 followed by a significant increase from 25 in 2017-18 to 466 in 2018-19. There was a significant decrease of 84.1%, from 466 gulls observed during 2018-19 to 74 (66 herring gulls and 8 great black-backed gulls) observed during 2019-20. The ten-year average number of gulls observed at MIRA is 484 (361 herring gulls, 6 great black-backed gulls, and 117 ring-billed gulls). No ring-billed gulls or other gull species were observed at MIRA during 2019-20.

Gulls were observed during 8 of 54 visits to date during the 2019-20 agreement. The highest recorded single day observations were 11 herring gulls and 6 great black-backed gulls on February 21, 2020 and 13 herring gulls on 30 December 2019. The average and median number of gulls surveyed daily, during the 8 days when gulls were observed, was 9.25 and 10.0 respectively. This is a decrease from last year when an average and median of 20.26 and 17.0 gulls, respectively, were observed per visit, when gulls were observed.

WS's harassment program continued to benefit from the change in practices, including closing of doors, implemented by NAES. Overall gulls respond well to harassment. As a result, there were only 4 herring gulls lethally removed using an air rifle and no great black-backed gulls were taken.

Blackbirds:

Description: The blackbird guild at MIRA consisted solely of European starlings again during 2019-20. Brown-headed cowbirds and common grackles have not been observed in significant numbers since July 1, 2013.

European starlings are gregarious or flocking birds, and are known to form large flocks, sometimes mixed with other black-bird species, which can range in the thousands during the winter months. Flocks typically form near areas with suitable roosting sites and adequate foraging habitats. European starlings are opportunistic feeders and consume a variety of foods, including fruits, grains, weed seeds, and insects. Starlings were introduced into the United States in the 1890's and quickly spread throughout North America. The European starling is a cavity nester and seeks out nesting areas with both suitable nesting cavities, usually near buildings, and short grass areas for foraging.

Legal Status: European starlings are an introduced species and are not protected by federal law and are minimally protected by Connecticut law. They may be killed at any time of year without a permit when concentrated in a manner that constitutes a threat to human health and safety. Other black-birds such as

brown-headed cowbirds and common grackles are protected by the Migratory Bird Treaty Act, but may be taken under the Federal Crow and Blackbird Depredation Order. Under the order, cowbirds “may be taken when causing or about to commit damage to...or when concentrated in numbers or in a manner as to constitute a health hazard or nuisance”. There is a newly required reporting requirement under the blackbird depredation order, which is currently being handled by Wildlife Services.

Control Measures: Habitat management (i.e., grass management, roost removal, etc.) and exclusion are usually the most cost effective methods because they serve as long term deterrents. Exclusion can be considered as covering trailers full of residue material awaiting transport and closing roll-up bay doors to prevent access to the interior of the facility. If doors cannot be closed due to safety or fire concerns, bird barriers such as clear plastic barrier straps or forced air barriers can be installed in the door way.

Habitat management alone is not enough to discourage European starlings. Often birds simply move to another location at the facility so it is important to be persistent in harassing this bird species. Shooting as reinforcement to harassment, toxicant applications, or trapping can also be used as population control methods if the birds become habituated to pyrotechnics or other non-lethal methods. Other black-birds are much less common on site and they are generally controlled in conjunction with starlings when necessary.

Damage Threat to Aircraft: European starlings and black-birds are considered hazardous to aviation because of the large flocks they form and their relatively dense body (Seaman et al. 1995). Blackbirds and European starlings rank 2nd out of the 21 wildlife species most often reported struck by aircraft and 19th of 21 species causing damage when reported struck by aircraft (Dolbeer et al. 2000). European starlings are the fifth most commonly struck species and were responsible for \$7,496,005 in damage between 1990 and 2019 (Dolbeer et al. 2019). In October of 1960, a Lockheed Electra turbo-prop aircraft ingested European starlings into all engines during takeoff at Logan Airport and crashed resulting in 62 human fatalities.

Observations: The number of European starlings harassed or removed in 2019-20 decreased 30.8% from 2018-19, down to 34,177 from 49,366. Starlings were observed on 38 of 54 visits from September 3, 2019 to April 10, 2020. WS used a combination of harassment and trapping to manage starling numbers at the facility. There were 432 starlings lethally removed using the decoy trap. The decrease in observations and lethally take may have been impacted by the resumption of use of the propane cannon/exploder onsite.

Corvids:

Description: The corvid guild at MIRA consists entirely of American crows. American crows are large sized passerine birds of the family Corvidae. The Corvidae family includes American and fish crows, blue jays and common ravens. All are considered highly intelligent and social. American crows are omnivores and capable of consuming a wide range of food types including: fruits, grains, seeds, nuts, small vertebrates, insects and other invertebrates, refuse and carrion. Studies show that crows consume over 600 different food items. Crows commonly feed in open areas, especially when there is dense cover nearby such as trees or heavy brush.

Legal Status: American crows are protected by the Migratory Bird Treaty Act, but certain species may be taken under the Federal Crow and Blackbird Depredation Order. American and fish crows are included in the blackbird depredation order and “may be taken when causing or about to commit damage to...or when concentrated in numbers or in a manner as to constitute a health hazard or nuisance”. As with other blackbirds, there is now a reporting requirement under the blackbird depredation order which will be handled by Wildlife Services. American crows may be hunted with a valid Connecticut state hunting license during the 2020 open seasons from January 11th through March 28th Monday through Saturday, August 8th through October 9th and October 17th through November 30th on Wednesday, Friday, and Saturday, ½ hour before sunrise to ½ hour after sunset. These regulations may vary each year, so be sure to check each year for changes.

Control Measures: The most effective method to prevent crows from using an area is habitat modification. This method includes allowing the grass to grow taller than 7 inches, removing trees used for roosting and structures used for perching. If crows continue to use the facility, they should be dispersed with pyrotechnics and reinforced with an air rifle.

Damage Threat to Aircraft: Crows can inflict severe damage to aircraft. Fortunately, most crows are somewhat adept when it comes to avoiding aircraft, and are generally not considered a great threat to aviation. However, this does not mean they can be dismissed as a hazard altogether. They are known to form large flocks, especially during the fall and winter which increases the potential for damaging strikes. There were 518 American crow strikes responsible for \$2,082,622 in damage to civil aircraft between 1990 and 2018 (Dolbeer et al. 2019). Crows and ravens rank 14th out of the 21 most struck species groups and rank 18th out of 21 species based on the number of strikes resulting in major damages (Dolbeer et al. 2000).

Observations: The number of American crows harassed or taken in 2019-20 decreased 74.3% from 2018-19, to 972 from 3,832. Crows were observed on 19 of 54 visits from September 3, 2019 to April 10, 2020. This is a significant reduction in overall observations of crows at MIRA. American crows congregate in large numbers during winter months as they travel to and from winter roosting sites and tend to gather at the facility starting late in October and disperse by late March. It is possible that the reduction in crow numbers is simply the result of the Hartford winter crow roost relocating to a site further away from MIRA during the winter of 2019-20. There were 1 American crows lethally removed using an air rifle and 961 American crows non-lethally dispersed with pyrotechnics.

Other Wildlife of Concern:

Rock pigeons:

Description: Feral pigeons, commonly referred to as rock pigeons or rock doves, are familiar birds that are abundant in cities and farms throughout Connecticut. Pigeons are powerful fliers with robust bodies, small heads, and short beaks. Feral pigeons tend to fly at higher altitude, descending to their destination in a rapid circling pattern with their wings spread back. Although both species are primarily granivorous, they will occasionally consume protein rich animal matter such as insect larvae. Pigeons are known for readily accepting handouts from humans.

Legal Status: Rock pigeons, like European starling, are an introduced species and are not protected by federal law and are minimally protected by Connecticut law. They may be killed at any time of year without a permit when concentrated in a manner that constitutes a threat to human health and safety.

Control Measures: Exclusion by closing roll-up bay doors to prevent access to the interior of the facility and lethal control using an air rifle are the primary methods available for controlling pigeons. Trapping can be effective, but is best when conducted on a rooftop or similar structure near feeding or roosting sites.

Damage Threat to Aircraft: Although pigeons are not as large-bodied as many species considered dangerous to air safety, they are still a concern because of their flocking behavior, which increases the risk of collision with aircraft. Nationally this species is the 7th most commonly struck species and has accounted for \$12,812,744 in damage between 1990 and 2018 (Dolbeer et al. 2019). Pigeons ranked 11th out of the top 21 species resulting in major damage to aircraft (Dolbeer et al. 2000).

Observations: WS did not observe rock pigeons in sufficient numbers to require recording observations at the Connecticut Solid Waste System Facility during the duration of the operational control program. Although there have been no significant observations, this species could return in larger numbers at any time due to the large population in the Hartford area.

House Sparrows

Description: House sparrows are small brown granivorous (seed-eating) birds with thick, heavy bills for opening seed husks that form loose flocks, especially during the winter months. Males have a distinct black facial mask and females are uniformly streaked brown.

Legal Status: House sparrows, like both European starlings and rock pigeons, are an introduced species and are not protected by federal law and are minimally protected by Connecticut law. They may be killed at any time of year without a permit when concentrated in a manner that constitutes a threat to human health and safety.

Control Measures: Exclusion by closing roll-up bay doors to prevent access to the interior of the facility and lethal control using an air rifle are the primary methods available for controlling pigeons. Trapping can be effective, but is best when conducted on a rooftop or similar structure near feeding or roosting sites. House sparrows are cavity nesters; they build straw and grass nests in holes and confined spaces, commonly in buildings and other structures. These nests can result in clogged rooftop drains or result in fires when nests are made in electrical devices such as lights or circuit boxes. These nests should be removed, along with any eggs or chicks, and excluded whenever possible.

Damage Threat to Aircraft: Due to their small size and loose flocking behavior, house sparrows are not a significant threat to aviation safety. House sparrows have been identified in 236 strikes resulting in \$2,297.00 worth of damages from 1990 to 2018 (Dolbeer et al. 2019).

Observations: Similar to rock pigeons, WS did not observe house sparrows in sufficient numbers to require recording observations 2019-20. There were no house sparrows lethally taken or non-lethally dispersed. Although there have been no significant observations, this species could return in larger numbers at any time due to the large population in the Hartford area.

Mammals:

WS received a request for assistance from MIRA staff to deal with a stray dog frequenting the Connecticut Solid Waste System Facility during the 2020. WS assisted by using box traps to live capture the dog which was turned over to Hartford Animal Control. Two free ranging domestic cats were captured during this activity and released onsite. Because they are a vector for disease such as rabies and cat scratch fever. Wildlife Services would recommend that when captured, these animals be turned over to an appropriate animal shelter. Alternately, these animals could be provided with veterinary care, to include spay/neuter and rabies vaccination. Wildlife Services is not capable of paying for animal shelters to take cats or for veterinary care, funds would need to come from MIRA. However, Wildlife Services would be able to facilitate capture and transport of cats to a shelter or veterinary care. In the future, Wildlife Service will continue to be able to assist MIRA with damage and threats caused by mammals, with the exception of urban rodents, such as raccoons, Virginia opossums and striped skunks.

Summary

WS used a variety of methods to manage wildlife at the Connecticut Solid Waste System Facility including non-lethal harassment, shooting, and trapping to reduce overall bird populations. Harassment was combined with alternative methods to reduce the overall starling and other bird populations.

In total, WS removed a total of 432 European starlings to manage the local population as well as 4 herring gulls and 11 American crows as reinforcement to harassment. Lethal bird removal and non-lethal dispersal also reduce property damage and threats to human health and safety and aviation safety at neighboring Hartford-Brainard Airport.

The herring gulls and American crows were all taken with air rifle during 2019-20. All European starlings were captured with the decoy trap. As previously discussed, no great black-backed gulls, rock pigeons, house sparrows, or other bird species were taken.

In total, WS used a total of 79 pyrotechnics, 39 bird bombs and 40 whistler/screamers to disperse 34,746 birds (961 American crows, 8 great black-backed gulls, 62 herring gulls, and 33,745 European starlings) from the Connecticut Solid Waste System Facility.

Recommendations

WS recommends a continuation of a proactive wildlife management program at the Connecticut Solid Waste System Facility to reduce the threat to human health and safety caused by birds and their droppings. Proactive management of wildlife at the facility shows a due-diligence and can reduce or eliminate liabilities if a damaging bird strike were to occur at Hartford-Brainard Airport. Furthermore, direct communication with Hartford-Brainard Airport must occur when conducting operational control at the facility to reduce further threats to aviation.

Recommendations at this time would be to ensure that personnel loading residue material in trailers continue to cover the trailers while they sit awaiting transport. Birds feed from the trailers regardless of the time of year. Covering trailers prevents easy access of birds to the residue material. This will help to prevent a habituation of birds to the site and reduce bird numbers overall. To date, most trailers get covered, but more trailers have been left uncovered while awaiting transport as the bird numbers have declined.

WS recommends the installation of a pigeon trap to reduce the numbers of pigeons using the power generation portion of the facility if this becomes an issue of concern during 2020-21. WS believes the pigeons roost and nest at the power generation side of the plant. In past years these birds have been observed flying over and feeding on the waste processing side of the facility. Accumulations of pigeon droppings are known to harbor diseases that can be transferred to humans. Furthermore, pigeon droppings are corrosive and can lead to damage to the facilities.

WS recommends keeping roll-up doors closed as much as possible or installing barriers which will help prevent birds from entering the facility. WS observed high numbers of starlings flying into all open bay doors to access the interior of the facility. The most widely used doors are East and West RDF and doors facing the west side of the facility.

WS recommends continued live trapping of raccoons, opossums, skunks, and other medium and small mammals that occur within the facility as the need arises. These mammal species can carry a variety of diseases that are transmittable to humans. WS recommends that MIRA either hire a private nuisance wildlife control operator or pest control operator to manage woodchucks and other rodents. Alternatively, WS can provide technical assistance so MIRA staff can manage woodchucks and other rodents without outside assistance. WS also recommends that stray and feral cats on the facility either be turned over to licensed animal shelters or provided veterinary care to include stray/neuter and vaccination.

WS would like to thank MIRA and NAES for allowing WS to conduct operational control at the Connecticut Solid Waste System Facility. WS looks forward to working with MIRA in the future to reduce wildlife conflicts and development of more effective management techniques.

Appendix 1

Dolbeer, R. A., M. J. Begier, P.R. Miller, J. R. Weller, and A. L. Anderson. 2019. Wildlife Strikes to civil aircraft in the United States, 1990-2018, Serial report 28. U.S. Department of Transportation, Federal Aviation Administration, Office of Airport Safety and Standards, Washington, D.C., USA.

Dolbeer, R.A., S.E. Wright, and E.C. Cleary. 2000. Ranking the hazard level of wildlife species to aviation. Wildlife Society Bulletin 28:372-378.

Appendix 2

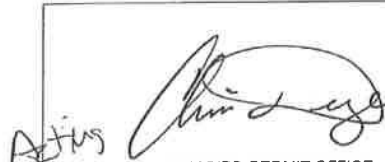


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DEPREDATION

Permit Number: MB826758-0
Effective: 01/01/2020 Expires: 12/31/2020

Issuing Office:

Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Migratory Bird Permit Office
300 Westgate Center Drive
Hadley, MA 01035-0779
Tel: 413-253-8643 Fax: 413-253-8424


CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 5

Permittee:

MATERIAL INNOVATION AND RECYCLING AUTHORITY
200 CORPORATE PLACE
SUITE 202
ROCKY HILL, CT 06067
U.S.A.

COPY

Name and Title of Principal Officer:

PETER W. EGAN - DIRECTOR OF ENVIRONMENTAL SERVICES

Authority: Statutes and Regulations: 16 USC 703-712; 50 CFR Part 13, 50 CFR 21.41.

Location where authorized activity may be conducted:

Connecticut Solid Waste System Facility, 300 Maxim Road, Hartford, CT and Regional Recycling Center, 211 Murphy Road, Hartford, CT

Reporting requirements:

ANNUAL REPORT DUE WITH NEXT RENEWAL or IF NOT RENEWING 30 days after permit expiration even if you had no activity. Forms at: <http://www.fws.gov/forms/3-202-9.pdf>

Authorizations and Conditions:

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other federal law.

C. Valid for use by permittee named above

D. Authorized to kill by means of shotgun, using non-toxic shot, rifle, or air rifle, or live capture followed by euthanasia*, up to:

(a) TWENTY (20) EACH: Herring gulls, Great black-backed gulls, Ring-billed gulls;

(b) FIVE (5) EACH: Glaucous gulls, Icelandic gulls, Laughing gulls, or Lesser black-backed gulls;

and MUST destroy carcasses. Lethal take is not to be the primary means of control. Active hazing, harassment or other non-lethal techniques must continue in conjunction with any lethal take of migratory birds.

State Restrictions: No species may be taken which is State listed as Endangered, Threatened or Special Concern without prior authorization from the Connecticut Department of Environmental Protection Commissioner Tel: (860) 424-3011. Included on the State list, among other species, are Peregrine falcon, Short-eared owl, Northern harrier, Upland sandpiper and Grasshopper sparrow.

E. The following subpermittees are authorized: Employees of Connecticut Resources Recovery Authority and employees of USDA/APHIS Wildlife Services. In addition, any other person who is (1) employed by or under contract to you for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing to the Federal permit issuing office, may exercise the authority of this permit.



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DEPREDATION

Permit Number: MB826758-0
Effective: 01/01/2020 Expires: 12/31/2020

F. You and any subpermittees must comply with the attached Standard Conditions for Migratory Bird Depredation Permits. *These standard conditions are a continuation of your permit conditions and must remain with your permit.*

G. A "No Feeding Policy" must be in place.

For suspected illegal activity, immediately contact USFWS Law Enforcement at: Tolland, CT 860-871-8348

*Euthanasia procedures must follow the American Veterinary Medical Association Guidelines
<<https://www.avma.org/KB/Policies/Documents/euthanasia.pdf>>



Standard Conditions Migratory Bird Depredation Permits 50 CFR 21.41

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. The standard conditions below are a continuation of your permit conditions and must remain with your permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: <http://www.fws.gov/migratorybirds/mbpermits.html>.

1. To minimize the lethal take of migratory birds, you are required to continually apply non-lethal methods of harassment in conjunction with lethal control.
[Note: Explosive Pest Control Devices (EPCDs) are regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). If you plan to use EPCDs, you require a Federal explosives permit, unless you are exempt under 27 CFR 555.141. Information and contacts may be found at www.atf.gov/explosives/how-to/become-an-fel.htm.]
2. Shotguns used to take migratory birds can be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).
3. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range.
4. You are not authorized to take, capture, harass, or disturb bald eagles or golden eagles, or species listed as threatened or endangered under the Endangered Species Act found in 50 CFR 17, without additional authorization.

For a list of threatened and endangered species in your state, visit the U.S. Fish and Wildlife Service's Threatened and Endangered Species System (TESS) at: <http://www.fws.gov/endangered>.

5. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND (2263) or <http://www.reportband.gov>.
6. This permit does not authorize take or release of any migratory birds, nests, or eggs on Federal lands without additional prior written authorization from the applicable Federal agency, or on State lands or other public or private property without prior written permission or permits from the landowner or custodian.
7. Unless otherwise specified on the face of the permit, migratory birds, nests, or eggs taken under this permit must be:
 - (a) turned over to the U.S. Department of Agriculture for official purposes, or
 - (b) donated to a public educational or scientific institution as defined by 50 CFR 10, or
 - (c) completely destroyed by burial or incineration, or
 - (d) with prior approval from the permit issuing office, donated to persons authorized by permit or regulation to possess them.

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8. A subpermittee is an individual to whom you have provided written authorization to conduct some or all of the permitted activities in your absence. Subpermittees must be at least 18 years of age. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of designation letters you have provided.
9. You and any subpermittees must carry a legible copy of this permit, *including these Standard Conditions*, and display it upon request whenever you are exercising its authority.
10. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.
11. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.
12. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(DPRD - 12/3/2011)