Back to Index

Middletown Cogeneration Project
Facility Potential To Emit (PTE) Basis

		Average Emissions (#/hr)						Emissions (tons/yr)				
		NOx	CO	SO2	PM	VOC	Hours/yr	NOx	CO	SO2	PM	VOC
	BFG Operation											
	Normal - Gas Turbine Max Fired with BFG						8,760					
MWERF-1	GT using 1,100 MMBtu/hr BFG	73.1	69.4	132.0	21.2	2.3		**320**	**304**	**578**	**93**	**10**
MWERF-2	Boilers using 350 MMBtu/hr BFG	36.8	40.4	42.0	5.5	1.8		**161**	**177**	**184**	**24**	**8**
	Boilers Max Fired with BFG											
MWERF-2	Boilers at Max of 703 MMBtu/hr DRY (666 BFG + 37 Nat Gas)	70.26	77.3	79.9	10.5	3.5		**308**	**339**	**350**	**46**	**15**

Values in red used in Global BFG Analysis
SO2 limitted based on 1,450 MMBtu/hr BFG

	Non-Routine Operation											
								Additional Tons/yr for PTE				
	Gas Turbine Down - 500 hrs/yr						Hours/yr	NOx	CO	SO2	PM	VOC
							500					
MWERF2-MSS-1	Boilers at Max of 703 MMBtu/hr DRY (666 BFG + 37 Nat Gas)	70.3	77.3	80.0	10.5	3.5		Tons included above				
MWERF4-MSS-1	Flare consuming excess BFG							Flare only used in emergency - AK flare still can accommodate.				
	Blast Furnace Down - Run Gas Turbine						800					
MWERF1-MSS-1	GT on Nat Gas at Max Rate of 1,100 MMBtu/hr	59.4	80.4	0.65	5.0	2.84						
	Difference NG versus BFG for turbine at 1,100 MMBtu/hr	-13.7	**11.0**		-16.2	**0.5**	8760		**48.2**			**2.3**
	Blast Furnace Down - Run Boilers Only											
MWERF2-MSS-2b	Boilers on Nat Gas at Maximum Rate of 740 MMBtu/hr	74.0	74.0	0.4	3.7	3.7						
	NG at 740 MMBtu minus BFG for Boilers at max load	3.7	-3.3		-6.8	0.2		**Boilers will be resticted to 10% annual natural gas capacity - no added annual tons**				
MWERF1-MSS-2	**Gas Turbine Start-Up**							**6.1**	**4.2**			
MWERF1-MSS-3	**SCR Maintenance**	143					8					
	Excess above Routine GT #/hr Emissions	**70**						**0.3**				
	Minor Routine Sources											
MWERF-4	**Flare Nat Gas pilot flame**	0.15	0.792	0.001	0.004	0.01	8,760	**0.6**	**3.468**	**0.006**	**0.017**	**0.05**
MWERF-3	**Cooling Tower**				0.59		8,760				**2.6**	
MWERF-FUG	**CO Fugitives**		2.9				8,760		**12.7**			
MWERF-FUG	**Roadways/Parking Fugitives**										**1.1**	
MWERF-FUG	**Ethylene Glycol Fugitives**											**0.71**

		Emissions (tons/yr)				
		NOx	CO	SO2	PM	VOC
	FACILITY	**635**	**711**	**762.0**	**143**	**29**
Turbine						
	Routine	**320**	**304**	**578**	**93**	**10**
	Natural Gas Firing		**48.2**			**2.3**
	Startup/Shutdown	**6.1**	**4.2**			
	SCR Maintenace	**0.3**				
	TOTAL	**327**	**356**	**578**	**93**	**12.4**