APPENDIX A

DISPERSION SIMULATION RESULTS

Table A-1: Concentration Plots for the Impact Assessment assuming 2 hours of operation.

Pollutant	Scenario	Averaging Period	Standard (µg/m³)	Figure No.
PM10	Power station (3 units)	Highest daily	75	A-1
		Annual average	40	A-2
	Power station (6 units)	Highest daily	75	A-3
		Annual average	40	A-4
	PetroSA refinery	Highest daily	75	A-5
		Annual average	40	A-6
	Cumulative	Highest daily	75	A-7
		Annual average	40	A-8
SO_2	Power station (3 units)	Highest hourly	350	A-9
		Highest daily	125	A-10
		Annual average	50	A-11
	Power station (6 units)	Highest hourly	350	A-12
		Highest daily	125	A-13
		Annual average	50	A-14
	PetroSA refinery	Highest hourly	350	A-15
		Highest daily	125	A-16
		Annual average	50	A-17
	Cumulative	Highest hourly	350	A-18
		Highest daily	125	A-19
		Annual average	50	A-20
NO_2 (165 mg/Nm³)	Power station (3 units)	Highest hourly	200	A-21
		Highest daily	150	A-22
		Annual average	40	A-23
	Power station (6 units)	Highest hourly	200	A-24
		Highest daily	150	A-25
		Annual average	40	A-26
	PetroSA refinery	Highest hourly	200	A-27
		Highest daily	150	A-28
		Annual average	40	A-29

Pollutant	Scenario	Averaging Period	Standard (µg/m³)	Figure No.
	Cumulative	Highest hourly	200	A-30
		Highest daily	150	A-31
		Annual average	40	A-32
NO_2 (600 mg/Nm³)	Power station (3 units)	Highest hourly	200	A-33
		Highest daily	150	A-34
		Annual average	40	A-35
	Power station (6 units)	Highest hourly	200	A-36
		Highest daily	150	A-37
		Annual average	40	A-38
	PetroSA refinery	Highest hourly	200	A-39
		Highest daily	150	A-40
		Annual average	40	A-41
	Cumulative	Highest hourly	200	A-42
		Highest daily	150	A-43
		Annual average	40	A-44
CO	Power station (3 units)	Highest hourly	30 000	A-45
	Power station (6 units)	Highest hourly	30 000	A-46
	PetroSA refinery	Highest hourly	30 000	A-47
	Cumulative	Highest hourly	30 000	A-48

Table A-2: Concentration Plots for the Impact Assessment assuming 6 hours of operation.

Pollutant	Scenario	Averaging Period	Standard (µg/m³)	Figure No.
PM10	Power station (3 units)	Highest daily	75	A-49
		Annual average	40	A-50
	Power station (6 units)	Highest daily	75	A-51
		Annual average	40	A-52
	PetroSA refinery	Highest daily	75	A-53
		Annual average	40	A-54
	Cumulative	Highest daily	75	A-55
		Annual average	40	A-56
SO_2	Power station (3 units)	Highest hourly	350	A-57
		Highest daily	125	A-58
		Annual average	50	A-59
	Power station (6 units)	Highest hourly	350	A-60
		Highest daily	125	A-61
		Annual average	50	A-62
	PetroSA refinery	Highest hourly	350	A-63
		Highest daily	125	A-64
		Annual average	50	A-65
	Cumulative	Highest hourly	350	A-66
		Highest daily	125	A-67
		Annual average	50	A-68
NO_2 (165 mg/Nm³)	Power station (3 units)	Highest hourly	200	A-69
		Highest daily	150	A-70
		Annual average	40	A-71
	Power station (6 units)	Highest hourly	200	A-72
		Highest daily	150	A-73
		Annual average	40	A-74
	PetroSA refinery	Highest hourly	200	A-75
		Highest daily	150	A-76
		Annual average	40	A-77
	Cumulative	Highest hourly	200	A-78
		Highest daily	150	A-79
		Annual average	40	A-80

Pollutant	Scenario	Averaging Period	Standard (µg/m³)	Figure No.
NO_2 (600 mg/Nm³)	Power station (3 units)	Highest hourly	200	A-81
		Highest daily	150	A-82
		Annual average	40	A-83
	Power station (6 units)	Highest hourly	200	A-84
		Highest daily	150	A-85
		Annual average	40	A-86
	PetroSA refinery	Highest hourly	200	A-87
		Highest daily	150	A-88
		Annual average	40	A-89
	Cumulative	Highest hourly	200	A-90
		Highest daily	150	A-91
		Annual average	40	A-92
CO	Power station (3 units)	Highest hourly	30 000	A-93
	Power station (6 units)	Highest hourly	30 000	A-94
	PetroSA refinery	Highest hourly	30 000	A-95
	Cumulative	Highest hourly	30 000	A-96

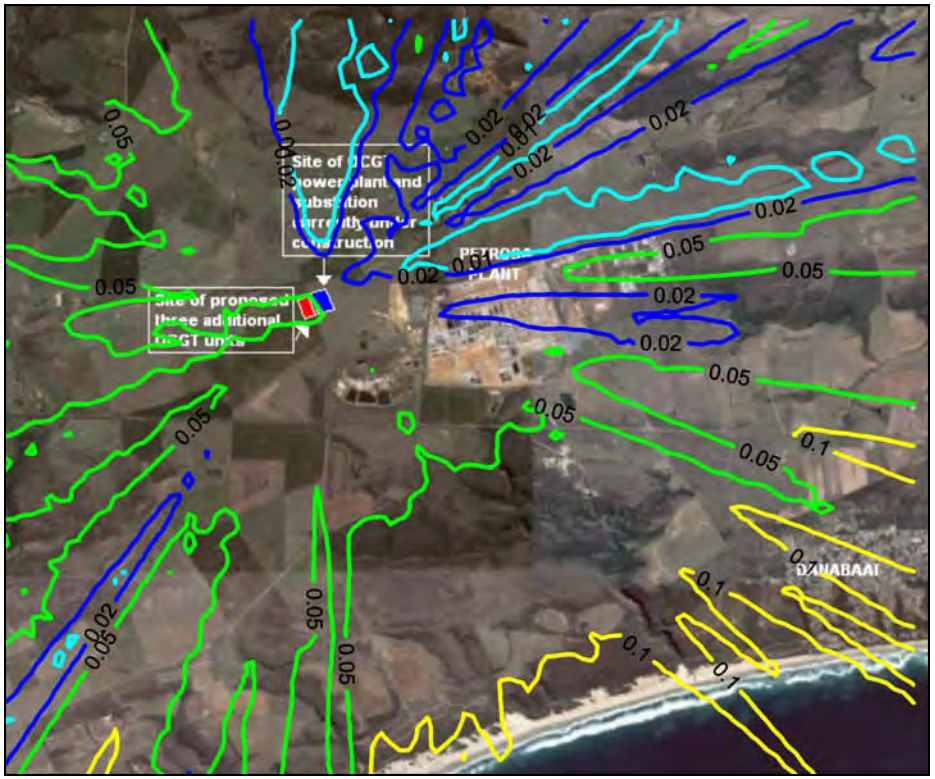

Figure A-1: Highest daily predicted PM10 ground level concentrations (μg/m^3) for the power station (3 units, operating 2 hours per day).

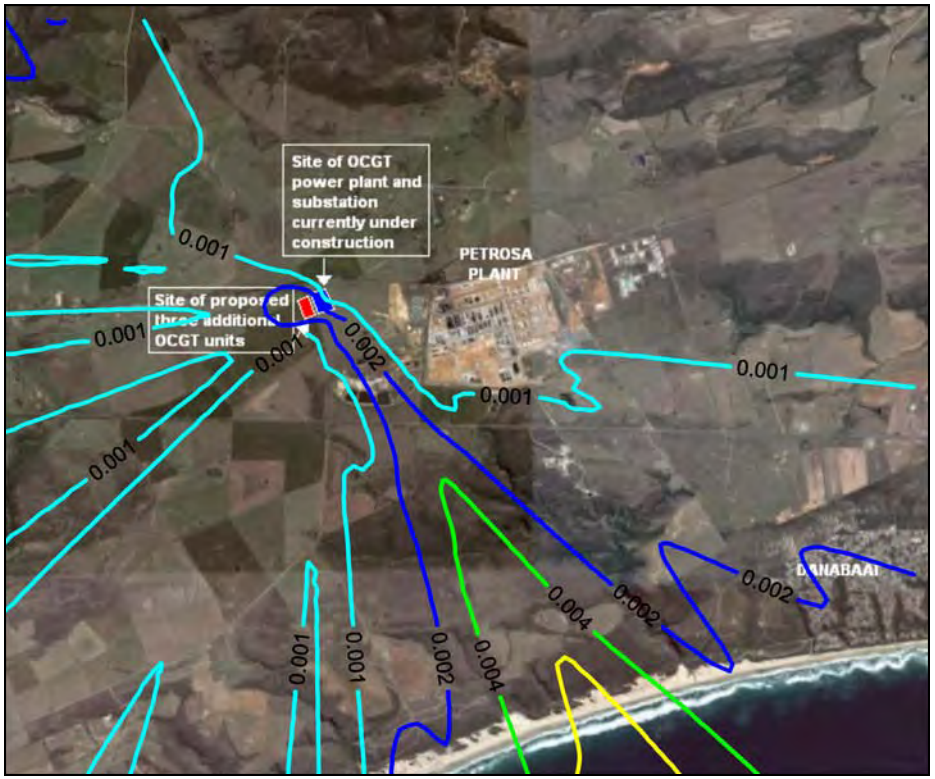

Figure A-2: Annual average predicted PM10 ground level concentrations (μg/m^3) for the power station (3 units, operating 2 hours per day).

Figure A-3: Highest daily predicted PM10 ground level concentrations (μg/m^3) for the power station (6 units, operating 2 hours per day).

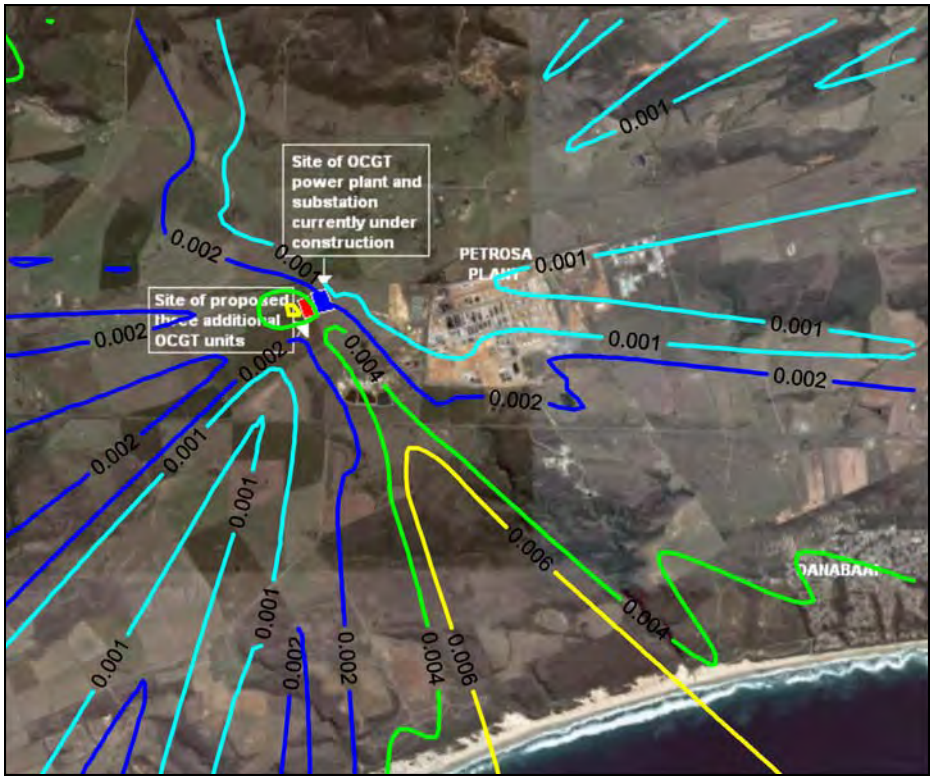

Figure A-4: Annual average predicted PM10 ground level concentrations (μg/m^3) for the power station (6 units, operating 2 hours per day).

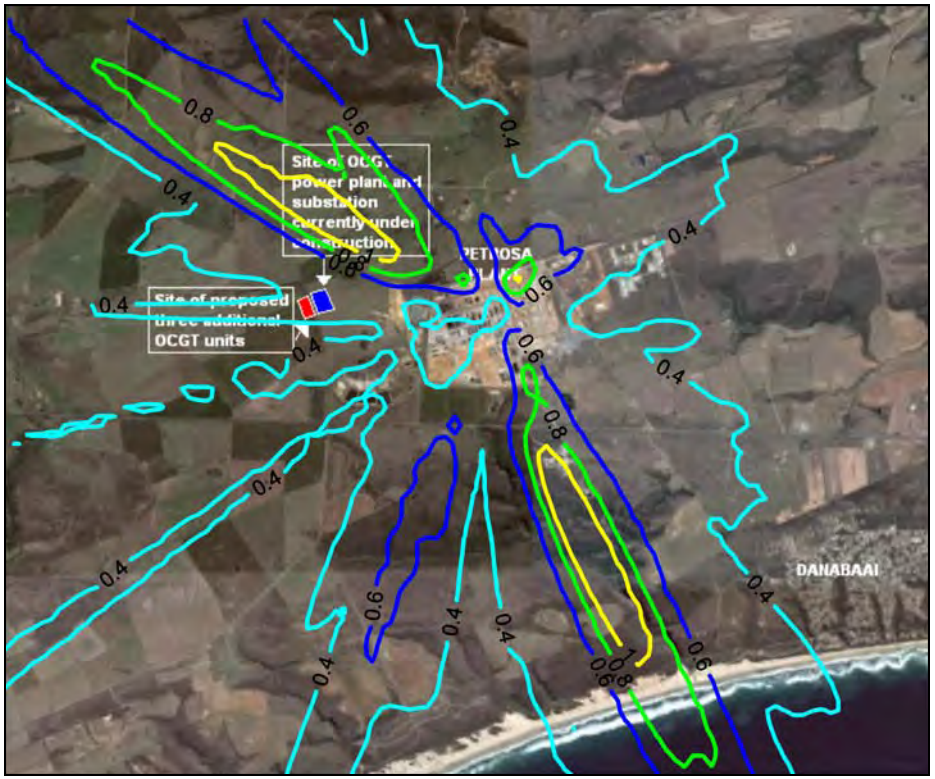

Figure A-5: Highest daily predicted PM10 ground level concentrations (μg/m^3) for the PetroSA refinery.

Figure A-6: Annual average predicted PM10 ground level concentrations (μg/m^3) for the PetroSA refinery.

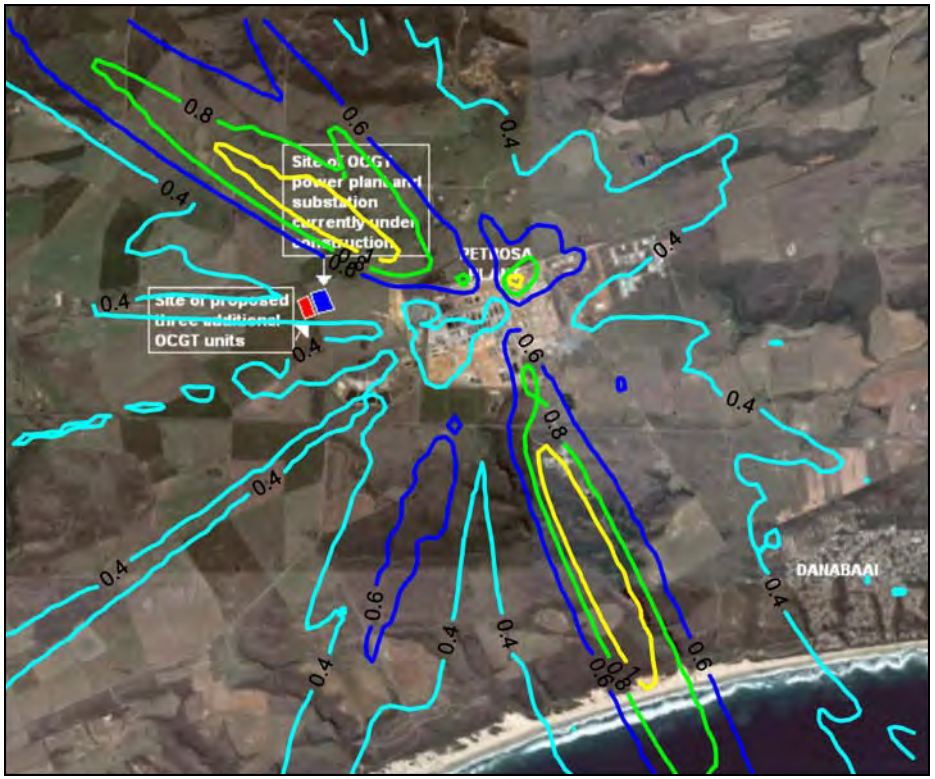

Figure A-7: Highest daily predicted PM10 ground level concentrations (μg/m^3) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-8: Annual average predicted PM10 ground level concentrations (μg/m^3) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-9: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for the power station (3 units, operating 2 hours per day).

Figure A-10: Highest daily predicted SO_2 ground level concentrations (µg/m³) for the power station (3 units, operating 2 hours per day).

Figure A-11: Annual average predicted SO_2 ground level concentrations (µg/m³) for the power station (3 units, operating 2 hours per day).

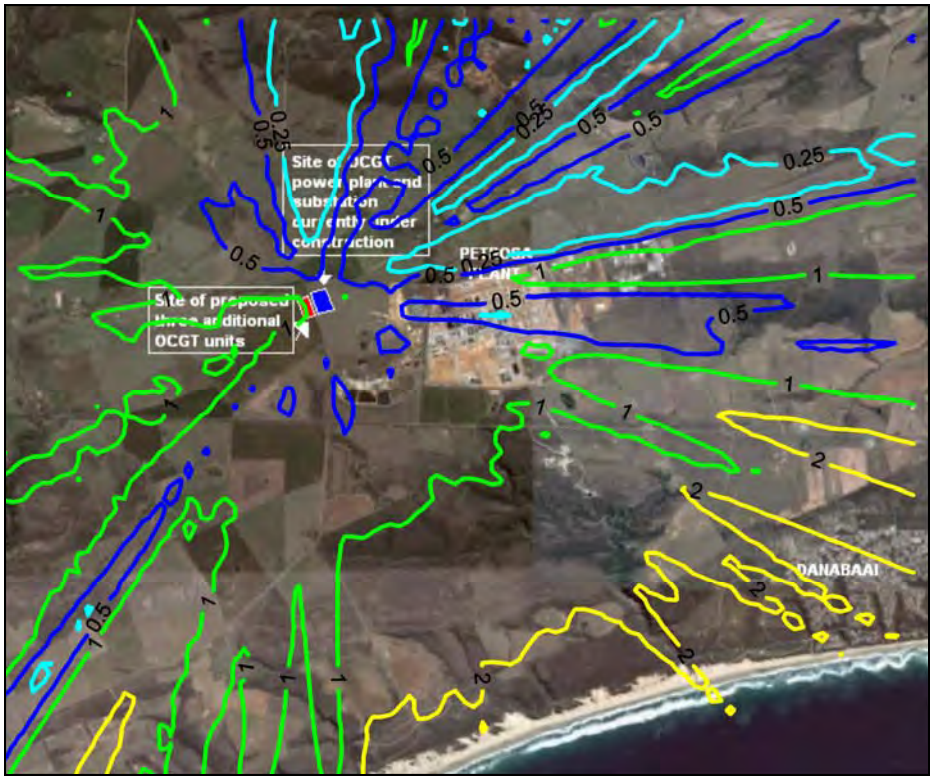

Figure A-12: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for the power station (6 units, operating 2 hours per day).

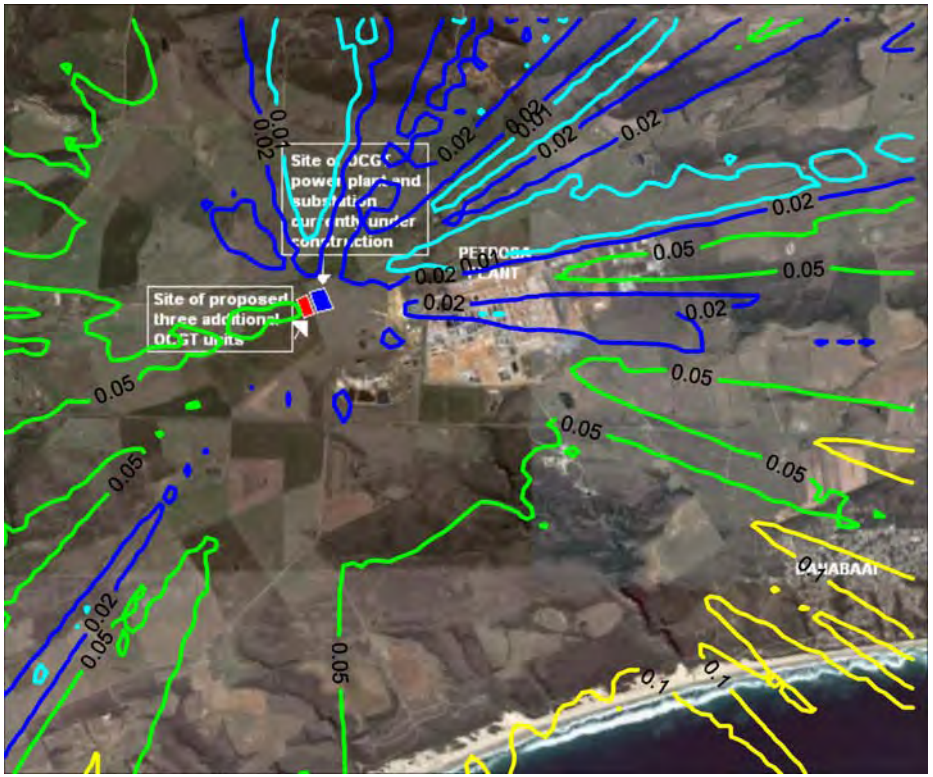

Figure A-13: Highest daily predicted SO_2 ground level concentrations (µg/m³) for the power station (6 units, operating 2 hours per day).

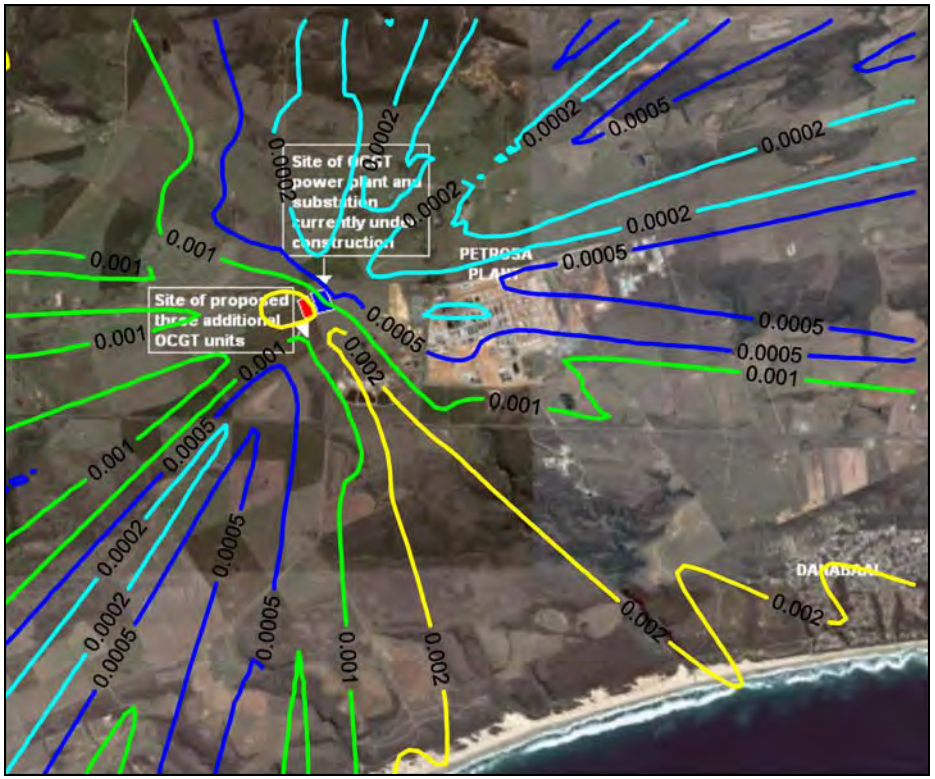

Figure A-14: Annual average predicted SO_2 ground level concentrations (µg/m³) for the power station (6 units, operating 2 hours per day).

Figure A-15: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

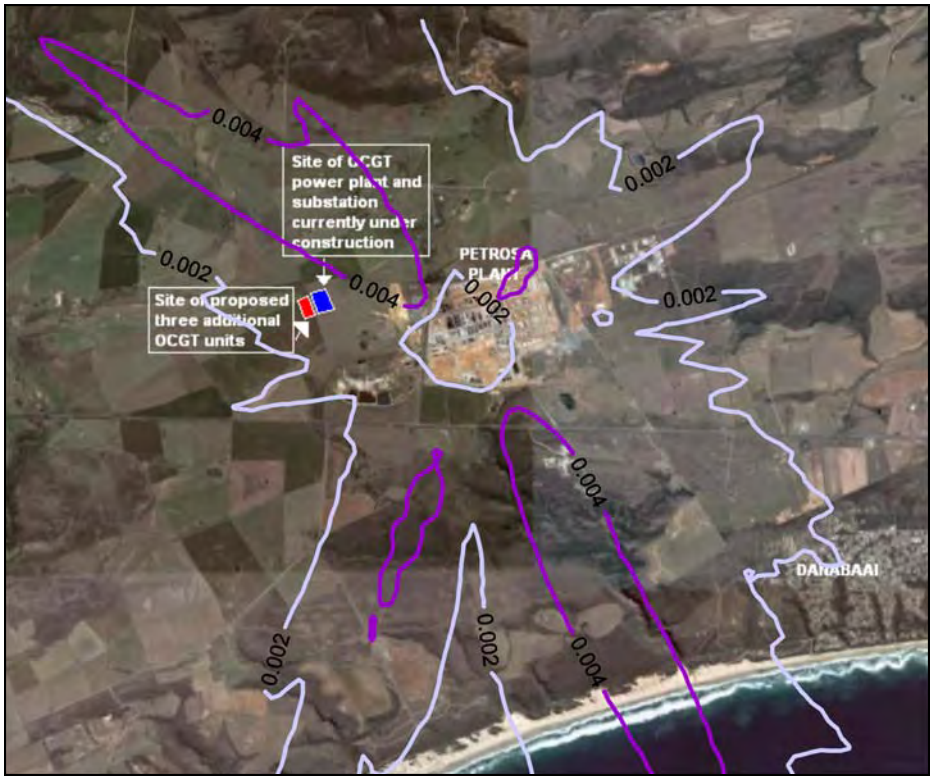

Figure A-16: Highest daily predicted SO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-17: Annual average predicted SO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

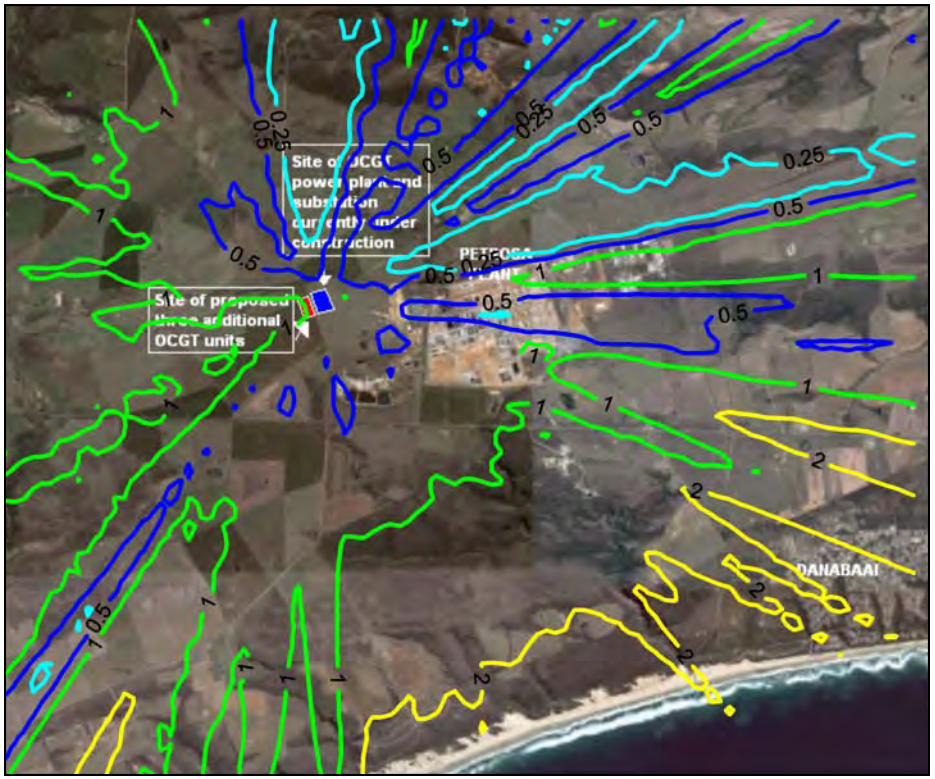

Figure A-18: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

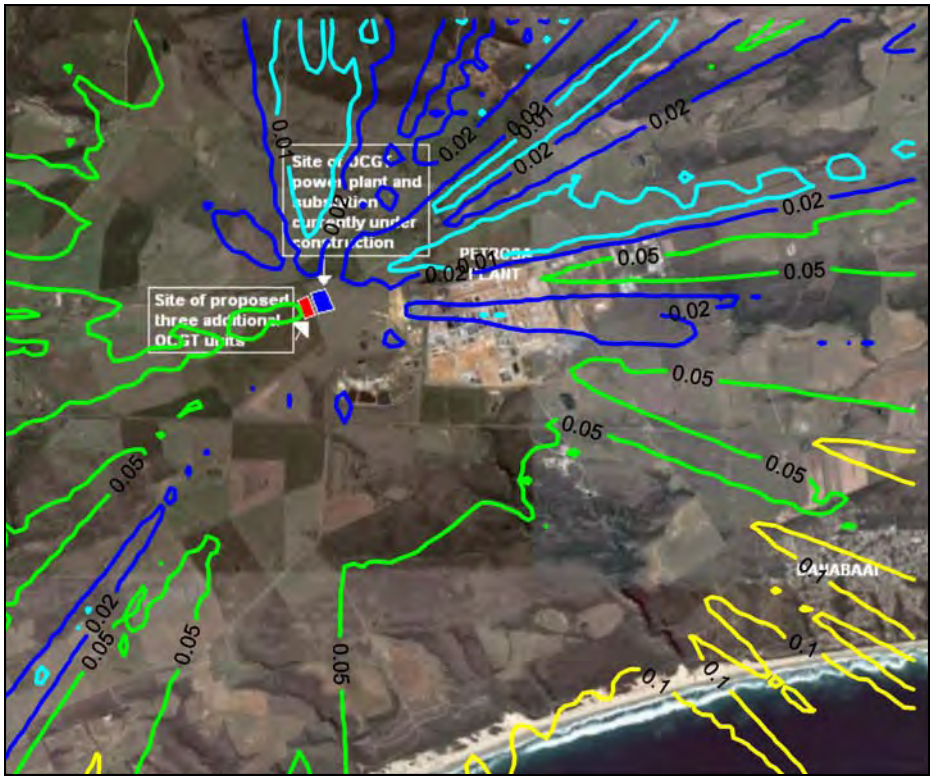

Figure A-19: Highest daily predicted SO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-20: Annual average predicted SO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-21: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 3 units, operating 2 hours per day).

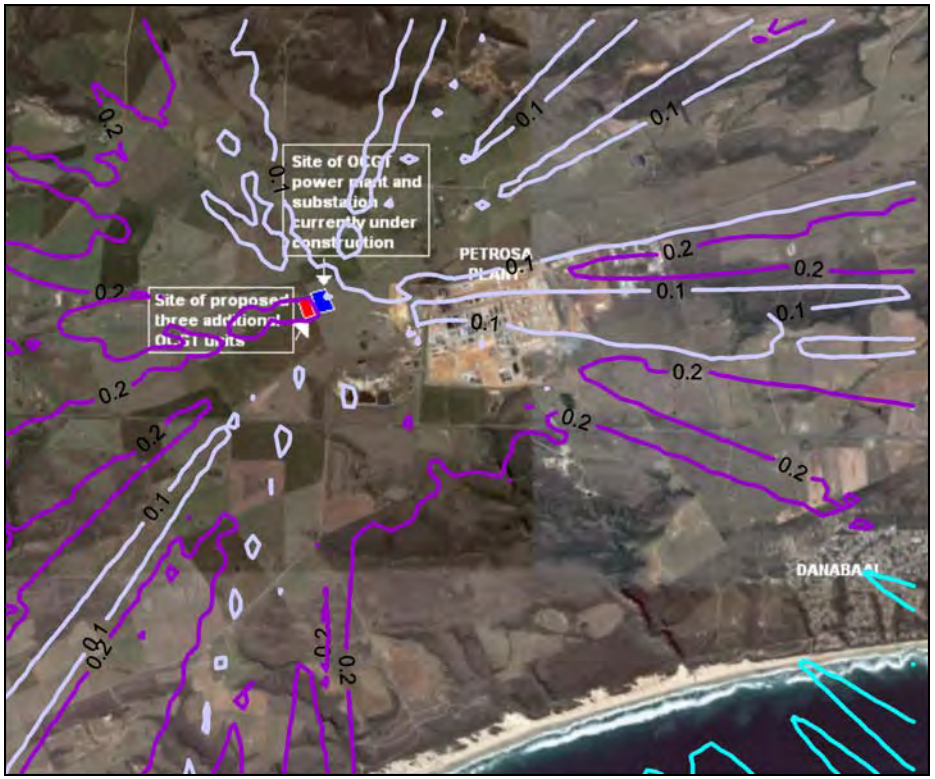

Figure A-22: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 3 units, operating 2 hours per day).

Figure A-23: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 3 units, operating 2 hours per day).

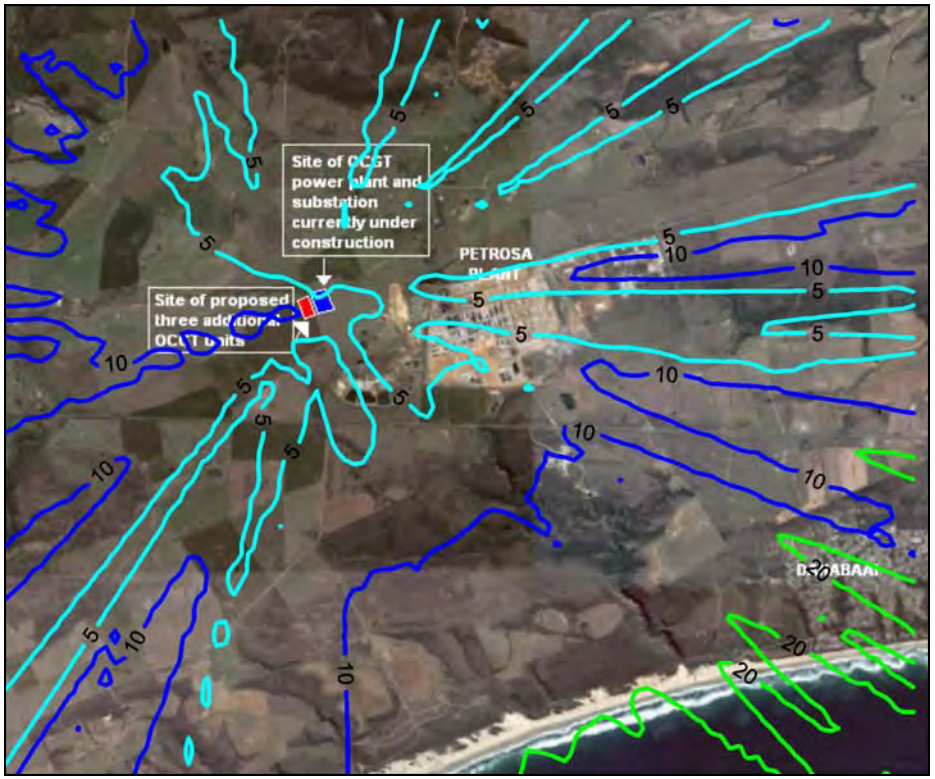

Figure A-24: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 6 units, operating 2 hours per day).

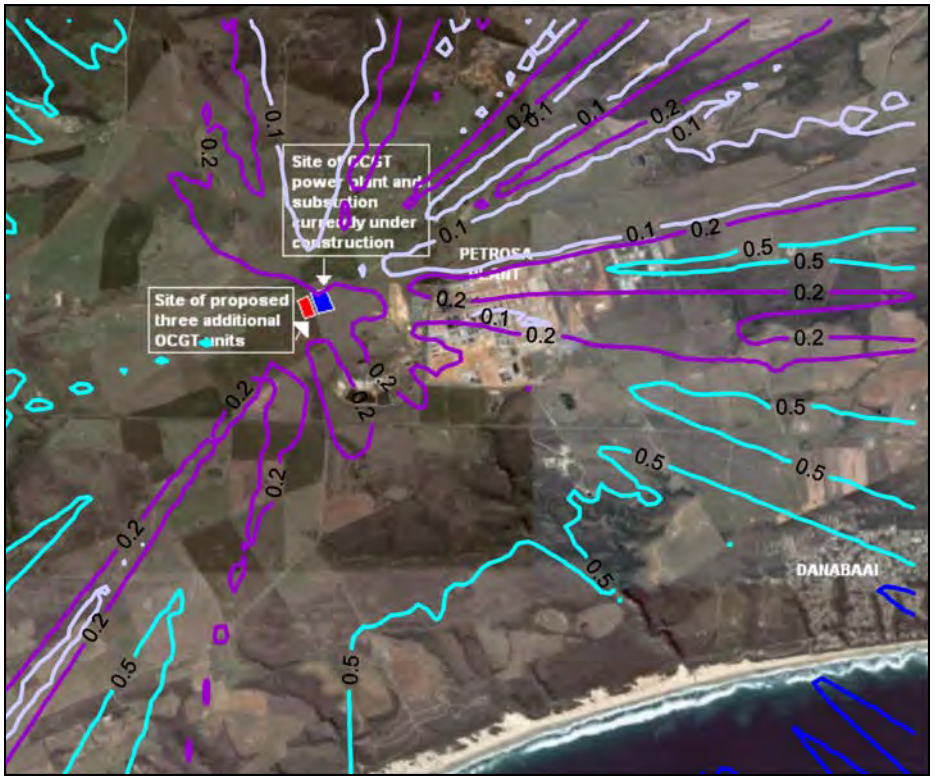

Figure A-25: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 6 units, operating 2 hours per day).

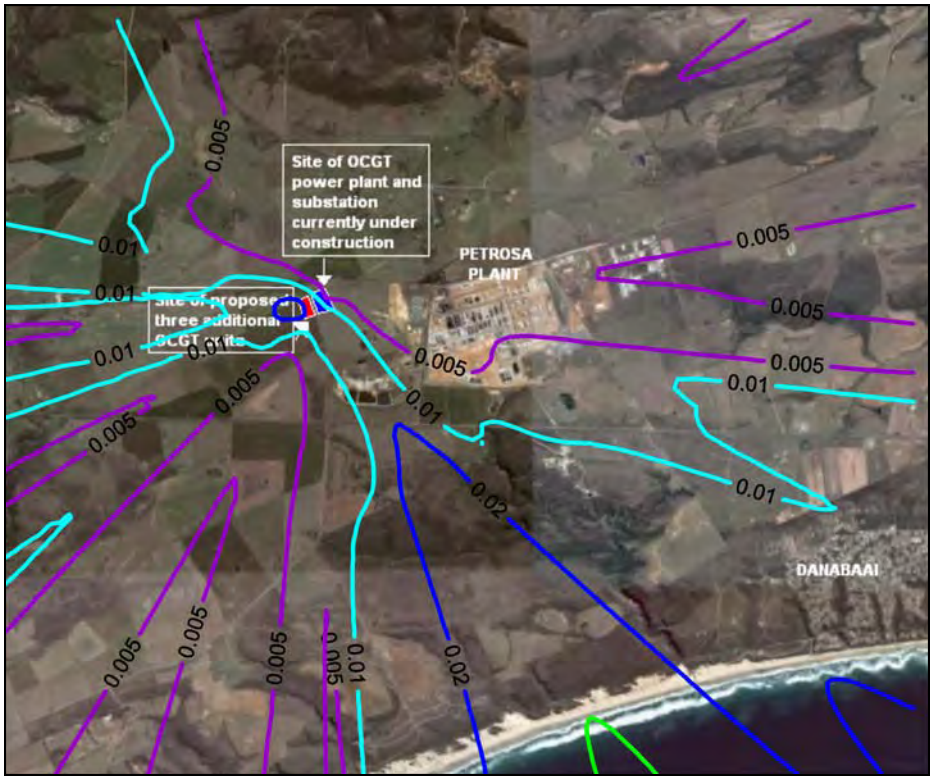

Figure A-26: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 6 units, operating 2 hours per day).

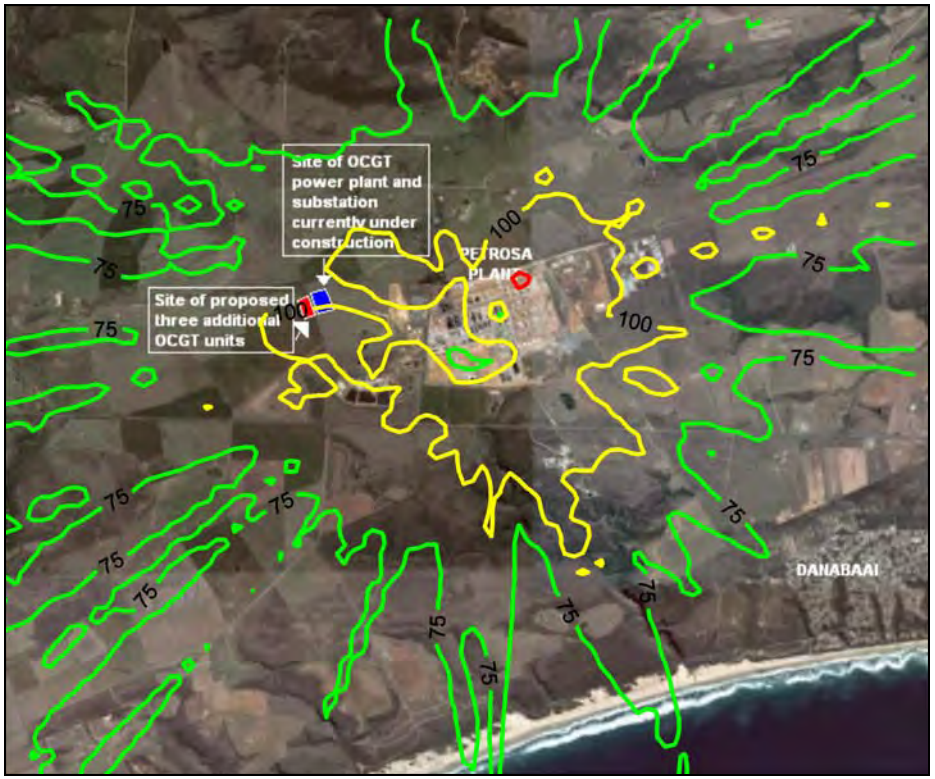

Figure A-27: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-28: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-29: Annual average predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

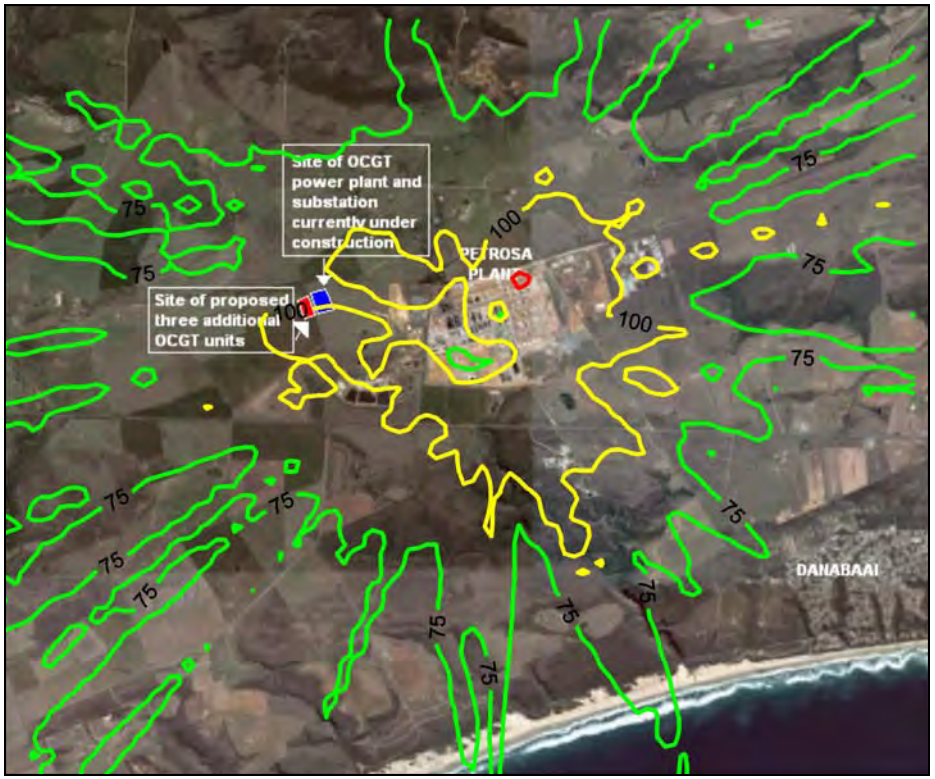

Figure A-30: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-31: Highest daily predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-32: Annual average predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

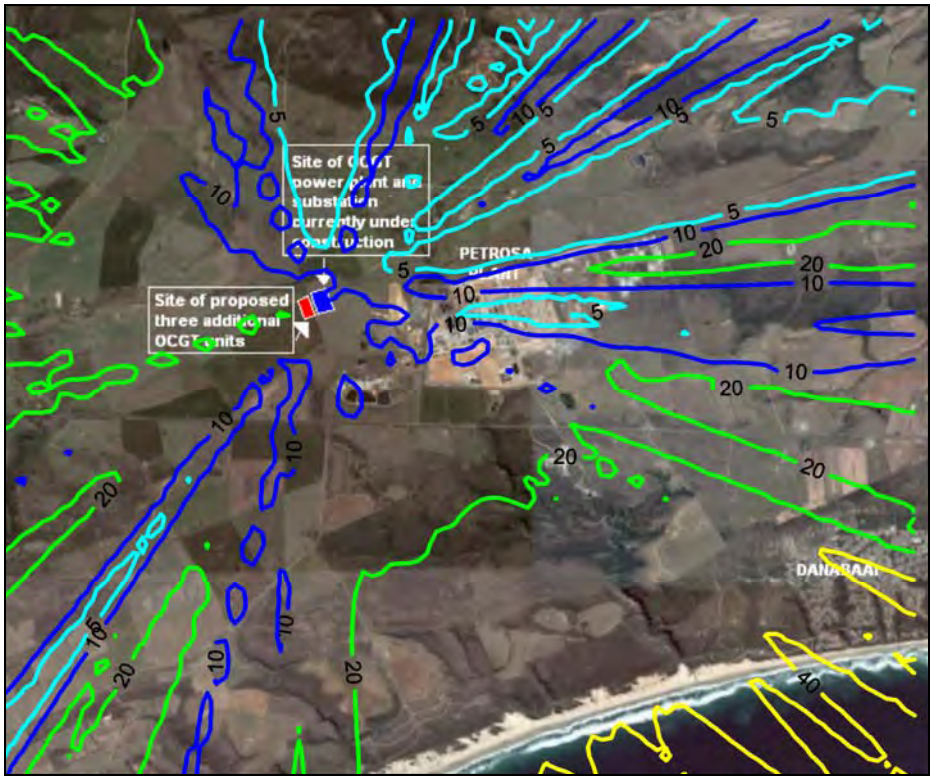

Figure A-33: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 3 units, operating 2 hours per day).

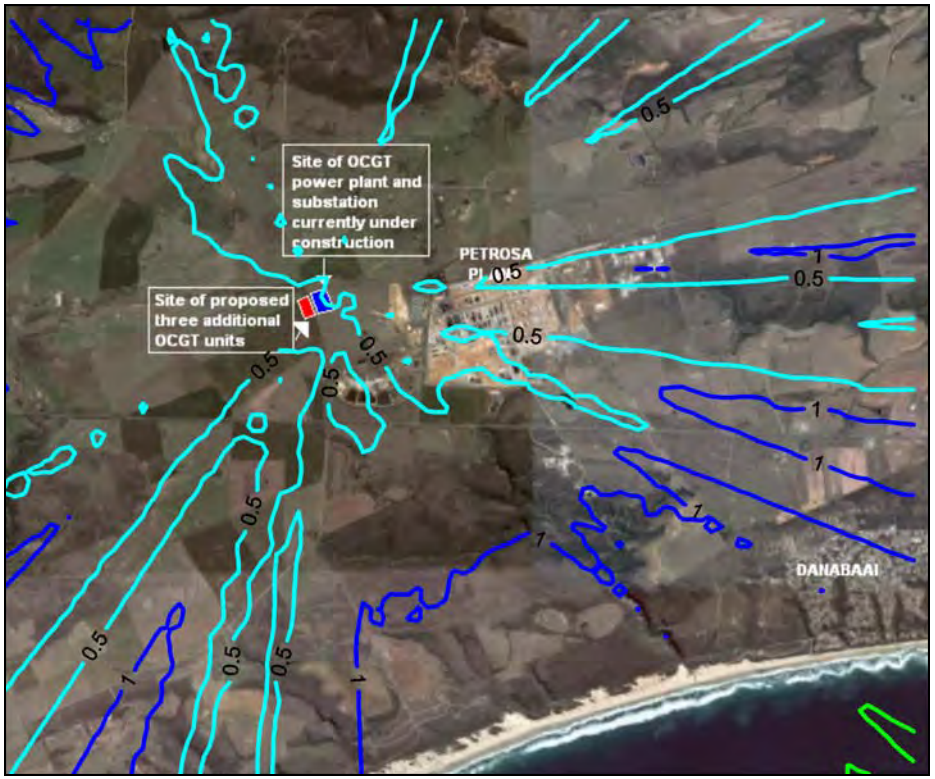

Figure A-34: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 3 units, operating 2 hours per day).

Figure A-35: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 3 units, operating 2 hours per day).

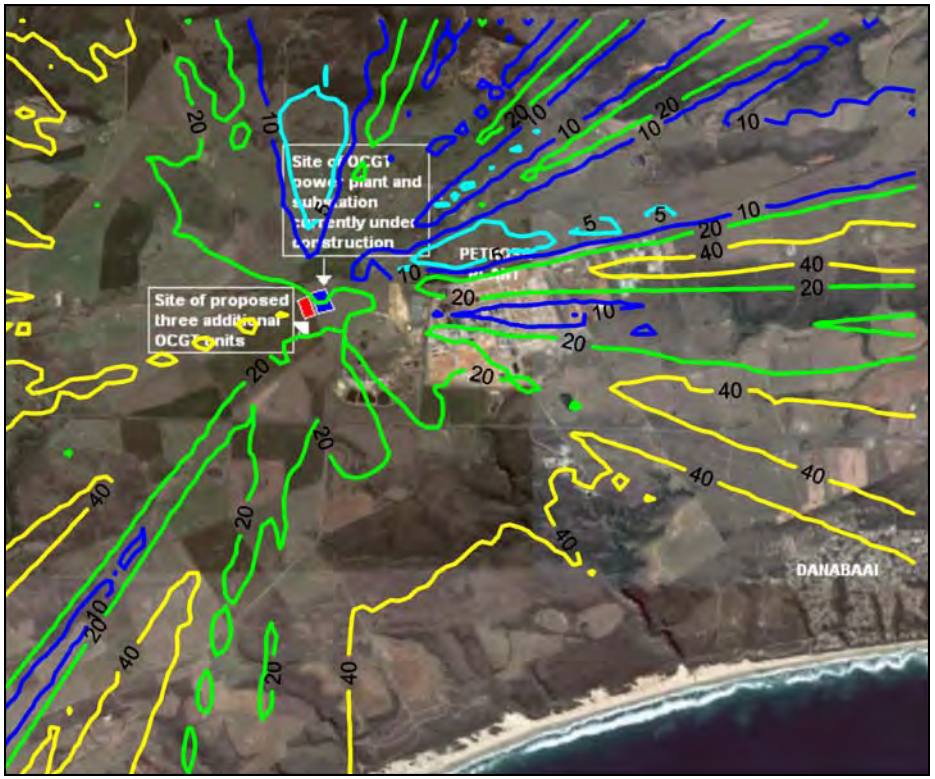

Figure A-36: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 6 units, operating 2 hours per day).

Figure A-37: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 6 units, operating 2 hours per day).

Figure A-38: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 6 units, operating 2 hours per day).

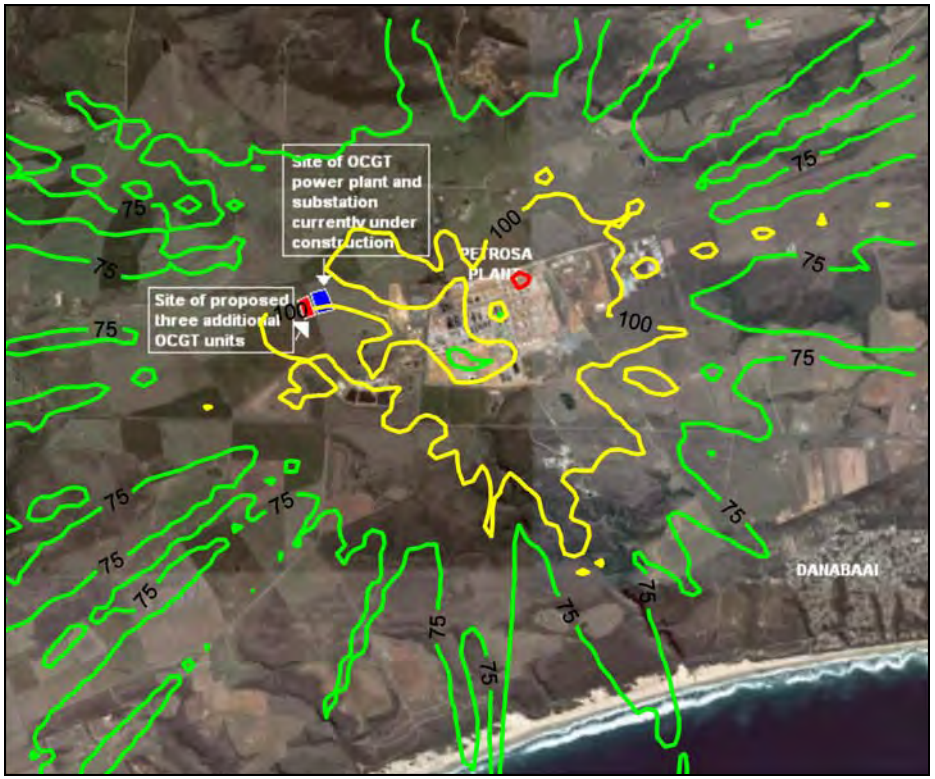

Figure A-39: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-40: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-41: Annual average predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

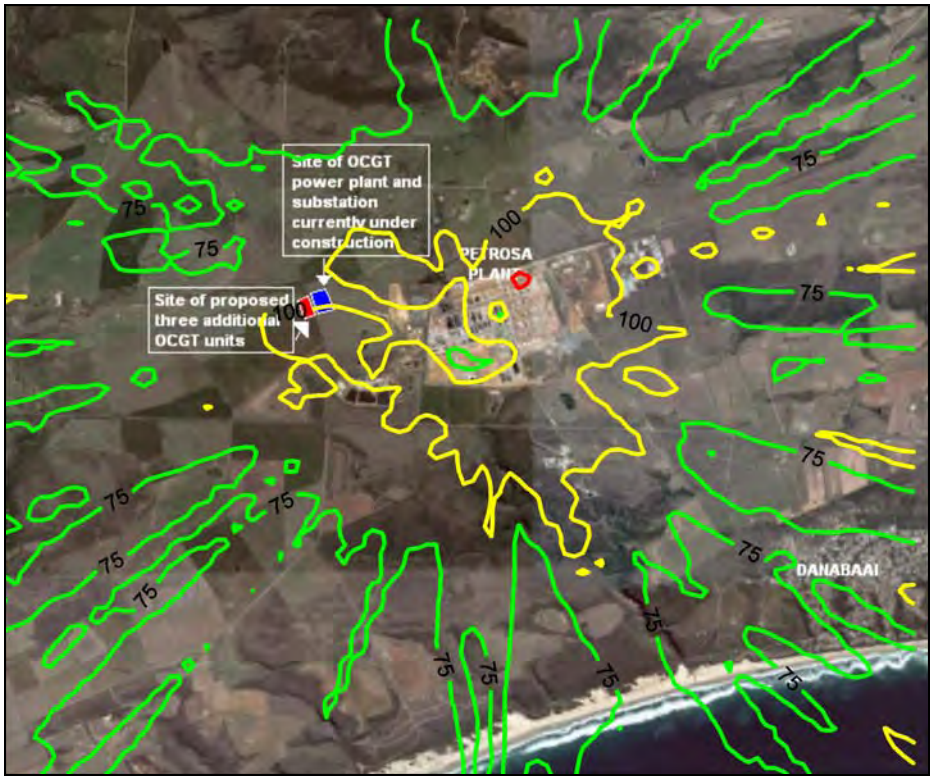

Figure A-42: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-43: Highest daily predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-44: Annual average predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

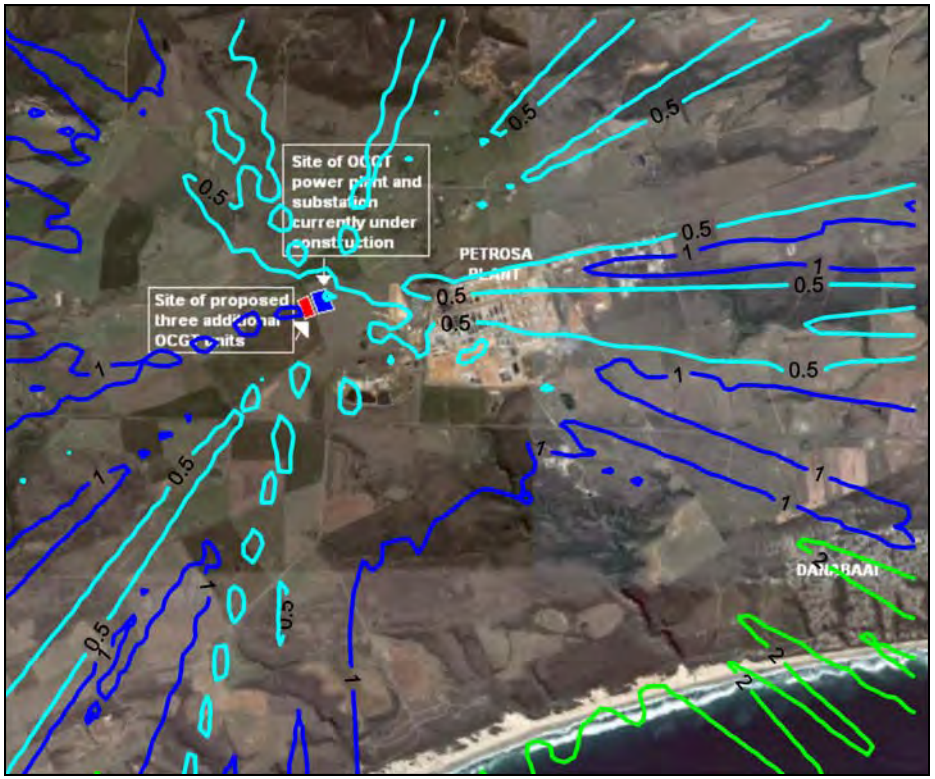

Figure A-45: Highest hourly predicted CO ground level concentrations (µg/m³) for the power station (3 units, operating 2 hours per day).

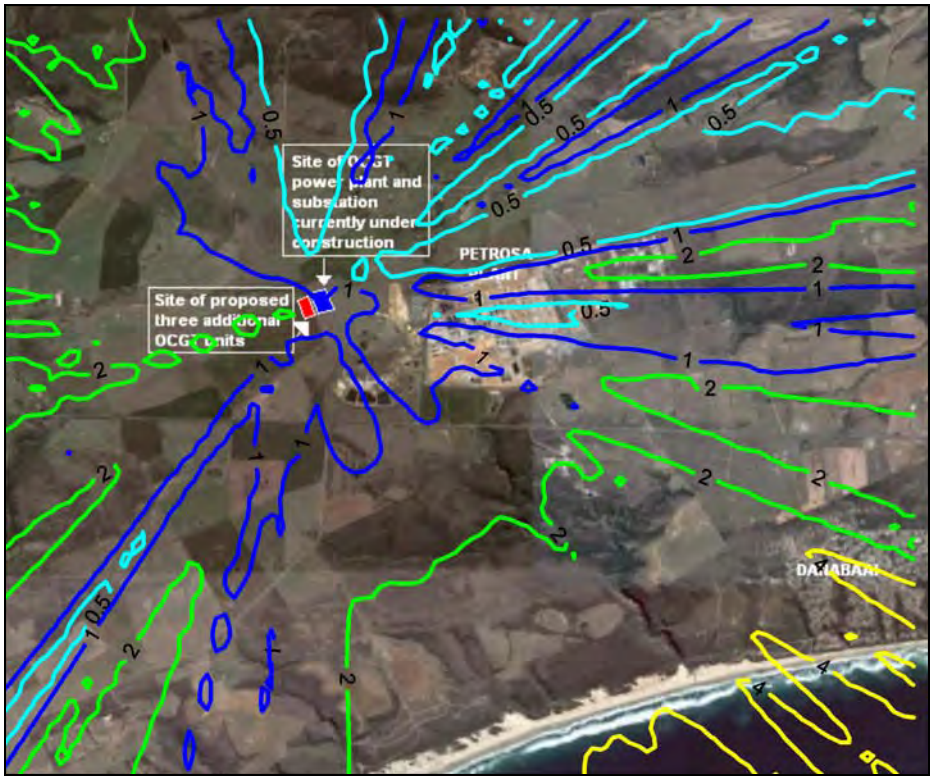

Figure A-46: Highest hourly predicted CO ground level concentrations (µg/m³) for the power station (6 units, operating 2 hours per day).

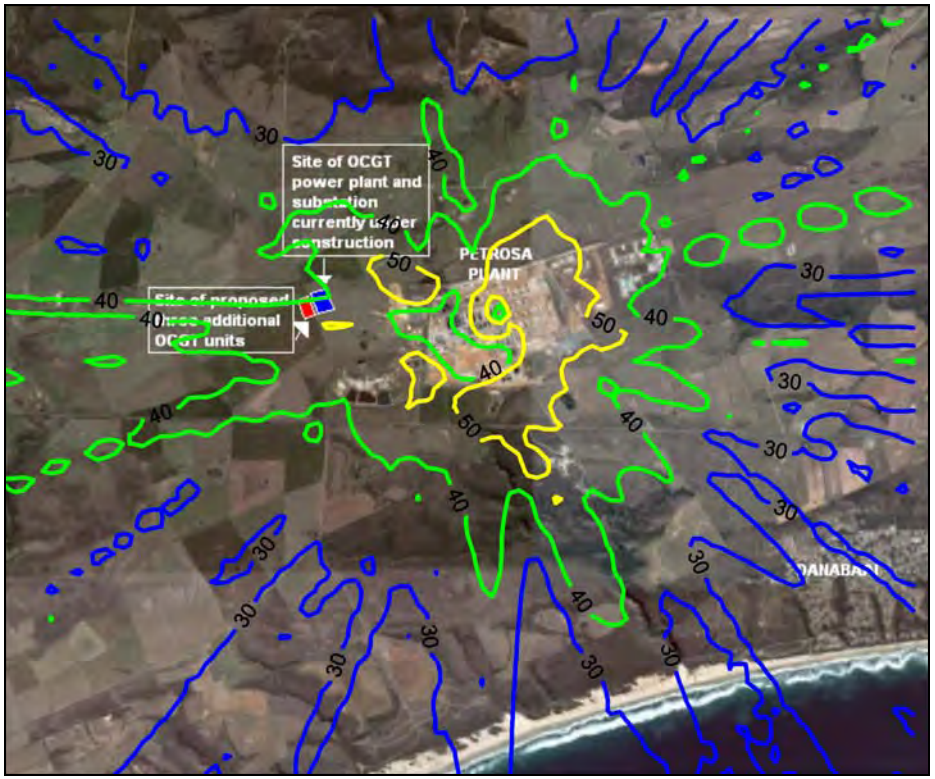

Figure A-47: Highest hourly predicted CO ground level concentrations (µg/m³) for the PetroSA refinery.

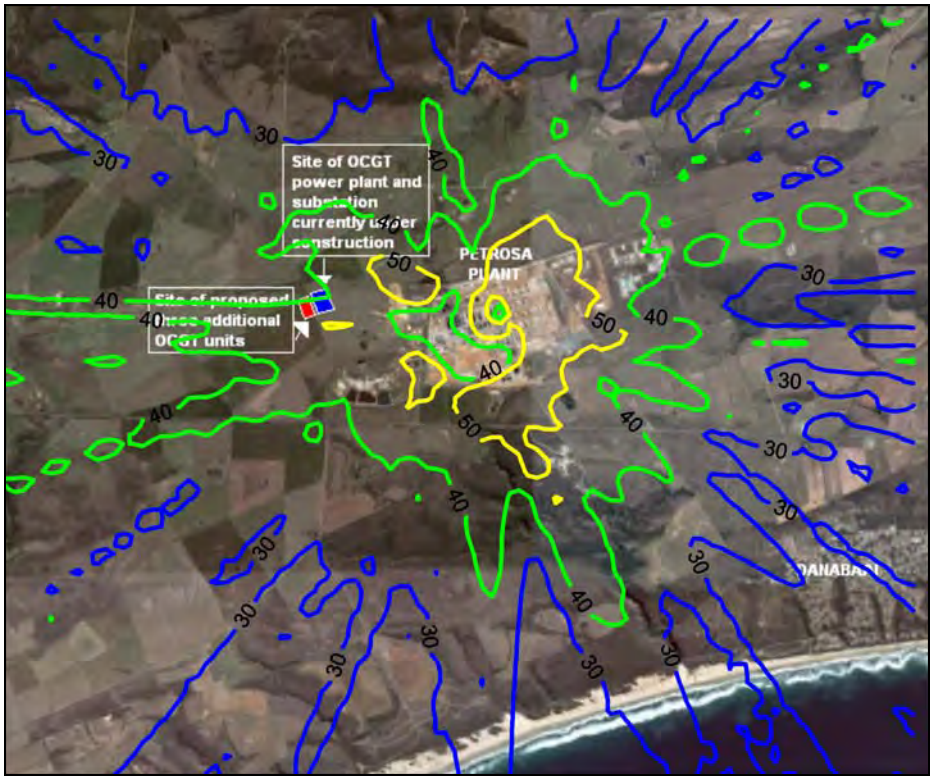

Figure A-48: Highest hourly predicted CO ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 2 hours per day).

Figure A-49: Highest daily predicted PM10 ground level concentrations (μg/m^3) for the power station (3 units, operating 6 hours per day).

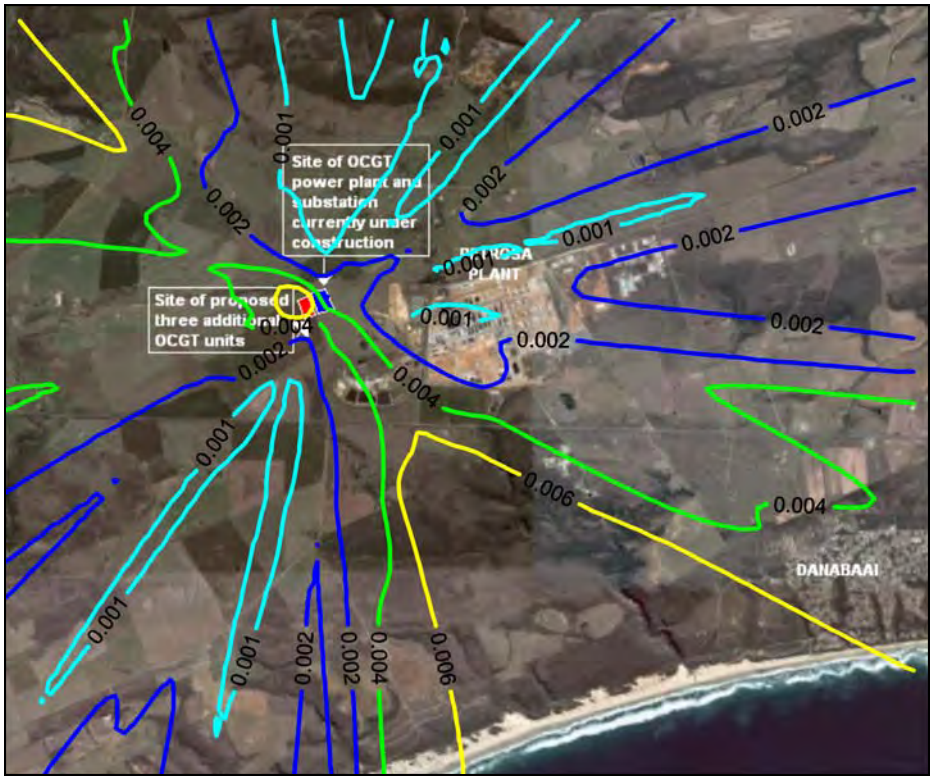

Figure A-50: Annual average predicted PM10 ground level concentrations (μg/m^3) for the power station (3 units, operating 6 hours per day).

Figure A-51: Highest daily predicted PM10 ground level concentrations (μg/m^3) for the power station (6 units, operating 6 hours per day).

Figure A-52: Annual average predicted PM10 ground level concentrations (μg/m^3) for the power station (6 units, operating 6 hours per day).

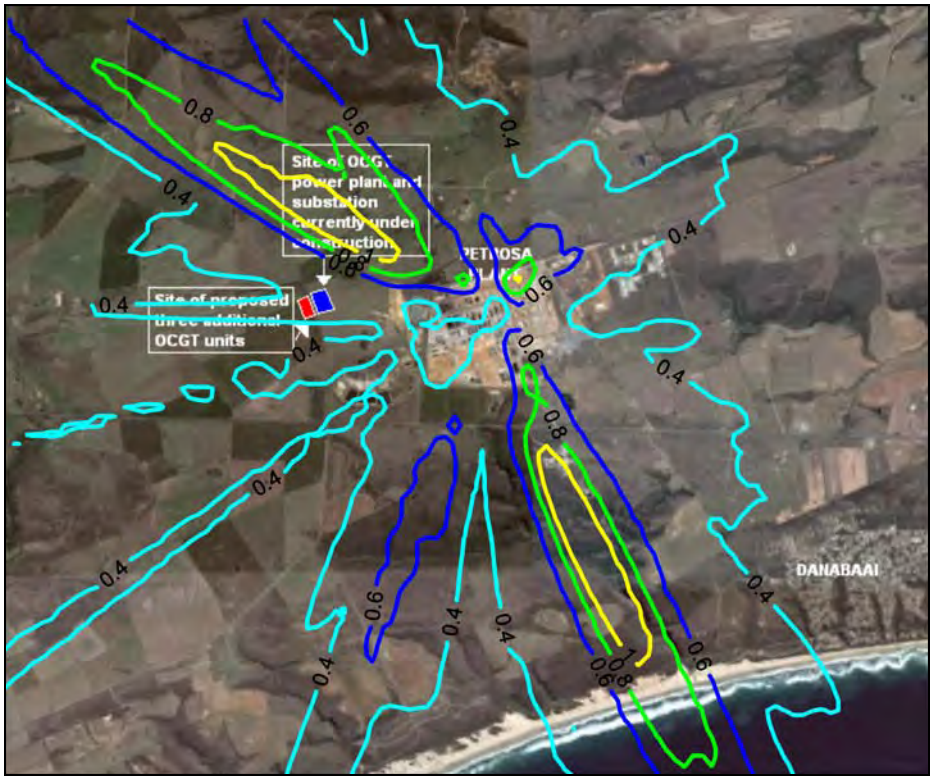

Figure A-53: Highest daily predicted PM10 ground level concentrations (μg/m^3) for the PetroSA refinery.

Figure A-54: Annual average predicted PM10 ground level concentrations (μg/m^3) for the PetroSA refinery.

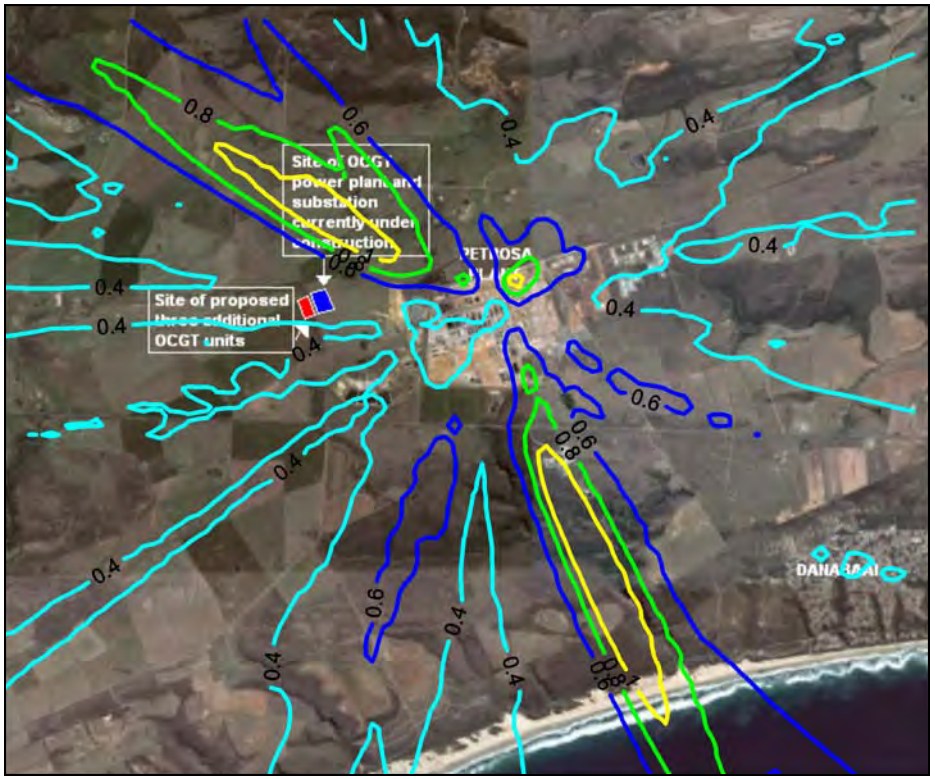

Figure A-55: Highest daily predicted PM10 ground level concentrations (μg/m^3) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-56: Annual average predicted PM10 ground level concentrations (μg/m^3) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-57: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for the power station (3 units, operating 6 hours per day).

Figure A-58: Highest daily predicted SO_2 ground level concentrations (µg/m³) for the power station (3 units, operating 6 hours per day).

Figure A-59: Annual average predicted SO_2 ground level concentrations (µg/m³) for the power station (3 units, operating 6 hours per day).

Figure A-60: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for the power station (6 units, operating 6 hours per day).

Figure A-61: Highest daily predicted SO_2 ground level concentrations (µg/m³) for the power station (6 units, operating 6 hours per day).

Figure A-62: Annual average predicted SO_2 ground level concentrations (µg/m³) for the power station (6 units, operating 6 hours per day).

Figure A-63: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

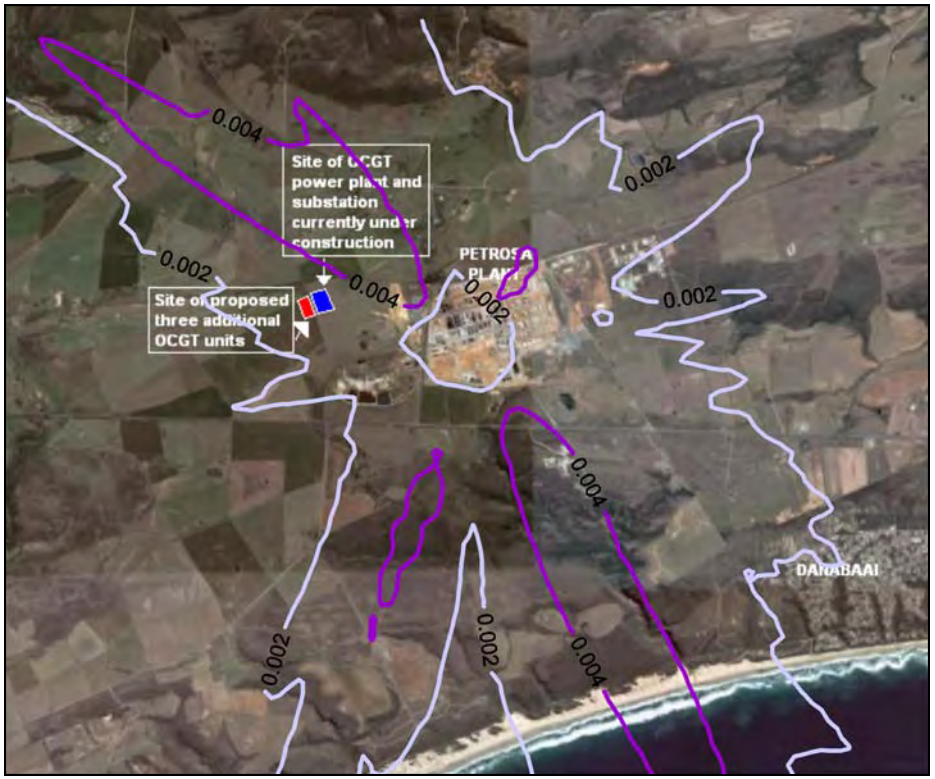

Figure A-64: Highest daily predicted SO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-65: Annual average predicted SO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-66: Highest hourly predicted SO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-67: Highest daily predicted SO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-68: Annual average predicted SO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-69: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 3 units, operating 6 hours per day).

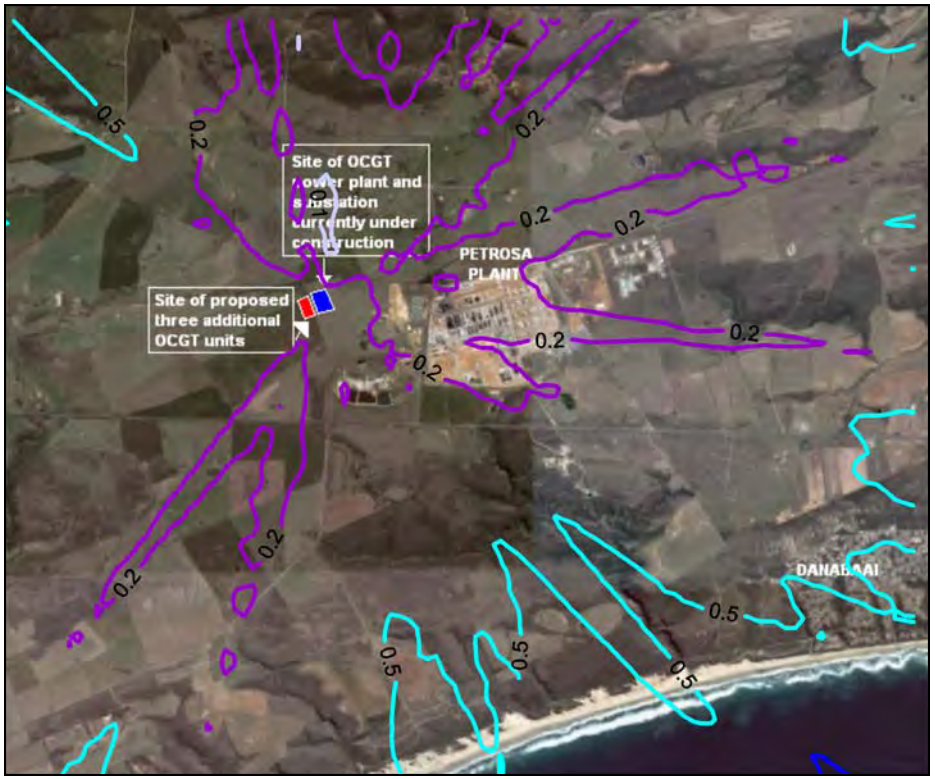

Figure A-70: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 3 units, operating 6 hours per day).

Figure A-71: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 3 units, operating 6 hours per day).

Figure A-72: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 6 units, operating 6 hours per day).

Figure A-73: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 6 units, operating 6 hours per day).

Figure A-74: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 165 µg/m³, 6 units, operating 6 hours per day).

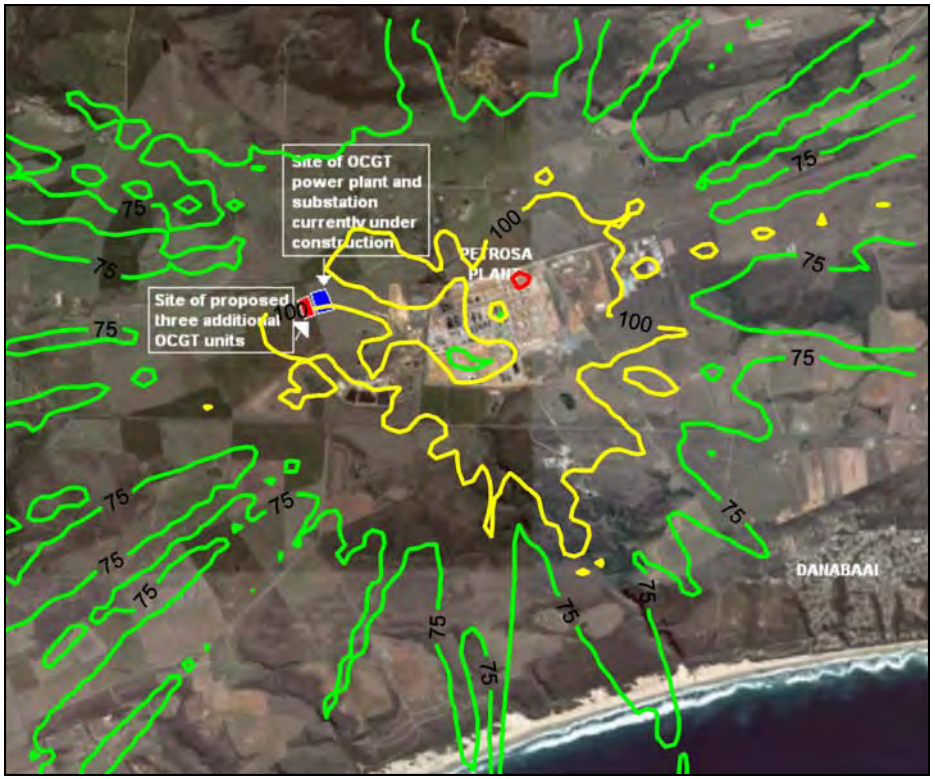

Figure A-75: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-76: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-77: Annual average predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

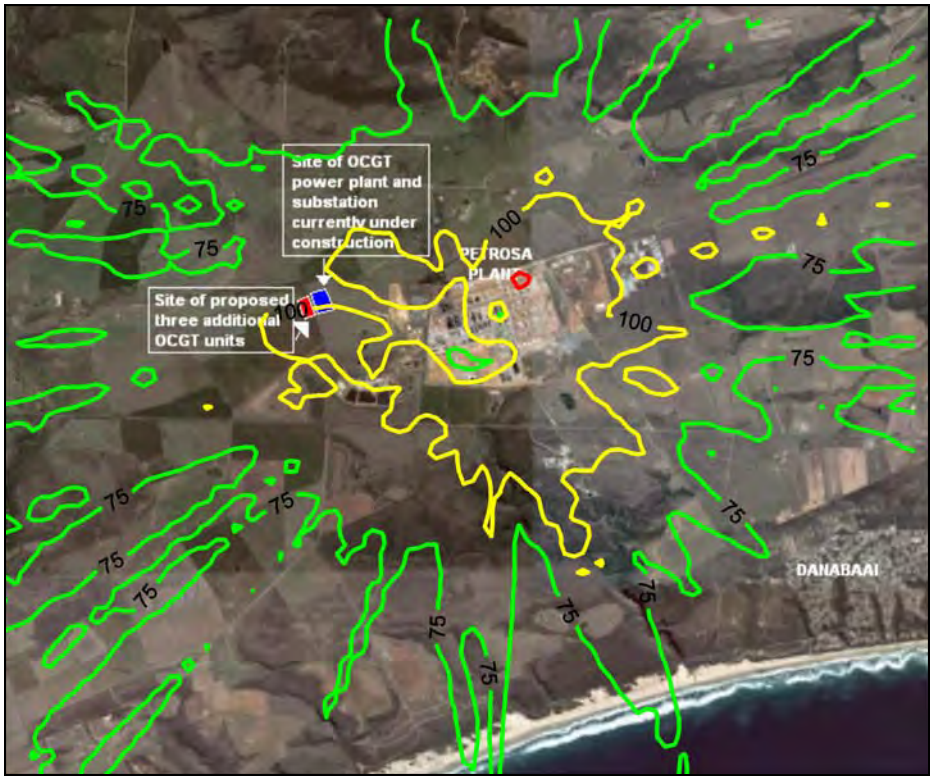

Figure A-78: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-79: Highest daily predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-80: Annual average predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-81: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 3 units, operating 6 hours per day).

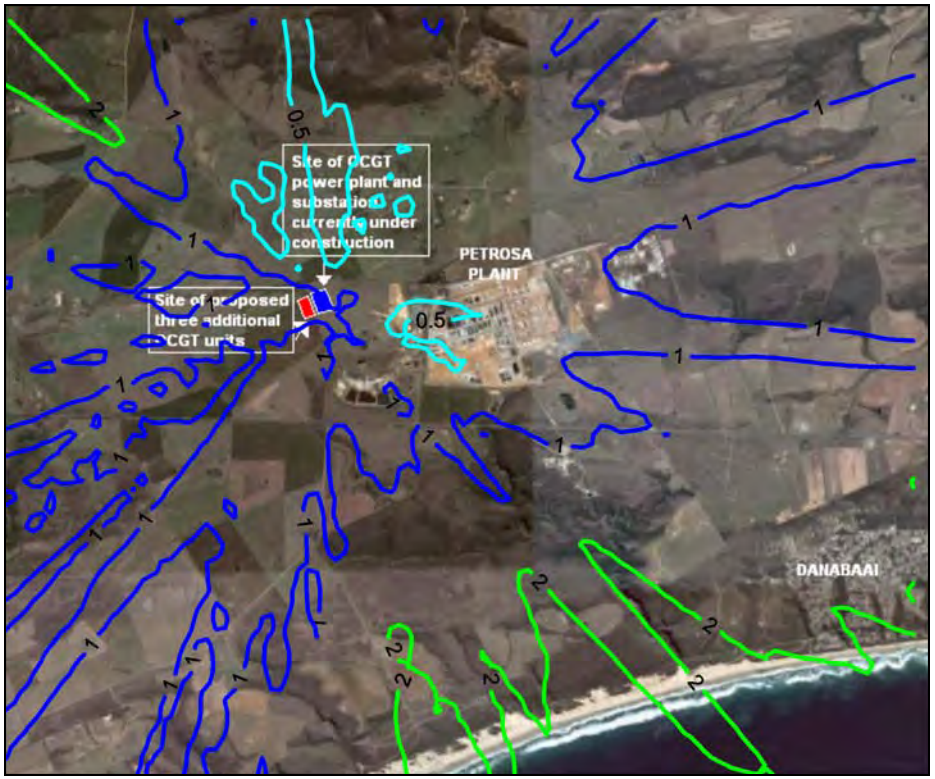

Figure A-82: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 3 units, operating 6 hours per day).

Figure A-83: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 3 units, operating 6 hours per day).

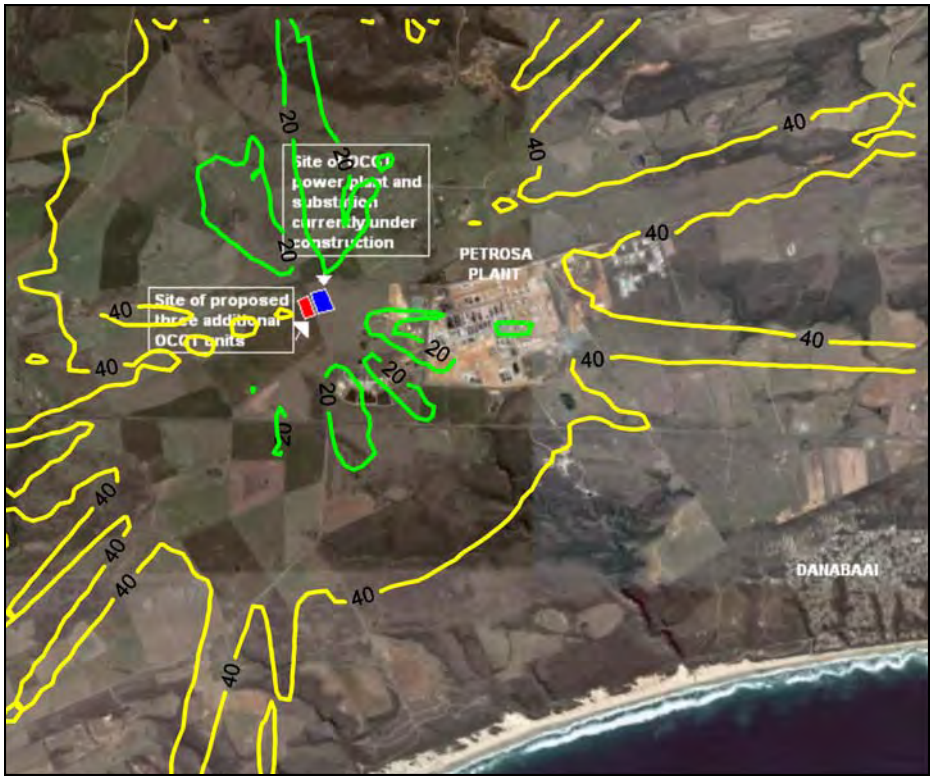

Figure A-84: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 6 units, operating 6 hours per day).

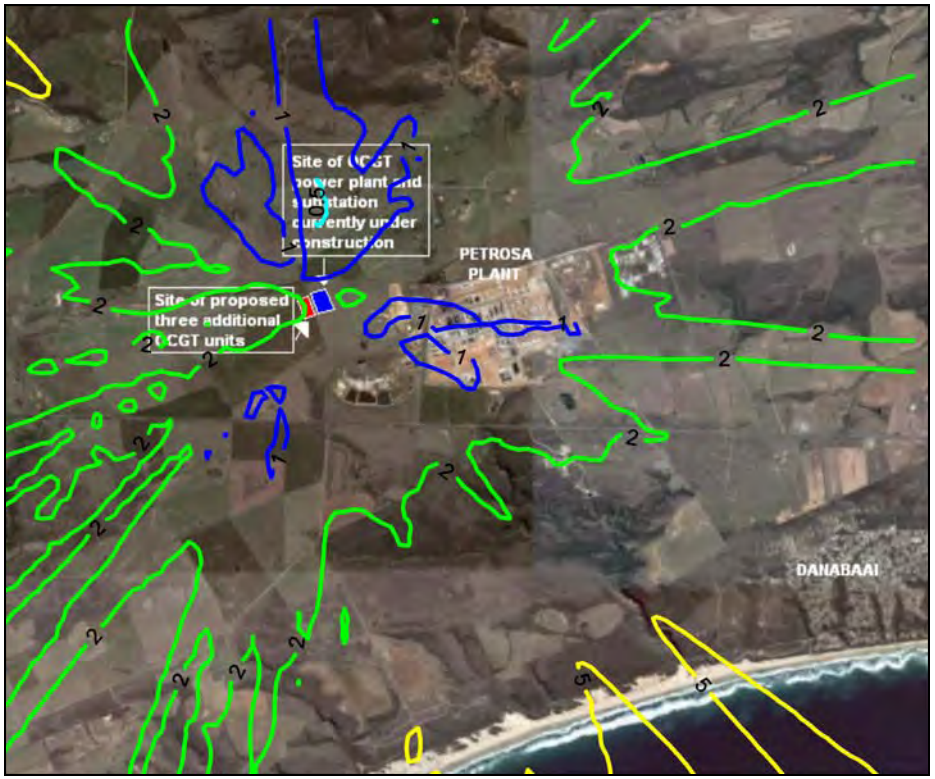

Figure A-85: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 6 units, operating 6 hours per day).

Figure A-86: Annual average predicted NO_2 ground level concentrations (µg/m³) for the power station (NOx 600 µg/m³, 6 units, operating 6 hours per day).

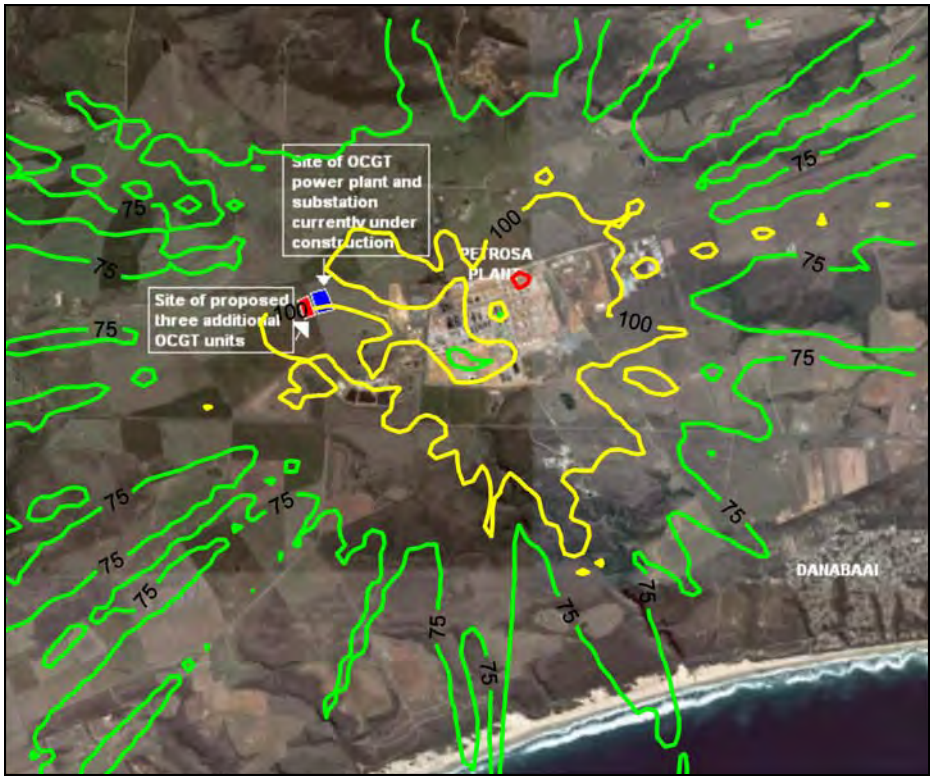

Figure A-87: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-88: Highest daily predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

Figure A-89: Annual average predicted NO_2 ground level concentrations (µg/m³) for the PetroSA refinery.

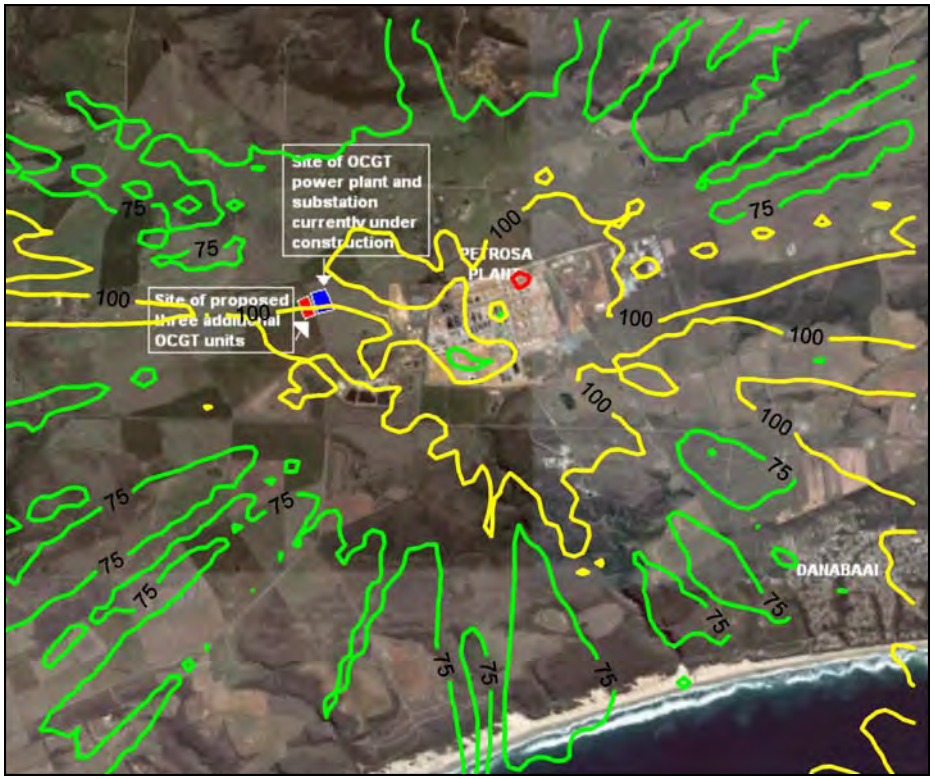

Figure A-90: Highest hourly predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-91: Highest daily predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-92: Annual average predicted NO_2 ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).

Figure A-93: Highest hourly predicted CO ground level concentrations (µg/m³) for the power station (3 units, operating 6 hours per day).

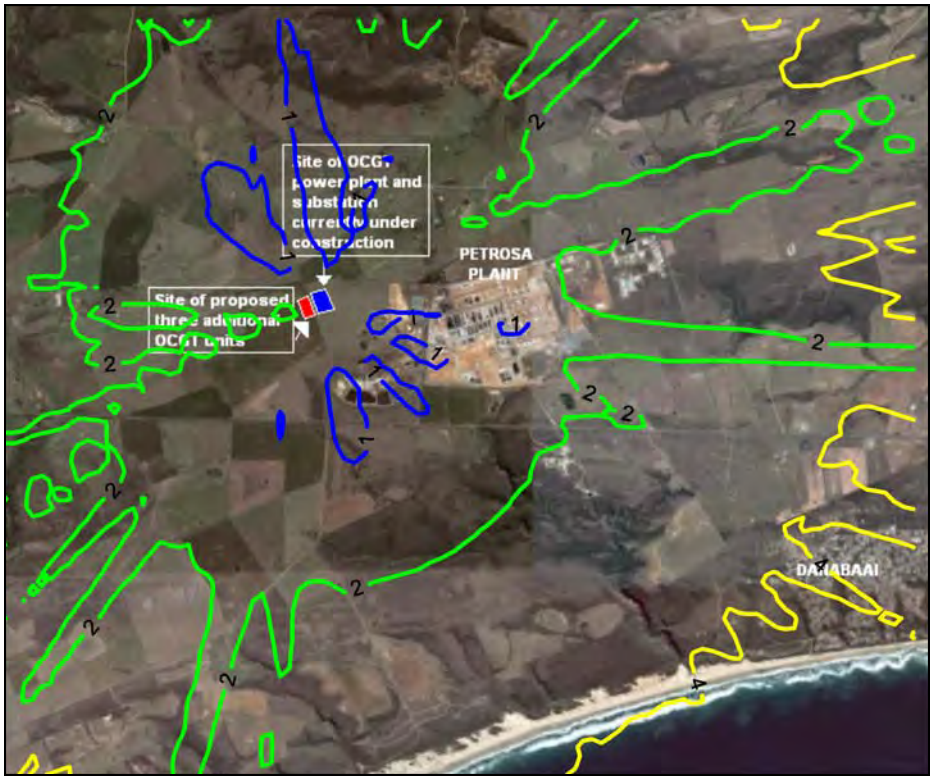

Figure A-94: Highest hourly predicted CO ground level concentrations (µg/m³) for the power station (6 units, operating 6 hours per day).

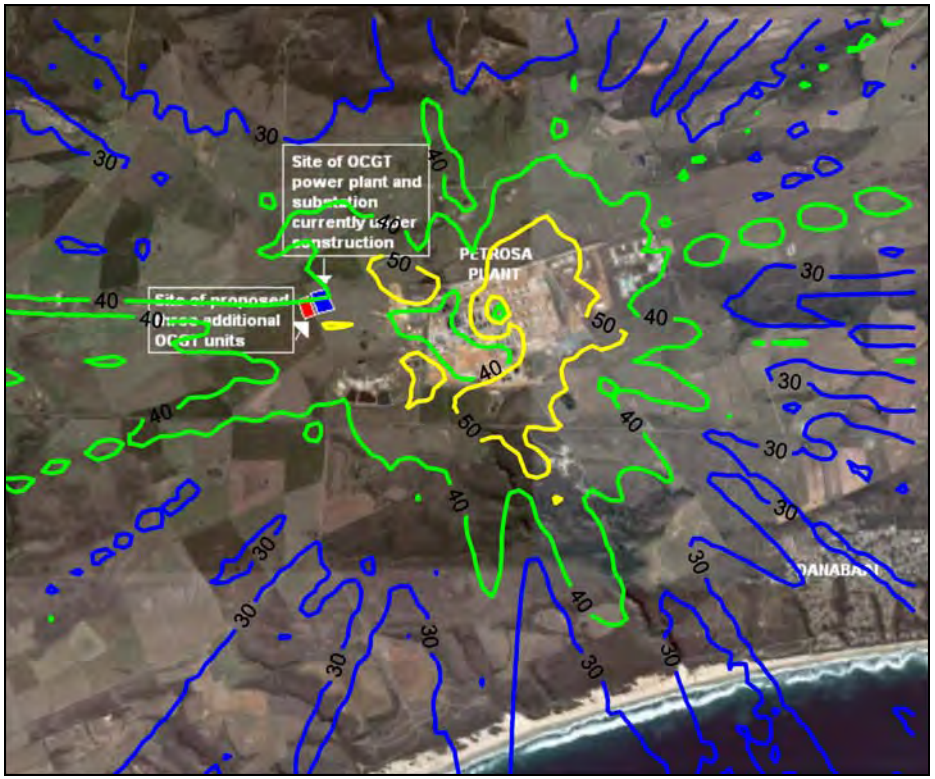

Figure A-95: Highest hourly predicted CO ground level concentrations (µg/m³) for the PetroSA refinery.

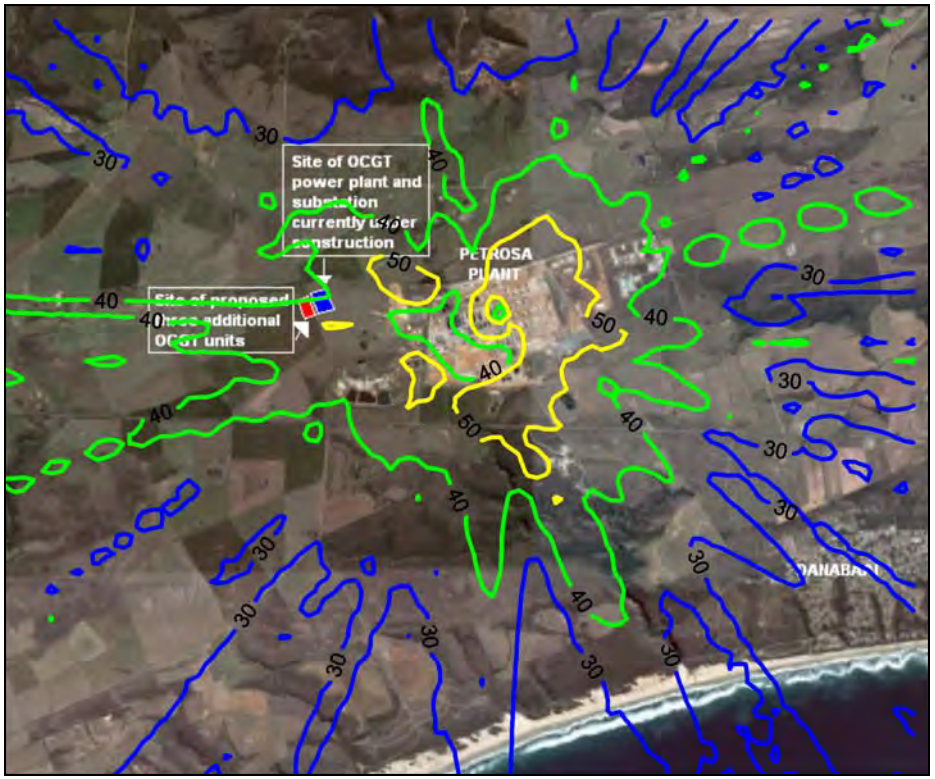

Figure A-96: Highest hourly predicted CO ground level concentrations (µg/m³) for all sources (PetroSA refinery and 6 units at power station operating 6 hours per day).