

Table 5.3h
Changes in Maximum Hourly Average Concentrations (μgm^{-3})
under Typical Photochemical Smog Conditions

AQMS	Nitrogen dioxide	Threshold	Ozone	Threshold
Central/Western	20.1	279.9	-19.8	259.8
Mong Kok	11.6	288.4	-7.0	247.0
Sha Tin	6.2	293.8	-2.9	242.9
Yuen Long	6.0	294.0	-0.7	240.7
Tsuen Wan	9.3	290.7	0.2	239.8
Kwai Chung	10.6	289.4	-0.4	240.4
Sham Shui Po	11.7	288.3	-11.3	251.2
Kwun Tong	18.0	282.0	-2.5	242.5
Tai Po	11.1	222.9	-0.9	240.9
Maximum	41.5	N/A	7	N/A
	East of Chai Wan		South of Lamma	

Increased peak nitrogen dioxide concentrations are predicted at all AQMS. As described in Table 5.3a, the AQMS at Kwun Tong, Mong Kok and Sham Shui Po reported exceedances of the AQO in 1997 and it is predicted that these will continue. The largest increases are predicted to be at the Central/Western and Kwun Tong AQMS but Central/Western is not anticipated to result in exceedances of the AQO. For example, the maximum reported nitrogen dioxide concentration at the Central/Western AQMS in 1997 was $205 \mu\text{gm}^{-3}$, the predicted increase of approximately $20 \mu\text{gm}^{-3}$ (~10%) would result in a concentration of $225 \mu\text{gm}^{-3}$ in 2016, well within the AQO of $300 \mu\text{gm}^{-3}$. The number of exceedances reported at Kwun Tong could increase from two to three; nevertheless, the stations would still remain compliant with the AQO. Figure 5.3e presents the predicted changes in peak nitrogen dioxide concentrations on a territory-wide basis. It is evident from the figure that increases in concentrations are predicted in most areas. The most significantly impacted areas are in Chai Wan and Lei Yuen Mun, where increases of at least $30 \mu\text{gm}^{-3}$ are predicted. Maximum hourly nitrogen dioxide concentrations are predicted to increase by at least $2.5 \mu\text{gm}^{-3}$ across the whole of SAR under these type of conditions.

Peak ozone concentrations are predicted to decrease at all AQMS except Tsuen Wan, although for the reasons stated above, it is anticipated that increases in concentrations would arise down wind of the urban areas. As anticipated, reductions in ozone concentrations are predicted for those AQMS that are predicted to record increased nitrogen dioxide concentrations. It is possible that this phenomenon will result in the Central/Western AQMS being fully compliant with this AQO; however, the predicted decrease in concentrations at the Sha Tin AQMS is not expected to reduce the number of non-compliances reported. The reduction in peak concentrations at Central/Western has reduced the number of exceedances from one to zero. Figure 5.3f shows the predicted changes in maximum hourly ozone concentrations. In many respects, this figure can be considered to be a "mirror image" of the data presented in Figure 5.3e, areas which are predicted to have significant increases in nitrogen dioxide levels are shown to have reduced levels of ozone. The most significant