

Table 5.3t
Changes in Daily Average Concentrations (μgm^{-3})
under Typical Photochemical Smog Conditions

AQMS	Nitrogen dioxide	Threshold	RSP	Threshold
Central/Western	8.8	141.2	2.1	177.9
Mong Kok	-5.2	155.2	2.0	178.0
Sha Tin	-5.3	155.3	0.8	179.2
Yuen Long	-2.3	152.3	0.2	179.8
Tsuen Wan	-4.9	154.9	0.0	180.0
Kwai Chung	-6.9	156.9	0.8	179.2
Sham Shui Po	-5.5	155.5	0.8	179.2
Kwun Tong	-3.7	153.7	1.9	178.1
Tai Po	-4.4	154.4	0.1	179.9

In 1997 the AQMS at Kwun Tong, Mong Kok and Sham Shui Po all reported non-compliances for nitrogen dioxide (greater than $150 \mu\text{gm}^{-3}$). The predictions indicate that concentrations at these stations would all be likely to decrease under photochemical smog conditions, relative to levels reported in 1997. Analysis of the complete set of AQMS data for 1997 indicates that the number of exceedances reported at Mong Kok is expected to reduce to four per annum, and hence this station will still be non-compliant with the AQO. At the Sham Shui Po AQMS, two exceedances of the AQO are anticipated, a reduction from the three reported in 1997. The situation for Kwun Tong will remain the same as that of 1997 where 1 exceedance of daily RSP and 2 exceedance of NO_2 are predicted. The only increase is predicted to arise at the Central/Western AQMS which was in compliance with the standard in 1997 and is expected to remain so under this scenario.

Figure 5.3u presents the predicted territory-wide changes in nitrogen dioxide concentrations during a photochemical smog event. Reductions of 5 to $15 \mu\text{gm}^{-3}$ are predicted in large areas of the New Territories, including the urban areas of Tai Po, Sha Tin, Kowloon, Kwun Tong and Tseung Kwan O, and the central and southern regions of Hong Kong Island. Increased nitrogen dioxide concentrations are predicted along the north shore of Hong Kong Island, the Western Harbour, Lamma Island and the East Lamma Channel. Increases in excess of $7.5 \mu\text{gm}^{-3}$ are predicted in the Central/Western and Green Island areas.

Exceedances of the daily average AQO for RSP ($180 \mu\text{gm}^{-3}$) were reported for the Kwun Tong and Sha Tin AQMS in 1997 and under photochemical smog conditions, levels of RSP at these two locations are anticipated to increase by 1.9 and $0.8 \mu\text{gm}^{-3}$ respectively. Increase in concentration is predicted to occur at the Mong Kok AQMS and the threshold value is within $1 \mu\text{gm}^{-3}$ of the maximum concentration recorded in 1997 and hence the possibility of an exceedance cannot be eliminated.

Figure 5.3v presents the predicted changes in RSP levels across the SAR. The changes range from $-1 \mu\text{gm}^{-3}$ to $+2.5 \mu\text{gm}^{-3}$. Increases of $2.5 \mu\text{gm}^{-3}$ are predicted in Tsim Sha Tsui, Wan Chai and Causeway Bay areas.