

Maximum Hourly Average Concentrations of Nitrogen Dioxide and Ozone

Table 5.3u presents the changes in predicted maximum hourly average concentrations of nitrogen dioxide and ozone under typical photochemical smog conditions.

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

AQMS	Nitrogen dioxide	Threshold	Ozone	Threshold
Central/Western	12.5	287.5	-7.5	247.5
Mong Kok	-1.1	301.1	7.3	232.7
Sha Tin	-7.6	307.6	7.5	232.5
Yuen Long	-10	310.0	1.1	238.9
Tsuen Wan	-17.8	317.8	2.7	237.3
Kwai Chung	-15.4	315.4	-0.4	240.4
Sham Shui Po	-7.7	307.7	5.4	234.6
Kwun Tong	2.5	297.5	7.7	232.3
Tai Po	-13.2	313.2	0.9	239.1
Maximum	17.2	N/A	14.9	N/A
	Chai Wan		Junk Island	

Increased peak nitrogen dioxide concentrations are predicted at only one of the AQMS, i.e.: Central/Western. 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 number of exceedances reported at Mong Kok remains at four instances thereby is the only station deemed non-compliant. It is predicted that Kwun Tong and Sham Shui Po AQMS would continue to report two exceedances of the AQO per annum, remaining in compliance. The largest increase is predicted to be at the Central/Western AQMS but is not anticipated to result in exceedance of the AQO.

Figure 5.3w presents the predicted changes in peak nitrogen dioxide concentrations across the SAR. It is evident from the figure that both significant decreases and increases in the concentrations are predicted over quite large areas, however many areas predicted to encounter increased concentrations are over Hong Kong Waters. Increases of more than $7.5 \mu\text{gm}^{-3}$ are predicted in the Chai Wan, Lei Yue Mun and south of Tseung Kwan O. Central/Western and North Lamma Island are similarly impacted. Significant reductions in nitrogen dioxide concentrations are predicted in most parts of the New Territories. An extensive area of reduced concentrations is also predicted for much of Lantau Island.

Peak ozone concentrations are predicted to increase at all AQMS with the exception of Central/Western and Kwai Chung. The most significant increases are predicted at the Kwun Tong, Mong Kok and Sha Tin AQMS, although exceedances of the AQO are not predicted in Kwun Tong and Mong Kok. Figure 5.3x shows the predicted changes in ozone concentrations, most notable are the significant reductions in ozone concentrations in an area defined by the West Kowloon Reclamation, the western sector of Hong Kong Island and along the East Lamma Channel. Increases in ozone