

## ***Review of the Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 1992***

In July 1988 the Minister for the Environment declared an Environmental Protection Policy (EPP) to control sulfur dioxide concentrations in the air around the residential areas of Kalgoorlie-Boulder. Sulfur dioxide is a waste gas produced by the mining industry in the processing of gold and nickel ores which contain sulfur compounds. At this time the major sources of sulfur dioxide in Kalgoorlie region were the three gold roasters located in Boulder along the Golden Mile and the Kalgoorlie Nickel Smelter to the south of the city.

The 1988 EPP established air quality objectives and, through licence conditions, required industry to monitor the levels of sulfur dioxide at approved locations to ensure that these objectives were achieved. If the air quality monitoring system indicated that air quality objectives were being exceeded, the contributing industries would have to cease operations. This Policy led to the three gold roasters being replaced by the Gidji gold roaster north of Kalgoorlie.

In 1992, following a review of the 1988 Policy, the Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 1992 and Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Regulations 1992 were declared. These replaced the 1988 Policy and extended the Policy area to encompass other residential areas in the Goldfields region, including the towns of Coolgardie and Kambalda and the Kurrawang Aboriginal Reserve between Kalgoorlie and Coolgardie. The 1992 Goldfields EPP, which exists as at April 2002 (the time of writing), also established more stringent air quality objectives in the form of a sulfur dioxide limit which is not to be exceeded at any time, and a standard which it is desirable not to exceed. The limit is enforced as a condition of licences issued to sulfur dioxide emitting industries. A breach of licence condition is an offence under the Environmental Protection Act 1986, and may result in prosecution.

At the time of writing the 1992 Goldfields EPP is under review. A revised EPP is expected to be approved in 2002.

Under the 1992 Goldfields EPP monitoring has taken place on a regular basis at several sites as shown on Figure 1 (Coolgardie and Kambalda not shown). Compliance has been required with the 1992 Goldfields EPP air quality standard of  $700 \mu\text{g}/\text{m}^3$  (micrograms per cubic metre of dry air at 0 degrees Celsius and one atmosphere pressure), which is equivalent to 0.245 parts per million (ppm) of sulfur dioxide by volume of dry air, with an allowed number of exceedences. Since January 1997 the number of allowed exceedences has been eight (8) per calendar year. A review of the 9th highest 1-hour average concentration of sulfur dioxide recorded at the Kalgoorlie Regional Hospital monitoring site indicates that compliance with the 0.25 ppm was actually achieved in 1993 and has continued since. This is shown graphically in Figure 2, which is a plot of the 9th highest concentration for the years 1983 to 2001. The dramatic reductions in 1990 and 1997 coincide with the closure of Golden Mile gold roasters and the commissioning of an acid plant for sulfur dioxide control at the nickel smelter respectively.

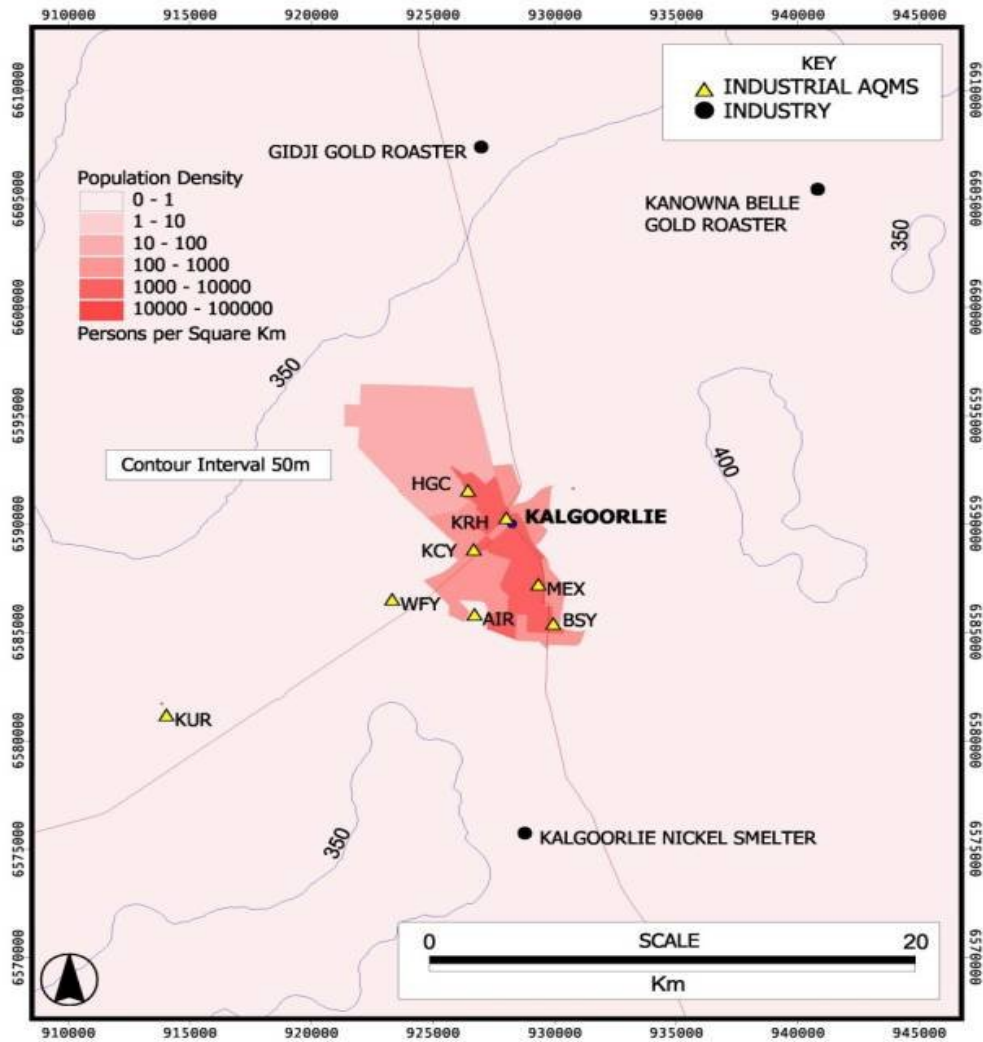


Figure 1

### 9th Highest 1-hr. averaged SO<sub>2</sub> concentration at Kalgoorlie Regional Hospital

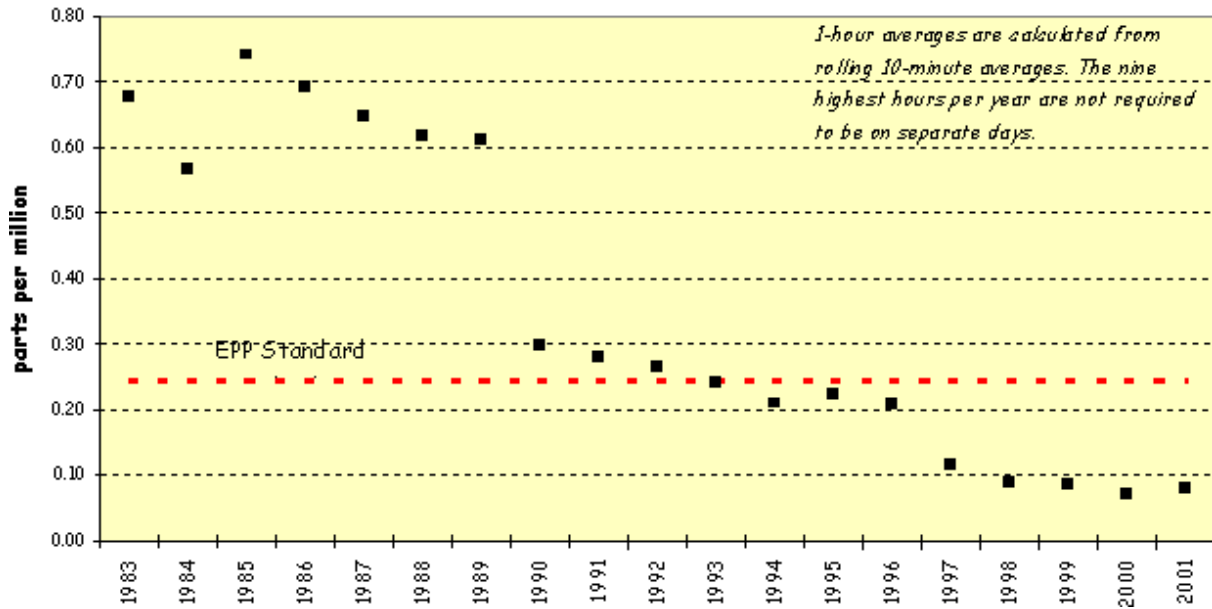


Figure 2