



Kemerton, Australia HEALTH, SAFETY & ENVIRONMENT REPORT 2007

Kemerton Chlor Alkali, Australia

Nufarm Coogee at Kemerton in Western Australia operates a modern membrane plant supplying chlorine to Lyondell for the manufacture of titanium dioxide.

The plant

was built in 1988. As well as supplying chlorine to Lyondell, we also produce caustic soda, hydrochloric acid and sodium hypochlorite. We are now into our second 15 year supply contract with Lyondell.

It uses modern membrane technology and hence uses neither mercury or asbestos diaphragms that are in use in plants of older design.

Health and Safety Performance

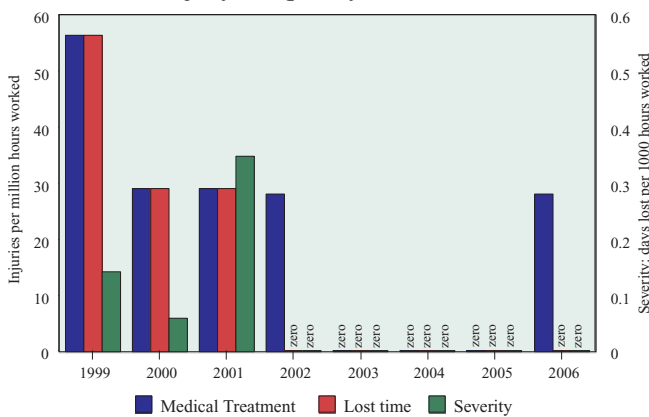
We have not had a lost time injury on the plant since 2001. Since then, we have worked for 210,500 hours free of serious injury, which has earned us a corporate safety award.

Last year, one of our people was removing an electrical tie with a pen knife from a lifting sling. The tie had been used to keep the sling rolled up; the knife slipped and he received a cut to his hand which required three stitches, there was no lost time.

We continue to focus on safe working, with an active safety committee that comprises all of the employees on site whenever our safety committee meeting is scheduled.



Injury Frequency Rates



Note: All lost time injuries are also counted as medical treatment injuries

Major Hazard Facility

The site still operates as a Major Hazard Facility administered by the Department of Consumer and Employee Protection. There have been no incidents during the year, and there is nothing of any significance to report.



Community

The company continues to be active in supporting several local community and sporting events, with the main one still being the City of Bunbury Eisteddfod, an event which we have sponsored for the last 16 years.

Expenditure

Apart from the normal expenditure on safety and environment matters, during 2006 we installed a defibrillator in our first aid room. We also completed the installation of new salt dissolvers, a project that we reported on in detail in last year's report. As well as completing the new salt dissolvers this year the brine treatment system has also been substantially upgraded with the incorporation of a third ion exchange unit and the installation of a 'magnesium dissolving' process. In this process the colloidal magnesium that was passing through the coke filters and being a solid therefore not being removed at the ion exchange stage was deposited in the membranes. It is now solubilised by acidification after the coke filters and then partially re-alkalised before going to the new ion exchange system in a soluble form for removal. Results from this upgrade have been excellent.

\$A	2002	2003	2004	2005	2006
Safety	70,000	107,000	98,000	155,000	56,000
Environment	66,000	61,000	823,000	998,000	529,500



New brine dissolvers

Salt in Aquifer

Over the years we have had a number of leaks of salt water to the aquifer under the site. Shortly after commissioning, an underground pipe broke and it took us some time to find out concentrated brine was leaking. We have reported previously that we have recovered this salty water from the aquifer and salt levels returned to somewhere near normal for the area.

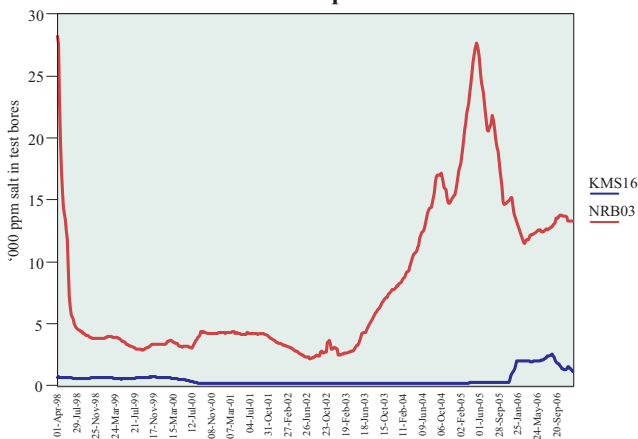
In late 2003, we noticed that salt levels in the aquifer were again rising. We traced the leak to the in-ground salt dissolvers. These were concrete and lined pits in which we dissolved salt to make a concentrated brine for our chlorine cells. The pits were repaired, new lining was fitted - not very successful. Two years ago, we reported a trial using a spray on rubber coating for the inside of the brine dissolvers. This was only partly successful.

We then made the decision to build entirely new brine dissolvers. In the meantime, we were extracting water from the aquifer to recover the salt that has escaped during the last year or so. The new brine dissolvers have been built, two photos over the page show the completed units.

We have a large number of sample bores around our site. The graph below shows the salt concentration in two of these. NRB03 is very close to the salt dissolvers, measuring the above problem. KMS16 is downstream of the salt dissolvers and measuring salt some distance from the dissolvers. We think that the small rise in salt shown by KMS16 is due to disturbance of the soil during excavation for the new dissolvers. It is taking a little longer that we anticipated, but it now looks as though the salt levels at this location is declining. The new dissolvers are based on the best designs we could find and are double walled to make sure we know if the inner wall starts to leak and are designed so we can capture any brine that leaks through the inner wall.

The peak concentration of salt close to the dissolvers has declined, but seems to have reached a constant. We are not sure why, and are investigating further.

Salt in Aquifer



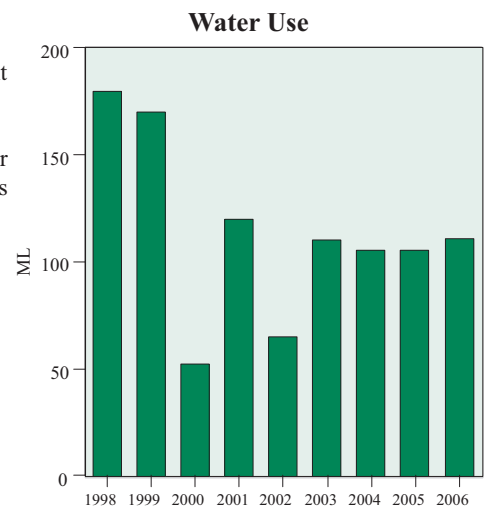
Energy Performance

Energy efficiency has deteriorated over the past year and it appears that the activity of the cathode coatings is decreasing. We had not anticipated this. Renewed efforts to reactivate these are in situ. As our cells are at the leading edge of design, and our cathode coatings were an advance in lowering energy use. We need to seek means to regain that advantage, preferably without having to shut down the operation of the plant. Steam consumption is still well down since the double effect caustic soda evaporation project was completed.

Year	MWhr/ton
1998	3.25
1999	3.27
2000	3.17
2001	3.05
2002	2.96
2003	2.99
2004	3.07
2005	3.09
2006	3.18

Water Use

Water use has remained very steady over recent years with by far the highest use being made up for evaporative losses from our cooling tower.



New Employees

During the year we lost our lab technician Barbara Pellick who transferred to the Kwinana plant and was subsequently replaced by Lee-Anne Walters. Barbara had been with us for over 9 years. Also during the year Brian Bevans retired after more than 16 years service. He is now doing a bit of fly in/ fly out maintenance up north to keep himself amused. Brian has been replaced by Greg Meyer who comes to us after many years working at Peters Creamery at Brunswick Junction.

Lee-Anne and Greg at work



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