

Benbow Environmental Services

Environmental Management Systems

The Environmental performance of your organisation is often of interest to many of your stakeholders including employees, shareholders, regulators and the surrounding community. An Environmental Management System (EMS) is an internationally recognised means for a company to demonstrate their commitment to the environment.

An EMS provides a systematic approach for companies to identify and manage their interactions with the environment, meet their environmental objectives and ensure ongoing compliance with the applicable legal requirements. An EMS also provides the framework for continuous improvement in environmental performance at the site. In addition to improved environmental performance and community relations, other potential benefits of an EMS include improved cost control, and conservation of raw materials and natural resources.

Car Sharing

IS IT THE FUTURE FOR OUR CITIES?

The development of densely populated cities has bought about a range of environmental, social, and economic benefits. These include a reduction in the rate of urban sprawl, the opportunity for more people to have access to public facilities and services (e.g. public transport), and consolidation of construction and infrastructure costs. However, we are all only too aware that cities are also responsible for creating new issues and a source of some of life's daily frustrations.

One aspect that modern urban living has not yet cured, is the need for a car. Public transport, walking and cycling can certainly be offered to replace many of the reasons for owning a car, but there are still occasions where a private car has a distinct advantage. This shortcoming of alternative transport means has been termed the "mobility gap".

A report prepared by the Australian Greenhouse Office considered how the gap might be narrowed though through car-sharing. Car-sharing is a system where car-sharing organisations (CSO's) offer a fleet of cars to the public for private use. The system differs from renting in that the cars are usually available 24 hours per day, 7 days per week, and the cost of usage may be calculated on time scales as small as an hour, meaning that a car could be used for a short trip to destinations such as a shopping complex. Furthermore, CSO's aim to distribute their fleets across cities to provide easy access to car-less citizens (e.g. within range of train stations or dense residential areas), unlike car rental companies who might have only have a small presence with several branches located in commercial sectors of a city.

Although there is still some variability in how different CSO's operate, a common system model is to provide users of the service with a smart card and a pin code which they use to unlock and activate a vehicle. Billing is normally calculated by a computer in the car which arranges for payment electronically. The cost to the user is based on how far the car is driven and the time of use. Thus there is a direct incentive to drive less to save more.

Car-sharing has been successfully implemented by various CSO's around the world in countries including the USA, Canada, Britain, Germany, Switzerland, Italy, and Singapore.

Benbow Environmental have prepared EMS' to the ISO14001 standard for a variety of industries. Some of these include:

- Tyre shredding and recycling facilities;
- Steel fabrication and galvanising operations;
- Poultry farms, hatcheries and processors;
- Rail industry;
- Waste paper recycling;
- Coal bed methane conversion plants;
- 154MW Cogeneration plant;
- Adhesives manufacturers; and
- Collagen production and processing facilities.

To find out more about the steps involved in implementing an EMS please contact our Environmental Management section.

The concept of car-sharing offers a range of benefits. The immediate and most obvious benefits are the convenient use of a car for an individual without purchase, insurance and maintenance costs. Furthermore an individual need not own a parking space, and need not find one when driving by merely dropping the car at a CSO station or drop-off point. In some overseas cases local councils have even been encouraged to offer car-sharing vehicles priority in desirable parking locations. Organisations can also minimise vehicle costs and on-site parking needs by unloading their fleet and subscribing to a CSO. Car-sharing can be attractive to organisations particularly if their fleet has a low usage annually.

Benefits to the community come in the form of less parking spaces being needed for private vehicles, making that space available for community recreational use or landscaping. There is also an opportunity for pollution to be reduced by CSO's purchasing fuel-efficient or hybrid vehicles.

Developers and planners have found car-sharing to be profitable by reducing the number of on-site parking spaces needed for high-rise developments. There have been cases overseas where CSO's consisting of a small fleet of cars were set up to service apartment blocks, the fleet needing only a fraction of the spaces that would have been required if each apartment was assigned a space.

Although there was uncertainty as to whether car-sharing would be suitable for Australian cities, since our cities are more dependent upon cars than most European cities, at least one operator has managed to grow from a small fleet based in Newtown to a CSO servicing several suburbs of Sydney and Melbourne. Car-sharing may just yet go towards enabling us to relinquish some of our private vehicles and make our cities a little more liveable.

References:

"Car sharing: An overview", Australian Greenhouse Office, Department of the Environment and Heritage, December 2004, [Available on-line] www.greenhouse.gov.au/publications/carsharing.html



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Business Card competition

The staff of Benbow Environmental are pleased to announce the winner of this years Benbow Environmental Business Card competition is Don Outzen from Intercast & Forge at Seven Hills. Don was drawn from over 200 entrants on day 3 of the Safety Show. Don wins a complimentary dinner for two at the River Canyon Restaurant in Parramatta.

Interactive inquiry survey

As a direct response from our representation at The Safety Show 2006, we have acknowledged the need for an interactive inquiry survey to address client needs. The survey can now be accessed via our company website at www.benbowenviro.com.au. On completion of the survey, a consultant specialising in your areas of concern will contact you to provide specific information oriented to educate or resolve your specific environmental issues.

Steel fabrication & galvanising plant

Congratulations to Ingal Civil Products who have received approval for their new steel fabrication and galvanising plant at Minto. Ingal will be relocating and upgrading their existing operations from Kirrawee, which will enable them to implement best practice technology and environmental management at the new site. Benbow Environmental assisted Ingal by preparing the Environmental Impact Statement to the standard required by regulatory bodies and undertook the consultation with the council, community, DEC and other regulatory authorities.

Benbow Environmental News Update

Engineering a Sustainable Future for Our Environment

Issue 3 December 2006

Best Wishes

for the Festive Season



The staff of Benbow Environmental would like to take this opportunity to wish all our Clients and Associates a Merry Christmas and Happy New Year. We thank you for your support during the year, and look forward to continuing to work together in 2007.

Please note our office will be closed from 12 noon on Thursday 21st December 2006. We will reopen for business on Monday 8th January 2007.

Safety & Environment

prove a good mix at the Safety Show 2006



Benbow Environmental's stand at the Safety Show 2006

Benbow Environmental mixed safety and environment with Australia's leading safety specialists at this year's Safety Show at Sydney Olympic Park, Homebush. Over 290 organisations with expertise in safety and environmental solutions exhibited their products and services ranging from safety shoes to spill clean up equipment, manual handling equipment, glow paint and consultancy services.

The Safety Show was held over 3 days from 17th to 19th of October. The event is a dedicated Workplace Health and Safety Trade Show that was sponsored

by WorkCover NSW. Over 10,000 health and safety professionals from a variety of industry sectors attended the show.

The staff of Benbow Environmental, lead by Environmental Scientist, Samantha Sims and Senior Environmental Engineer, Linda Zanotto presented the broad range of occupational and environmental services offered by the organisation. Creatively designed educational posters were exhibited to address occupational and environmental subjects such as Silicosis, Dangerous Goods Practices and Asbestos Exposure. A captivating and informative company presentation attracted enthusiastic viewers to learn about assessments including occupational hygiene, occupational & environmental noise, air impact assessments, cleaner production, environmental and risk management, auditing and many more.

Benbow Environmental staff distributed brochures informing readers of our success in completing projects for a number of industry sectors in best practice technologies, environmental management and occupational safety solutions.

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Engineering a Sustainable Future for Our Environment

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Dangerous goods and chemical management

Emergency Response Plans

Does your site have notifiable quantities of dangerous goods?

If so, then you are required to provide an emergency plan as determined by the Occupational Health and Safety Regulation 2001.

On the 1st of August this year the NSW Fire Brigades released Policy No. 1: 'Guidelines for Emergency Facilities Having Notifiable Quantities of Dangerous Goods'. Produced by the Fire Safety Division of NSW Fire Brigades, this document outlines the recommended minimum requirements of emergency planning at facilities that notify to WorkCover. The document provides procedural and operational guidelines to facility managers to address emergency response at their site.

Several Western Sydney facilities have initiated advanced emergency planning that exceeds the minimum requirement recommended in the guidelines. Benbow Environmental have assisted these sites in simplifying emergency response communication and developing a strong incident response system

to minimise potential miscommunication and reduce 'thinking time' in the event of an emergency. Quick dissemination of information and a functional response plan structure can benefit your company significantly in the event of an emergency by minimising response time and establishing more efficient and effective management of the situation.

Benbow Environmental work to incorporate these guidelines to a site's existing emergency plans and procedures, or alternatively can provide a complete emergency plan specific to facility requirements. This would also require appropriate re-training of staff to ensure the new plan can be efficiently implemented in an emergency situation. By updating and simplifying your emergency plan, and re-training staff, the safety of personnel, business security and infrastructure preservation would significantly improve.

The new emergency planning guidelines are available on the NSW Fire Brigades website www.nswfb.nsw.gov.au or contact our office for more

Toxic Release - Emergency Impact Footprints

In line with the guidelines produced by the NSW Fire Brigades for emergency plans, a number of visual aids are often required to be incorporated into a site's emergency plan. One of these visual aids is an isopleth depicting the area of effect of a potentially harmful toxic release.

Benbow Environmental can provide estimations of potential leak scenarios, and recommend the resulting impact footprint be incorporated into the site's emergency plan. As an example, from an ammonia gas tank or refrigeration chillers, a release may arise from a failure or leak in process equipment.

The impact footprint helps emergency response personnel in evacuating the areas most at risk. These areas may include the site, and also surrounding business or residential areas.

Emergency impact footprints are determined via the use of sophisticated air dispersion modelling packages. Benbow Environmental has extensive experience in the use of such packages as CAMEO and EFFECTS.

CAMEO incorporates the ALOHA dispersion model which can predict the atmospheric dispersion rate and direction of vapours in an emergency situation, and can also generate a visual representation of the plume created during a chemical release. EFFECTS performs calculations to predict the



Example of an Emergency Impact Footprint showing different levels of toxicity

physical effects, such as gas concentrations, of the escape of hazardous materials, and can also be utilised to determine potential release rates, and concentration footprints for the use in Emergency Plans.

An example of a release impact footprint is shown on the left. Each contour line represents a different concentration, and the colour represents the severity of the concentration predicted at these areas (i.e. red is potentially more threatening to life than yellow).

Benbow Environmental has extensive experience in providing emergency plans for facilities throughout Australia. For further information on emergency plans or emergency impact footprints, please contact our office.

Take our 1 minute Emergency Response Plan health check

Does your emergency plan indicate the locations of the following?	YES	NO
Spill kits, drain seals		
Stormwater isolation		
Natural gas and power isolation		
Potential water supplies, town and static water		
Nearest waterway		
Fire safety equipment such as hydrants, hose reels, boosters, sprinklers shutoffs		
Assembly areas for an evacuation		
Dangerous goods storage depots		
Other hazardous materials locations		
Isolation points for dangerous goods		
Emergency Impact Footprint for release of toxic substances		
Nearest sensitive locations, such as residences or community areas		

Acoustics Update

Changes to the Industrial Noise Policy in NSW

The Industrial Noise Policy (INP) has been updated by NSW Department of Environment and Conservation (DEC). The INP provides guidelines for assessing noise emission from industrial sources. Based on the assessments completed by professional acoustic consultants, the DEC often update or clarify aspects of the policy by releasing application notes.

One of the recent application notes released in July 2006 introduced an amended method to properly assess amenity noise criteria in areas where high traffic noise is present.

The application note states that:

"In areas where traffic flow is continuous and noise from industrial sources is inaudible or difficult to measure due to a high level of road traffic noise, and where the $L_{Aeq, (period), traffic}$ noise level is more than 10 dB above the ANL (Acceptable Noise Level) presented in Table 2.1, the ANL is replaced by $L_{Aeq, (period), traffic}$ minus 10 dB. This becomes the new ANL for the receiver area.

Once the new ANL is determined, the project-specific amenity criterion can be determined by following the modification process given in Table 2.2."

The amended assessment process means that the site is not penalised for noise that is related to the traffic, and the noise criterion for the proposed development is generally higher than it would have been if the traffic noise was not taken into account.

The advantages of this amended assessment process to the proposed development includes potentially increased production, extended operational hours and reduced cost for noise mitigation measures.

Benbow Environmental (BE) have been utilising this amendment in assessments of noise issues for proposed and existing developments and can advise the best possible options in terms of noise controls and maximising operations.

Construction Standards and the Building Code of Australia

Part F of the Building Code of Australia (BCA) regulates minimum acceptable construction standards for buildings in relation to acoustical requirements. These sound insulation provisions have been amended and came into effect on 1st May 2004 and will be reviewed and amended annually.

The amendment was a response to increasing complaints that the previous BCA (BCA 1996) sound insulation requirements did not meet community expectations. The amended sound insulation provisions set more stringent acoustical requirements including sound transmission between inter-tenancy walls and floors, and noise relating to hydraulic services.

The key points include:

- Increased control of the level of airborne sound transmission through inter-tenancy wall and floors;
- Introduction of impact sound insulation requirements for inter-tenancy floors;
- Increased control of the level of sound transmission relating to water pipes and duct work; and
- Introduction of on-site sound testing as an option for verifying compliance of construction.

Acoustic experts, such as Benbow Environmental have welcomed the amendment allowing on-site testing to verify compliance of building elements.

This option requires specialised equipment to complete the assessment, however it allows the acoustic performance to be verified during initial stages of construction. Previously, a laboratory tested system was used, where the selections were usually limited. Unlike laboratory testing, onsite testing confirms to the developer or builder whether their design meets the required standard in 'real life'. This feature can then be marketed to their clients or potential purchasers.

Although the amended BCA sets minimum standards for privacy in multi-dwelling buildings, a Star Rating System prepared by the AAAC (Association of Australian Acoustical Consultants) can also be referenced for developments. Owners of luxury apartments built to BCA standards have often become dissatisfied with performances in relation to acoustic privacy. The AAAC Star Rating is useful to fulfill these higher expectations of acoustical quality. This guide has been prepared principally by and for AAAC members, but it is expected that this guide would also be used by designers, developers and purchasers of apartments.

The rating system will not compete with established BCA, AS/NZS Standards or local authority building regulations, rather it is intended to be complementary to all of these requirements.

An AAAC Rating Certificate can only be issued by an AAAC member firm such as Benbow Environmental.

Safety Show 2006 – Continued from Page 1

A safety exposure guide prepared especially for distribution at the Safety Show 2006 provided information on potential health effects of a variety of substances that you may be exposed to on a daily basis. For a copy of the brochures, posters or safety exposure guide, contact one of the friendly consultants at Benbow Environmental.

Overall Benbow Environmental gained exceptional exposure to existing and new clients to our new business name and provided informative environmental and occupational solutions to new industries. We

introduced two new assessment services previously not offered by our expanding company, these assessments being Architectural Acoustic & Vibration Testing, and Emergency Response Plans & Training.

Samantha and Linda would like to thank all who supported Benbow Environmental at this year's Safety Show. Due to the positive exposure & outcomes from The Safety Show exhibition, Benbow Environmental will be back, bigger and better at next years safety show. We hope to see you there!