

## **SYDNEY HARBOUR BRIDGE WORKS**

### **Background**

The Sydney Harbour Bridge (SHB) was opened on 19 March 1932 after six years of construction. Made of steel the bridge contains 6 million hand driven rivets. The surface area that requires painting is equal to about the surface area of 60 sports fields. The Bridge has huge hinges to absorb the expansion caused by the hot Sydney sun. You will see them on either side of the bridge at the footings of the Pylons.

The Sydney Harbour Bridge (SHB) Works is a section of the Roads and Maritime Service (RMS) that maintains the bridge and SHB precinct in all aspects including routine and capital works. These include bridge painting, pavement maintenance, bridge rehabilitation, electrical maintenance and corridor maintenance. SHB has about 100 staff and 40 of them are specially qualified painters.

The Sydney Harbour Bridge was painted with lead based paint in the old days. This is now replaced by non-lead based paint. In the process of removal of the old lead based paint from the bridge, the employees can be exposed to lead particles. The Sydney Harbour Bridge has procedures in place consistent with the recommendation of Safe Work NSW to protect its employees, the public and the environment from any exposed lead particles released from the work on the SHB.

The RMS informed the public about its work plans and these can be viewed on the following website <http://www.rms.nsw.gov.au/projects/sydney-inner/sydney-harbour-bridge/maintenance-technology/repainting-work.html>

### **Scenario**

As an occupational physician, you are a member of a team of health and safety experts invited to do a Health and Safety Audit of the Sydney Harbour Bridge. The areas assigned to be audited by you are:

1. The wash room, the plant room and the change room
2. The process of removing paint from the bridge by 'blasting'

Feel free to ask the staff at the SHB questions to assist you to assess the OH and S aspect of the workplace. The lists of questions below will serve as a 'check-list' for your audit.

- 1. What were the occupational and environmental hazards you have identified in each of the areas you have inspected?**







**4. Who do you need to involve to develop and implement the new health surveillance program?**

**5. What legal considerations are required in the implementation of the program?**

## **HARBOUR CITY FERRIES (HCF)**

### **Background**

HCF commenced on 28 July 2012 as the operator of Sydney Ferries on the behalf of the NSW Government (Transport for NSW and the NSW Minister for Transport) for a period of seven years.

Harbour City Ferries employs around 650 staff at any given time and operates 170,000 services per year throughout Sydney Harbour and its related waterways.

The maritime workers are categorised as:

- Masters
- Engineers
- General Purpose Hands

The Master is the captain of the vessel and is in charge of safely navigating the ferry to and from destinations. The work is mainly standing.

The Engineer is on board the vessel completing work in the wheelhouse as a lookout and stationed at back up controls, and also completes maintenance work on the vessel as required. This can involve climbing into confined spaces such as engine rooms and void spaces.

The General Purpose Hand (GPH or 'Deckhand') is in charge of safe passage on and off the ferry for the passengers and providing customer service. They are responsible for tying/ untying the vessel from wharves and using the gangway to allow passengers to get on and off.

The most physical role in nature is the General Purpose Hand role. A copy of the Task Analysis for the General Purpose Hand role is attached for your reference.

### **Scenario**

You provide occupational medical services to a number of companies. You have been approached by the Return to Work Specialist at Harbour City Ferries to advise on an appropriate process for fitness for duty examinations for employees. As part of this, you have been invited onto the site to familiarise yourself with the environment, requirements and hazards of the site.

Although pre-employment medical assessments are completed, there are currently no repeat fitness for duty assessments after commencing employment. Harbour City Ferries have concerns that in addition to the issue of the ageing workforce, some employees may have become deconditioned after commencing employment and may no longer be fit for duty. There are concerns that they may be at risk of injury.

**1. What are the main risks if Harbour City Ferries employees are not fit for duty? Consider the risks relating to the Master, Engineer and General Purpose Hand role.**

**2. What advice would you give Harbour City Ferries about the benefits of implementing a fitness for duty examination process? Consider both the benefits for Harbour City Ferries and the employees.**

**3. How often would you recommend that Harbour City Ferries conduct fitness for duty examinations after commencement of employment?**

**4. Outline what you would recommend to be included in the fitness for duty examination for each role (Master, Engineer and General Purpose Hand)**

**5. What legal and ethical considerations are required in the implementation of the new fitness for duty examination process?**

## **THE AUSTRALIAN NUCLEAR SCIENCE & TECHNOLOGY ORGANISATION (ANSTO)**

### **Background**

The Australian Nuclear Science & Technology Organisation (ANSTO) is Australia's national nuclear organisation and the centre of Australian nuclear expertise. The Australian Nuclear Science and Technology Organisation Act 1987 prescribes its general purpose.

ANSTO operates four research facilities (The Bragg Institute, The Institute for Environmental Research (IER), The Institute of Materials Engineering (IME) and ANSTO Life Sciences), manufactures radiopharmaceuticals, performs commercial work such as silicon doping by nuclear transmutation and also manages radioactive waste.

The ANSTO campus located at Lucas Heights is about 40km southwest of the Sydney CBD and spread over 70-hectares. ANSTO consists of more than 80 buildings including a motel, football fields, squash courts, a swimming pool and bush walking tracks. ANSTO employs more than 500 scientists, engineers and technicians and accommodates approximately 5000 national and international researchers each year.

### **Scenario**

You are a new Occupational Physician contracted to implement a Pre-Placement Medical Assessment program at ANSTO. As part of this, you have been invited onto the site by the Occupational nurse at ANSTO to familiarise yourself with the environment, requirements, and hazards of the site.

**1. What occupational and environmental hazards do you identify on this unique work site?**

**2. What control measures did you observe?**



## **TARONGA ZOO**

### **Background**

Taronga Zoo, situated on Bradleys Head, was officially opened on its current site on 7 October 1916. Taronga Zoo cares for 4,000 animals from over 350 species, many of which are threatened.

In striving to care for its animals Taronga Zoo:

- delivers a comprehensive veterinary care program with the resources and capacity for high quality medicine, surgery, diagnostics and pathology, and meeting current international standards for zoo and wildlife health care
- regularly monitors each animal appropriate to the health and wellbeing requirements for that species
- provides preventative health care programs, including effective quarantine for all incoming animals and the prevention of disease incursion from staff, visitors and free-ranging animals
- ensures staff awareness and understanding of Taronga's policies, procedures and reporting processes, and training relating to animal health
- provides staff with training in animal management, handling, conditioning, transport and animal welfare
- undertakes only animal encounters and presentations that deliver Taronga's conservation messages in an appropriate context and focus on natural behaviour, whilst providing for the dignity of the animal and not compromising the welfare of the animal
- carefully plans and properly prepares animals prior to transport and/or transfer to/from another zoo, exhibit, or presentation area
- develops and delivers Taronga's formal in-house training programs; ongoing 'on the job' training and professional development.

### **Scenario**

You provide occupational medical services to Taronga Zoo and you have been approached to provide advice in relation to the role of Zoo Keeper. Zoo Keepers are responsible for delivering high standards of animal care, supporting the zoo's breeding programs, conducting animal training and management practices for all the animals. Junior Zoo Keepers rotate through different animal exhibits but senior Zoo Keepers tend to specialise in one exhibit.

At recruitment, applicants for the role of Zoo Keeper complete a health declaration, advising if they have any pre-existing medical condition that may affect their capacity to perform the role. Taronga Zoo is seeking your advice in relation to documenting the job demands and hazards of the role of Zoo Keeper with a view to improving pre-employment medical screening processes.

**1. List the physical job demands of a Zoo Keeper with particular reference to the elephant and giraffe exhibits?**

**2. What other hazards are Zoo Keepers exposed to?**

**3. What infective agents could be of concern in the zoo environment and outline sources of risk?**

**4. How would you control the hazard that zoonoses pose to Zoo Keepers?**

**5. How may Q Fever be transmitted to Zoo Keepers**

**6. Outline the process to test and vaccinate for Q Fever**

## **SOLAR INDUSTRY RESEARCH FACILITY (SIRF) – UNIVERSITY OF NEW SOUTH WALES**

### **Background**

The Solar Industrial Research Facility (SIRF) is a showcase facility for solar cell research and development and a key educational asset for training the future leaders of the photovoltaics industry. It is the first facility of its kind in Australia. The SIRF was completed in 2011.

The SIRF aims to:

- demonstrate advanced solar cell manufacturing technology to a global customer base
- retain the existing PV research skill base and attract high profile international researchers and collaborations
- provide undergraduate engineering students access to hands on training in a solar cell production line
- provide undergraduate, post graduate and academic research staff from around Australia access to industrial manufacturing capabilities.

The facility includes:

- a silicon solar cell production line showcasing screen printed silicon monocrystalline and multicrystalline cells
- three laboratories for developing and demonstrating industrial scale advanced technologies.

### **Scenario**

You have been approached by the site manager to comprehensively review the Work Health and Safety Management System at the SIRF. The SIRF has a number of important and uncommon hazards, and he is concerned that existing risk controls, incident response and personnel health and safety systems may be out of date. As part of this process, you have been invited to familiarise yourself with the environment, processes and hazards at the site.

**1. What are some of the hazards you have observed at the site?**

**2. What control measures did you observe for these hazards?**

**3. Some hazards at SIRF require specific emergency management protocols or incident management protocols. Identify these hazards. What protocols and risk controls are present for those hazards?**

**4. Do personnel at the SIRF currently undergo hazard monitoring and health surveillance activities? Is this required based on the hazards present at the facility?**

**5. How might you systematically assess the Work Health and Safety systems at facilities like the SIRF? Identify the relevant guidelines, policy, regulatory or legislative, or locations that would be essential for your assessment? If guidance was limited, how would you approach the assessment?**

## **SYDNEY TRAINS**

### **Background**

The first railway in Sydney was opened between Sydney and Parramatta in 1855. Since that time the passenger network has grown to 961km of electrified track and 178 stations over eight lines. Over 1 million customer journeys occur each weekday and over 340 million customer journeys annually. Approximately 3,200 trips are timetabled per weekday. Sydney Trains was formed in 2013 when RailCorp was split into a suburban operator, Sydney Trains, which is also responsible for maintaining the network and fleet, and NSW TrainLink which operates the intercity and country services.

### **Scenario**

**1. Outline the main job demands of a train driver**

**2. List the main safety systems on the train and trackside**

**3. Describe the train signal aspects and what they mean**

**4. You are an authorised health professional asked to review Mr Smith who is aged 54 and has worked as a train driver for Sydney Trains for 34 years. He presents for a routine category 1 assessment and you note his blood pressure to be 192/100 reducing to 184/96 after 15 minutes rest. His cardiac risk level is calculated to be 12% and he is asymptomatic. What would be your next steps?**

**5. You are an authorised health professional asked to assess Mr Clarke, who is a train driver, for a category 1 assessment. What factors on history and examination would lead to you request a sleep study?**

**6. Mr Clarke's sleep study shows severe sleep apnoea. Outline the next steps. How is compliance measured? What are the options if treatment is refused?**

## **THE SYDNEY OPERA HOUSE**

### **Background**

The Sydney Opera House is a World Heritage-listed masterpiece of 'human creative genius' that belongs to all Australians. Since opening in 1973, Jørn Utzon's masterpiece has become a meeting place for matters of local, national and international significance as well as a site where arts of all kinds flourish.

It is Australia's number one tourist destination and its busiest performing arts centre, welcoming more than 8.2 million visitors a year and hosting more than 2,000 performances attended by more than 1.5 million people.

The Sydney Opera House is an Executive Agency of the NSW Department of Planning and Environment. The Sydney Opera House is operated and maintained for the Government of New South Wales by the Sydney Opera House Trust, which is constituted as a body corporate under the Sydney Opera House Trust Act 1961.

The daily operations of The Sydney Opera House involve performing arts (venue hire and performances), visitor experience (food and beverage, tours, retail and ticketing) as well as critical organisational functions such as security and corporate administration.

### **Scenario**

You are the nominated occupational physician contracted to oversee occupational health and work place injury management to The Sydney Opera House employees. You are asked to assess a senior sound engineer who is experiencing hearing impairment and a ringing noise in his right ear after being exposed to a sudden loud noise at work due to a faulty sound system.

**1. Describe in detail how you would go about this?**

**2. Other than noise, what are the other occupational and environmental health hazards to this work place?**

