ORICA AUSTRALIA PTY LTD: Yarwun Cyanide Production Facility

Re-Certification Audit: International Cyanide Management Code - Production Verification Protocol

Summary Audit Findings Report

4 – 6 October 2016

SUSTAINABILITY
FUTURE GROWTH

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SUMMARY AUDIT REPORT

Facility:	Yarwun Production Facility
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LOCATION DETAIL AND DESCRIPTION OF OPERATION

Orica Australia Pty Ltd (Orica) operates the Yarwun production facility which is located 9 km north-west of Gladstone, Queensland. The facility has been in operation for 26 years and Orica operates the following plants at the site:

- Three Nitric Acid plants
- Two Ammonium Nitrate plants
- An Ammonium Nitrate Emulsion Phase plant
- An Expanded Polystyrene plant
- A Chlorine and derivatives plant
- A Sodium Cyanide plant

The facility also operates two raw material import facilities at the Fisherman's landing port, located approximately 5km north of the main site. The facilities incorporate ammonia and caustic soda unloading and storage facilities that are connected to the site through an underground pipe network. The site employs approximately 220 personnel along with up to 100 contractors. At any one time the maximum number of persons likely to be on-site is between 150-200 personnel.

The Plant utilises four main raw materials to produce sodium cyanide liquor and cyanoids (briquettes of sodium cyanide). These common materials are ammonia, rich methane gas (RMG), process air and caustic soda.

The process commences with the mixing of the three gases: ammonia, RMG and pre heated process air. These gases are reacted in the converter to produce hydrogen cyanide gas. The HCN gas produced is cooled passing through the waste heat boiler and the process gas economiser then transferred to the selective absorber where the HCN gas is absorbed into caustic soda to form sodium cyanide liquor. The absorber has a large recirculating stream to remove the heat of reaction. From this stream, NaCN liquor is taken off to feed the evaporator, with any surplus going to the evaporator feed tank. Any impurities which build up in the NaCN liquor are purged to the sales liquor tank.

The complex contains two production plants which operate two different processes to form the final product which is then transported off site.

AUDITOR'S FINDING

This operation is:

☑ in full compliance

☐ in substantial compliance

☐ not in compliance

with the International Cyanide Management Code Production Facility Verification Protocol.

This operation has not experienced compliance problems during the previous three-year audit cycle.

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Names and Signatures of Other Auditors

John Miragliotta
30 January 2017

Date(s) of Audit

Inclusive of the period from 4 – 6 October 2016.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Production Facilities and using standard and accepted practices for health, safety and environmental audits.

30 January 2017

Signature of Lead Auditor | Date

PRINCIPLE 1 – OPERATIONS

Design, construct and operate cyanide production facilities to prevent release of cyanide.

Production Practice 1.1

Design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 1.1
	☐ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Production Practice 1.1, requiring the operation to design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.

Orica has implemented quality control and quality assurance programs during construction of cyanide and storage faculties at the Yarwun manufacturing plant. Some areas of the cyanide manufacturing and storage facilities at the plant have been subject to modification since the March 2013 re- certification audit. Orica has retained quality control and quality assurance records through their SAP system for works completed including the upgrade to a dryer scrubber; replacement of a sales liquor tank; replacement of mother liquor tank and the concrete flooring of the bulk packaging area. Appropriately qualified personnel have provided verification sign off that plant modifications conducted over the certification period have been implemented in accordance with the approved design.

The materials used for construction of cyanide production facilities at Yarwun are compatible with the reagents used and the process employed. The site has developed a Cyanide Basis of Safety Document which provides commentary on the minimum design and material standards including piping specification and minimum secondary containment.

System interlocks and shut down mechanisms are included in the designs and incorporated in as built drawings. These have not changed since the previous recertification audit. The Plant is located on a concrete surface that has been sealed.

Multiple alarms and indicators are available to assist in the control of the Plant and to prevent the overfilling of cyanide process and storage vessels. These include high level, high pressure and high temperature alarms. These alarms are accessible to operators through the control panel. These were viewed in a Process Control document to control tank levels.

The Yarwun facility has implemented model procedures for design and construction of secondary containment for process and storage tanks to ensure that the materials used provide a competent barrier to leakage and sized to hold at least 110% of the volume of the largest vessel within the containment area and any piping draining back to the containment area. Spill prevention and containment measures are provided for all cyanide solution pipelines through the implementation of model procedures during construction and modifications. Flange guards are provided on all pipe connections.

Production Practice 1.2

Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 1.2
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 1.2, requiring the operation to develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases.

The Orica facility implements a Safety, Health and Environment management systems, including policies, standards and procedures, to ensure safe and environmentally sound operations. Each section of the plant has its own operating procedures and work instructions which incorporate the required safety and environmental information. These are set out in a systematic manner and include a suite of documents related to all aspects of the operation. A range of these documents were viewed during the audit. The policies, procedures and work instructions are revised on a regular basis to ensure these are current.

A range of abnormal operating instructions exist to manage operations outside of normal operations. These procedures specify the instructions for dealing with equipment failures, pipe blockages, extreme rainfall or when operating condition parameters are exceeded. The facility also operates a Site Emergency Plan that identifies possible emergency scenarios and to define response strategies.

The site operates a management of change process which guides change management on the plant. Additionally, the permit to work system links to the management of change system such that approved modifications are to be attached to permits for changes to the plant.

Preventative maintenance programmes are in place and are managed through the plant maintenance management system - SAP. Process parameters are monitored within the process control system via the DCS. This can be seen via the DCS and referenced on plant ELD's. Preventative Maintenance (PM) routines are developed in line with manufacturers recommendations for effective operation of the equipment.

The site operates a stormwater retention and effluent management system that ensures all water contained in secondary containment is drained following rainfall events to ensure capacity is retained and safe access is maintained. Waste management plans and procedures are in place to ensure that wastes generated on site are disposed of in an appropriate manner.

Cyanide is stored with adequate ventilation on site and under cover on a drained floor. The storage warehouse is located within the site security fence with access strictly controlled.

Containers are labelled with the appropriate Dangerous Goods Signage, and other warning signage including UN Number, batch number and standard multi-jurisdictional identifier.

Production Practice 1.3

Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 1.3
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 1.3, requiring the operation to inspect cyanide production facilities to ensure their integrity and prevent accidental releases.

Routine inspections are undertaken of cyanide manufacturing and handling equipment and a Maintenance Plan and schedule was sighted in SAP to guide these activities. The SAP entries specify the timing of maintenance and provide a link to a work scope. The maintenance inspection schedule is planned by the Asset Integrity Engineer and completed using Orica's maintenance personnel or external contractors. The cyanide plant drainage and effluent system, including secondary containment and transfer systems, are subject to recorded daily inspection. Cyanide pipe loops are identified in SAP and have allocated planned maintenance inspections. Records were available to support these inspections being undertaken at appropriate intervals.

Inspections schedules and records of failure indicate that the inspection frequency is sufficient. Inspection schedules have been modified for some equipment based on the ongoing review of maintenance and inspection plans.

Programmed maintenance items that have been completed generate an inspection record that is either scanned and loaded into SAP or saved in the shared drive. All reviewed maintenance inspections records included the name of the person completion the work, signature and date of completion.

PRINCIPLE 2 – WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

Production Practice 2.1

Develop and implement procedures to protect plant personnel from exposure to cyanide.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 2.1
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 2.1, requiring the operation to develop and implement procedures to protect plant personnel from exposure to cyanide.

Orica has Operating Procedures that address aspects of operations from raw materials through to product packaging. These procedures address worker safety issues in regards to minimising worker exposure to CN.

Orica operates a management of change process which guides change management on the plant. Additionally, the permit to work system links to the management of change system such that approved modifications are to be attached to permits for changes to the plant.

Orica operates a SHE committee among other forums for generating regular SHE discussions at a site level. This provides an open forum and access to the management team open to all personnel such that input can be provided and considered on a regular basis.

The Plant uses both fixed and personal monitors for the monitoring of cyanide. Fixed monitors feedback to the control room. In high noise areas the monitor is linked to a visual aid for indicating potential issues. Testing of fixed monitors is incorporated with the SAP system and a register of testing undertaken was sighted. HCN/cyanide dust monitors alarm at 4.7 ppm as cyanide. Records of testing were available during the audit.

Orica has completed surveys and risk assessments to identify where workers may be exposed to HCN gas and sodium cyanide dust at more than 4.7 ppm and would therefore require protective equipment or other controls. The prime area of concern is the solid NaCN packaging area. Specialised PPE (airflow hood) is used in this area. Fixed monitors are also provided in this area. Ongoing annual hygiene plans and surveys continue to refine and review that these areas and associated controls remain accurate. Health and Hygiene Monitoring programmes are in place in order to determine that employees are fit for work. The Hygiene Programme is based upon Orica Standards and a Plan for the year is developed. The number of measurements undertaken is said to be based on that required to statistically give meaningful outcomes. Hygiene plans for the audit period were reviewed.

All operators are provided with radios. Phones are also provided to ensure that workers can communicate with other personnel for assistance. A tag-in board is in use on the plant and safety showers are alarmed if activated.

A procedure is in place requiring clothing to be changed to enter the Cyanide Plant. Specific PPE requirements exist for the Cyanide Plant and these are summarised in a poster that is provided within the changing room. Dirty clothing is collected and removed from site for laundering in a controlled manner.

Signage was evident during a Plant walk around which included requirement for PPE in specific areas. A hygiene procedure specifies the need for hygiene requirements after entry to the Cyanide Plant. This procedure prohibits smoking, eating and drinking in all chemical handling and storage areas except for dedicated food mess areas. The prohibited areas are delineated through signage throughout the plant.

Production Practice 2.2

Develop and implement plans and procedure for rapid and effective response to cyanide exposure.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 2.2
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 2.2, requiring the operation to develop and implement plans and procedure for rapid and effective response to cyanide exposure.

The Yarwun Site Emergency Response Plan (ERP) has been revised and implemented during the audit period. The structure of the ERP has been modified to meet Queensland legislative requirements as a Major Hazard Facility and a desire to standardise across Orica operations.

The ERP covers all Yarwun operations and includes content related to a range of cyanide release scenarios including:

- Loss Of Containment (LOC) - CN Tail Gas;
- LOC of Sodium Cyanide (solid/liquid);
- Chemical Complex Fire;
- Fire in Cyanide Warehouse; and
- Cyanide Poisoning

Showers and eye-wash stations are located at various levels within the Cyanide Plant. Locations are listed in the site emergency plan. Operational instructions include weekly maintenance inspections of safety showers and eye wash stations. Completed weekly checks for these items were reviewed in hard copy for the audit period.

Multiple deluge and eye-wash stations, resuscitators and oxygen are provided across all levels of the cyanide plant (these were observed during the site inspection). In addition, there are resuscitators and oxygen retained within the Control Room and the site Medical Centre. Plant communication is documented in the Emergency Response Plan and through the site Plant Communication procedures. Cyanide antidote was available and in date at the time of the audit.

All first aid equipment is subject to regular inspection both internally and through third party contractors where appropriate. Records are available to confirm inspections are conducted.

Hard copy Material Safety Data Sheets (MSDS) are available in English language in the plant control room, laboratory, receiving stores and administration building MSDS are also available electronically. CN Storage tanks are labelled. Much of the piping is marked in the Plant. Plant personnel indicated that there is an ongoing effort required to maintain labelling because of the tendency of labels to fall off due to high temperatures and the nature of the work environment.

De-contamination of the Plant by operations is proceduralised and carried out by competent, authorised personnel only.

The site has First-Aid capability to provide initial assistance to workers exposed to cyanide. The Yarwun facility maintains a full time registered Nurse and requires Level 3 qualified First Aiders across all work shifts. The facility has developed procedures to transport exposed workers as part of its Emergency Plan.

The facility has alerted local hospitals and has provided training to Doctors. A power point presentation of the training provided to medical personnel was sighted. In addition, there is also the opportunity for medical personnel to visit the site.

A range of mock drills were conducted on site through the audit period. These ranged from internal exercises amongst shift crews, internal exercises formally facilitated by an outside provider and major drills involving external agencies.

Any contact with liquid within the Plant is considered to be a potential exposure to cyanide and procedures are put in place to take the potentially affected person to the hospital. All such events are included as incidents in the Incident database and are followed up in accordance with the Incident Investigation procedure.

PRINCIPLE 3 – MONITORING

Ensure that process controls are protective of the environment.

Production Practice 3.1

Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

The operation is	☑ in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Production Practice 3.1

Orica is in FULL COMPLIANCE with Production Practice 3.1, requiring the operation to conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

The Yarwun process facility does not have a direct discharge to surface water under normal operating conditions. All discharges of stormwater from the site during the period of certification have been monitored and have not exceeded 0.5 mg/L WAD CN.

The facility maintains a treatment and collection system that is designed to collect and treat waste effluent and first-flush stormwater run-off from process areas that may be contaminated. Collected process effluent and first flush run off stormwater is collected in storage tanks within the cyanide process facility for treatment with sodium hypochlorite prior to discharge to the site effluent and retention ponds where the water is analysed prior to discharge to the trade waste effluent pit and finally to a licensed trade waste facility.

The facility maintains an extensive network of groundwater monitoring bores at and surrounding the site. Groundwater investigations have identified historic contamination beneath the Yarwun facility but monitoring has confirmed that this contaminated plume has not resulted in measurable offsite impact to surface waters. There are no ground water limits established in the Environmental Authority and no identified beneficial users of groundwater in the vicinity of the Yarwun facility.

Limits for atmospheric HCN gas emissions from the scrubber stacks are outlined within the sites environmental permit. The limits have been established with the environmental regulator in consultation with the relevant government departments such as Queensland Health in consideration of worker health and community protection. Monitoring for HCN gas at each scrubber discharge, Vents 1 and 2, are undertaken weekly in accordance with the Environmental Authority requirements.

The facility monitors for WAD CN, Total CN and Free CN in surface water and for WAD CN and Free CN in groundwater at locations up gradient and downgradient of the plant site.

Groundwater monitoring programme at the Yarwun facility has been carried out since 2009 and a review of the annual reports verifies that the sampling frequency is sufficient to identify potential risks to groundwater or surface water from site activities and the identified groundwater contamination beneath the cyanide process facilities.

Surface water sampling at the facility is opportunistic depending on rainfall, presence of surface water in drains and stormwater discharge events from the Yarwun facility. The monitoring reports for groundwater and surface water confirm that the monitoring frequencies are sufficient to meet program objectives.

PRINCIPLE 4 – TRAINING

Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

Production Practice 4.1

Train employees to operate the plant in a manner that minimises the potential for cyanide exposures and releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 4.1
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 4.1, requiring the operation to train employees to operate the plant in a manner that minimises the potential for cyanide exposures and releases.

The facility maintains a site training matrix for which outlines minimum training requirements for all staff positions, and relevant contractors, across operational areas. The training includes site inductions and Cyanide Basis of Safety training material which is a requirement for all employees and contractors who work in or near operational cyanide areas. The training and induction material provides awareness of cyanide hazards, minimum PPE requirements, cyanide management controls, response to spills and emergencies, and basic first aid requirements.

Cyanide Basis of Safety training has a validity of 3 years before refresher training is required to be completed. Employees and relevant contractors who undertake work on the plant are required to re-sit the General Site Induction every 2 years. All employees are trained prior to working with cyanide. These training requirements are outlined in the Basis of Safety document and are managed in the Orica Yarwun Site Training System.

Training records are maintained that demonstrate compliance with the minimum training requirements for each position or operational area. Records of completion of these packages were reviewed during the site audit.

Employees and relevant contractors are trained to perform operational and maintenance tasks within their relevant work areas to ensure that these tasks are undertaken in a manner that minimises the risk to worker health and safety and in a manner that prevent unplanned cyanide release. The training materials in place at the Yarwun facility reflect key competency requirements for each position and identify priority elements in regards to health and safety provisions.

Training is provided in each functional operational area by appropriately trained subject matter specialists. These trainers are generally experienced operational employees with significant expertise and experience in the operations. Overall there are 19 certified Training Assessors on site.

Orica Yarwun training is competency based. Evaluation is required to confirm competency standards have been achieved. Competency and training evaluations methods vary and include:

- Written assessment
- Oral assessment
- Practical demonstration
- Observation of behaviours

Production Practice 4.2

Train employees to respond to cyanide exposures and releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 4.2
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 4.2, requiring the operation to train employees to respond to cyanide exposures and releases.

Emergency response guidelines and procedures are developed from the Basis of Safety document and the Facility Emergency Response Plan. The training matrix identifies the procedural training requirements for staff at the facility.

The site induction contains emergency response information in the event of a cyanide release. This information is also included in the visitor's induction. Training in operational procedures includes information on cyanide releases.

Training is provided to all personnel who work in the cyanide process areas in regards to response to worker exposure to cyanide. A range of mock drills were conducted on site through the audit period. These ranged from internal exercises amongst shift crews, internal exercises formally facilitated by an outside provider and major drills involving external agencies. These exercises are reviewed and documented to identify areas for improvement in emergency response actions including if response personnel have the knowledge and skills necessary for effective response to cyanide exposure incidents.

Records are kept by the Yarwun facility training personnel and within the Orica corporate systems to support competency evaluation.

PRINCIPLE 5 – EMERGENCY RESPONSE

Protect communities and the environment through the development of emergency response strategies and capabilities.

Production Practice 5.1

Prepare detailed emergency response plans for potential cyanide releases.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 5.1
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 5.1, requiring the operation to prepare detailed emergency response plans for potential cyanide releases.

The Yarwun Site Emergency Response Plan (ERP) has been revised and implemented during the audit period. The most recent version (Rev 22) is dated 15th June 2016. The structure of the ERP has been modified to meet Queensland legislative requirements as a Major Hazard Facility and a desire to standardise across Orica operations.

The facility Yarwun Site Emergency Plan includes consideration of potential failure scenarios which are specific to its environmental and operating circumstances as required for compliance with this Standard of Practice. Specifically, evacuation of site personnel is discussed as are neighbouring businesses as appropriate. The ERP outlines response required from various responder roles in the event of exposure to cyanide and the use of first aid and cyanide antidotes as applicable. It includes containment measures, prevention of material entering stormwater systems and isolation of liquid and solid cyanide products and ensures that assessment, mitigation and future prevention of releases is considered in the detailed plans for gas release and spills (solid and liquid).

Production Practice 5.2

Involve site personnel and stakeholders in the planning process.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 5.2
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 5.2, requiring the operation to involve site personnel and stakeholders in the emergency response planning process.

The facility communicates with its employees and stakeholders regularly. Toolbox meetings are held regularly with workers to discuss emergency response and other health and safety aspects. A Major Hazard Facility flyer providing communication to off-site neighbours was sighted.

The Orica Site is also part of the Mutual Aid Response group for the area which provides a forum and process for locally based emergency responders to input to Yarwun's emergency response planning.

Emergency response scenarios are identified during the site risk assessment process (reviewed) which outlines existing controls in place to reduce risk.

The facility has regular stakeholder meetings and several meeting minutes were viewed. Evidence of printed material and web site was sighted.

Production Practice 5.3

Designate appropriate personnel and commit necessary equipment and resources for emergency response.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 5.3
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 5.3, requiring the operation to designate appropriate personnel and commit necessary equipment and resources for emergency response.

The ERP identifies appropriate Emergency Response personnel and resources including primary and alternate emergency response coordinators with appropriate authority to commit resources. Contact information and call out procedures are listed. Emergency response equipment and its inspection regime is described within the document as is the role of outside responders. The ERP requires that responders are trained appropriately and that team member roles and responsibilities are listed.

Outside entities that have been included in the ERP are aware of their roles with the response structure and were consulted during the most recent revision. The Mutual Aid Group Gladstone is the primary forum where any issues are discussed related to emergency response. Mock drills are conducted that involve outside response agencies.

Production Practice 5.4

Develop procedures for internal and external emergency notification and reporting.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 5.4
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 5.4, requiring the operation to develop procedures for internal and external emergency notification and reporting.

The ERP includes contact information for all relevant parties including management, outside responders including local medical facilities and regulatory agencies.

Specific role cards have been developed for external communications and media liaison, which outline notification procedures for response and communication with these agencies.

Production Practice 5.5

Incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

	☑ in full compliance with	
The operation is	☐ in substantial compliance with	Production Practice 5.5
	☐ not in compliance with	

Orica is in FULL COMPLIANCE with Production Practice 5.5, requiring the operation to incorporate into response plans and remediation measures monitoring elements that account for the additional hazards of using cyanide treatment chemicals.

The Emergency Response Plan includes information related to chemical spills and includes the recovery, neutralisation and decontamination for both solids and liquid spills. It also includes required sampling, the engagement of environmental specialists in the development of a remediation plan and implementation of the waste management procedures.

There are no drinking local water supplies that could be impacted from releases at the Yarwun facility.

The Plan prohibits use of sodium hypochlorite, ferrous sulphate and hydrogen peroxide to treat cyanide that has been released to surface water.

The emergency response plan includes information related to the potential need for environmental monitoring in the detailed response plans for chemical spills and gas releases. In addition, various procedures are available for monitoring of cyanide gas and cyanide in surface and groundwater.

Production Practice 5.6

Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is ☑ in full compliance with ☐ in substantial compliance with ☐ not in compliance with Production Practice 5.6

Orica is in FULL COMPLIANCE with Production Practice 5.6, requiring the operation to periodically evaluate response procedures and capabilities and revise them as needed.

The Emergency Response Plan contains provisions and requirements for revision and is updated at least annually. Evidence of continual revision during the audit cycle was observed.

A range of mock drills were conducted on site through the audit period. These ranged from internal exercises amongst shift crews, internal exercises formally facilitated by an outside provider and major drills involving external agencies.

As part of the ongoing maintenance of the emergency plan the document is reviewed annually or when contact details have changed and also following the outcome of an investigation related to an incident which initiated the emergency plan.