

## Ground Water Treatment Plant Orica Botany Site

Presentation for  
Community Liaison Committee

Presenter – Karin Nilsson  
(Principal Auditor)

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## Auditor

- Karin Nilsson (BSc)/accredited Principal Auditor
- Principal Risk Consultant with Planager Pty Ltd
- 20 yrs experience in the risk management field (hazard and risk management, auditing, engineering reviews, regulatory risk assessments, university lecturing)
  - \* Planager Pty Ltd (Principal Risk Consultant)
  - \* Orica Australia Safety, Health and Environment Division (a Corporate role)
  - \* Association des Industries Belges – Hazard and Risk consultant (non profit organisation for industrial risk management) (Risk Engineer)
  - \* ICI, Risk Management Group (Risk Engineer)
  - \* Ciba Geigy (Process Engineer)



## Aim of Audit

- Department of Planning (DoP) Conditions in the Joint Determining Authority Report require:
  - \* Comprehensive hazard audit;
  - \* In accordance with DoP's published HIPAP No. 5 – *Hazard Audit Guidelines*; and
  - \* Audit report must be accompanied by a program for the implementation of recommendations.
  
- Auditor was approved by DoP

## Scope of Audit

- Operations at the GTP
  - from the point of extracting groundwater from the wells and transfer to the GTP,
  - the operations within the GTP and
  - the transfer of treated water for reuse at process plants within the Botany Industrial Park and at the point of discharge to a stormwater canal.

## Audit Setting

- First hazard audit of the GTP;
- Undertaken 14<sup>th</sup> to 24<sup>th</sup> October 2008;
- Over 4 full days;
- Required to be repeated 3-yearly.

## Audit Activities

### ONSITE:

- Meetings, interviews/discussions, question and answer sessions with Orica personnel and contractors;
- Sighting and reviewing information e.g. records, data, reports etc;
- Site inspections;
- Review of operations;
- Documenting on-site audit findings (audit checklists);
- Receipt of information e.g. reports, correspondence, data and records for off-site assessment;
- Daily de-briefs.

### OFFSITE:

- Audit report preparation;
- CLC presentation preparation.

## Audit Topics

➤ As per DoP Hazard Audit Guidelines requirements:

|                                |                               |
|--------------------------------|-------------------------------|
| •Plant and Process Systems     | •Unusual Incident Reporting   |
| •Process Operator Training     | •Injury/Accident Reporting    |
| •Maintenance Procedures        | •Fire Protection and Training |
| •Safety Training of Employees  | •Emergency Procedures         |
| •Plant Modification Control    | •Management Safety System     |
| •Testing of Protection Systems | •Security of Premises         |
| •Electrical Equipment Handling | •Environmental Protection     |

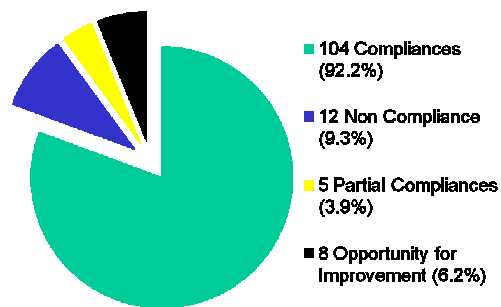
## Personnel Interviewed

|  |  |
|--|--|
| Operations Manager                       | Electrical Planner - Coordinator                             |
| Operators                                | Control & Modelling Specialist                               |
| Clearance Issuer - Operator              | Senior Electrical Engineer                                   |
| Site Environmental Engineer              | Responsible Mechanical Engineer                              |
| Audit coordinator & Environment Engineer | Mechanical Reliability Technician                            |
| Document Developer                       | Maintenance Planner - Mechanical and Reliability Coordinator |
| Process Engineer                         | Analytical Chemist   |

## Audit Findings

- The following pie chart summarises the audit findings (score) for Audit Checklists:

\* 129 audit items in total (100% were applicable).



## Key Findings

- Overall majority conformances.
- 12 non-conformances including.
  - \* Updating and maintenance of documentation;
  - \* Consistency of training requirements for some risk management systems (incident management, emergency training);
  - \* Tighten conformance with Workplace Hazardous Substances requirements;
  - \* Formalise testing of Safety Instrument Function requirements.

## Recommendations

Personal monitoring program for airborne pollutants (VOC).

Review training modules for normal and abnormal operation.

Training in use of SH&E reporting system

Tighten Workplace Hazardous Substances requirements (list, training and assessment)

Improved management of documented procedures.

Complete Safety Instrumented Function testing

Progress project to improve electrical document management

Ensure emergency training and instructions are documented.

## Opportunities for Improvement

Computer screen layouts and information improvements

Increase internal Dangerous Goods audit frequency

Increased labelling of pipes etc.

Documentation improvements (Programmable Electronic Systems change requests, HAZOPs)

## Conclusions

- The hazard and risk management performance of the project is in line with the predictions made and conclusions drawn in the Preliminary Hazard Analysis and other related risk reviews HAZOPs, Fire Safety Study;
- Some aspects of the hazard and risk management of the project can be improved;
- There have been no major incidents associated with the project to warrant mitigation works.