

INTERIM REPORT

NARANGBA INDUSTRIAL ESTATE HEALTH IMPACT ASSESSMENT

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Preamble

In June 2006, Queensland Health commenced work on a Health Impact Assessment (HIA) to assess the actual or potential and direct/indirect effects (positive and negative) on the health of the population from the Narangba industrial estate (NIE).

In November 2006, a Community Reference Group (CRG) was established to oversee the Health Impact Assessment and provide a written report, including recommendations, to the Queensland Government for its consideration.

The HIA is organised into the following broad phases:

First Phase – HIA scope development and representative seasonal (winter) environmental monitoring;

Second Phase – Representative seasonal (summer) environmental monitoring, health risk assessment and community survey;

Third Phase – Recommendation and final report development

The first phase has been completed, with reports provided in August 2007. The second phase has a staggered implementation and is being undertaken from July to December 2007 and includes the health risk assessment component. The final phase, recommendation development, will be undertaken upon completion of phase 2.

It is still too early to draw any conclusions about the outcomes of this project.

Acknowledgements

Queensland Health particularly wishes to thank the community and business representatives on the Community Reference Group. Their willingness to provide the benefit of their local knowledge and expertise, and commitment to attendance at meetings over the extended period, has helped ensure both the rigour and transparency of the process.

Queensland Health would also like to acknowledge the valuable assistance provided by representatives from the following agencies and businesses for their contribution to date:

- Accensi
- Austech Australasia
- Caboolture Shire Council
- Department of Education, Training and the Arts
- Department of Emergency Services
- Department of State Development
- Environmental Protection Agency
- Kingswood Cabinets
- Oil Technology Australia
- Pine Rivers Shire Council and
- Ridley Aquafeed.

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1.0 Introduction

The Narangba Industrial Estate (NIE) has been a particular source of public concern since a chemical manufacturing/storage plant, Binary Industries Pty Ltd, caught fire in August 2005. Community members were vocal in their criticism of how the fire and its aftermath were handled by government.

While the Queensland Government has made considerable investment in the management of environmental contamination as a direct result of the fire, the local population has remained concerned about potential health effects attributable to the industrial estate.

A Community Reference Group (CRG) was established to have oversight of the health impact assessment process. The CRG is responsible for the determination of the health impact assessment scope, implementation, recommendation development, and final report.

This Interim Report provides an update on the progress of the Narangba Industrial Estate Health Impact Assessment.

2.0 Establishment of the Health Impact Assessment

2.1 Background

In June 2006, Premier Beattie announced the Narangba Health Action Plan to address community concerns, particularly the health issues associated with the Binary Industries chemical fire and the ongoing operation of the Narangba Industrial Estate (NIE).

The Action Plan consists of four phases and is based on a Health Impact Assessment (HIA) to be managed by Queensland Health. The focus of the HIA is broader than just an investigation of the impact of the Binary Industries fire; it also examines existing and potential impacts of the whole industrial estate on the community.

The main objective of the HIA is to work collaboratively with the community to independently assess the actual or potential, and direct or indirect effects on the health of the community arising from emissions from the industrial estate. This has been done by reviewing existing data and commissioning additional studies as needed to understand the ongoing cumulative impacts of industry on the community.

This information will identify and examine both the positive and negative impacts of the estate and provide government with a comprehensive statement of actual health risks resulting from it. This will indicate if there are health risks which need additional management strategies beyond those already in place and if relevant, recommendations for managing those risks (commensurate with their level of significance).

After the commencement of the HIA, a second chemical fire occurred on the estate in December 2006. The fire was small but some contaminated fire water

did enter the environment. Fortunately, the contaminated water was able to be contained and was subsequently pumped to holding ponds for treatment. While the level of environmental contamination was minimal, this second fire served to arouse public concern again.

2.2 Community Reference Group

In September 2006, Queensland Health invited Expressions of Interest from members of the community within Narangba, Deception Bay, Dakabin, Kallangur and Burpengary to be part of the Narangba Industrial Estate Health Impact Assessment Community Reference Group (CRG). All applications received in response to this call for Expressions of Interest were subjected to a rigorous selection process.

2.2.1 Membership

The CRG began meeting in November 2006 with the following membership:

Community representatives (7)

- representative general practitioner
- local school representative
- residents affected by the NIE and Binary Industries fire

Industry representatives (6)

- industrial estate businesses group
- employee representative
- chamber of commerce representative
- developer representative

Government representatives (4)

- representative from Caboolture Shire Council
- representative from Pine Rivers Shire Council
- representative from Queensland Health
- representative from state government.

The CRG representatives come from a diverse range of backgrounds and every effort has been made to ensure everyone has an in depth understanding of the issues before major decisions are made. Appendix B provides an overview on the progress of the CRG meetings.

In addition to the above members, the CRG is supported by an independent facilitator; an expert independent technical adviser; and a health advisory panel. Further details about their background and roles can be found in Section 4.

It should be noted that in February 2007 a community representative resigned from the group citing competing priorities and a difference of opinion with the HIA objectives. The CRG decided not to appoint a substitute as it was felt it would be impossible to bring that person up to the same level of knowledge as those members who had been on the CRG since inception.

2.2.2 CRG Terms of Reference

The Terms of Reference (see Appendix C for the details) require the CRG to undertake the following key tasks:

- to make recommendations to the Queensland Government about the health risks associated with the operation of the estate that are currently present, or expected to be present in the future, needing to be addressed
- to confirm the Terms of Reference
- to confirm the scope of the HIA
- to confirm technical study briefs, approve the selection of tenders, monitor their progress and review their findings
- to oversee the peer review of technical studies
- to review the Health Risk Assessment and formulate a Risk Management Profile in consultation with the QH Advisory Group (with the support of an independent technical advisor)
- to make recommendations regarding the project findings and
- to provide general advice to the Queensland Government in relation to the Health Impact Assessment.

2.2.3 CRG approach

The initial CRG meeting agreed on the Terms of Reference and developed meeting procedures. The technical expert and independent facilitator were provided with guidance on their roles. The CRG subsequently agreed on a meeting format, meeting location and proposed dates.

Meetings, which are chaired by the independent facilitator, are attended by all CRG members and the independent technical adviser. It was agreed that where a negotiated agreement on issues could not be reached decisions would be made on a majority basis. In situations where four or more members were not in attendance, any major decisions would be deferred.

For the first two months of the CRG, meetings were held weekly in an attempt to facilitate progress on the HIA.

In her role as independent facilitator, Jan Taylor from JTA Australia conducted an interim review of the functioning of the CRG in January 2007. The review was conducted after the CRG had met five times. As part of the review each member was interviewed one-on-one to identify any deficiencies in the process or frustrations with the style and/or pace of meetings.

This was an extremely valuable exercise as members had the freedom to be very honest about any concerns, procedural weaknesses or desired improvements which if addressed would strengthen their ongoing commitment to the HIA.

Five issues were identified and after discussion at a CRG meeting, changes were approved by the CRG and subsequently implemented by the facilitator and project manager.

Open and frank discussions on the findings of the interim review revealed that members unanimously supported the process the HIA was following, its level of independency and impartiality, and the integrity of information made available

by Queensland Health. However, there was a significant level of mistrust regarding the likelihood of acceptance and action regarding the findings of the HIA report and CRG recommendations by government decision makers.

2.2.4 Independent Facilitator and Technical Adviser

Ms Jan Taylor was appointed as the independent facilitator by Queensland Health and Dr Neville Bofinger was appointed the independent technical adviser with the unanimous concurrence of the CRG.

Ms Taylor has extensive experience in public and private sectors both in Australia and overseas. Her career highlights have included consultancy work with the United Nations (the International Atomic Energy Agency and the Food and Agricultural Organisation), a research position with a major mining company (Western Mining Corporation), her own daily program on the Australian Broadcasting Corporation and senior management positions within the Queensland Public Service. For the last decade she has operated Queensland's largest specialist community consultation organisation.

Ms Taylor's role as facilitator is to ensure the CRG functioned effectively and responsively, that discussions were well-informed, open and equitable, expectations were realistic, and that processes and decision making were transparent.

The role of independent technical adviser is to provide guidance and advice to the CRG on technical aspects of the HIA. Dr Bofinger brings a wealth of experience to the role having previously been President of the Clean Air Society of Australia and New Zealand and is currently the Vice President of the International Union of Air Pollution Prevention Associations. Other positions of note include Student Ombudsman at Queensland University of Technology, and air quality expert on the NSW State of the Environment Advisory Committee.

Ms Taylor and Dr Bofinger are located in Brisbane and have frequent contact with the project manager, Ms Mary Donlevy from Queensland Health, who ensures they have access to all the necessary information and expertise.

2.2.5 Health Advisory Panel

Additionally, a Health Advisory Panel was established to assist the CRG with any health related questions, issues or concerns that might arise during the process. The Health Advisory Panel consists of Dr Gerard Neville, Dr Andrew Langley, Ms Sophie Dwyer and Mr Clive Paige, all Queensland Health staff with significant knowledge in environmental toxicology and public health. The CRG has confirmed their faith in the expertise and integrity of these officers and this in turn has reassured CRG members about the credibility of the process.

3.0 Brief overview of the Narangba Industrial Estate

3.1 Industry history, location and composition

The Narangba Industrial Estate (NIE) was established in the late 1960s to provide for the needs of noxious, hazardous and offensive industries, now referred to as *specialised* industries. These industries are generally difficult to locate, but provide essential goods and services, employ hundreds of local workers and contribute millions annually to the Queensland economy.

The NIE is located approximately 30 kilometres north of Brisbane and borders the local authority areas of Caboolture and Pine Rivers Shires. The Bruce Highway divides the NIE with the smaller portion of the estate located on the western side. The main part of the industrial estate, eastern side of the highway, is where the higher impact industries are located while the western side contains the more general types of industry.

The industrial estate was designed in a concentric circle arrangement with higher impact industry located in the centre of the industrial estate while lighter industry is located on the borders of the estate.

Almost all sites on the estate have now been sold although 40per cent of sites are yet to be developed by their owners. To date there are approximately 74 businesses within the NIE. It contains 2 major hazardous facilities, 14 large dangerous goods locations and an irradiation plant.

The types of activities conducted by businesses within the estate include chemical manufacture, animal hide tanning, waste disposal, crude oil storage, concrete batching, timber chemical treatment, glass manufacture, asphalt manufacture, paper printing, cabinet making, fibreglass pool manufacture and product irradiation.

Figure 1 is an aerial photograph of the Narangba Industrial Estate; the centre being where the higher impact industries are located.



Fig 1 Site map of the Narangba Industrial Estate

3.2 Statutory compliance

Businesses on the estate must comply with a number of statutory requirements. These include (but are not limited to):

- *Environmental Protection Act 1994*
- *Dangerous Goods Safety Management Act 2001*
- *Workplace Health and Safety Act 1995*
- *Fire and Rescue Service Act 1990*
- *Building Act 1975 and*
- *Radiation Safety Act 1999.*

Because the relevant legislation is administered by various government agencies all businesses on the estate have considerable interface with regulatory agencies.

In addition to the above mentioned statutory compliance requirements, businesses may be required to hold licences for certain activities and are also subject to compliance monitoring by the issuing body, for example the Caboolture Shire Council.

3.3 Wind direction

The Environmental Protection Agency has air monitoring stations positioned throughout Queensland. There is a station located at Deception Bay and the following data is based on aggregate information from this station, spanning the period from 1994 to 2006.

Season	Wind Direction AM	Wind Direction PM
Autumn	S-SW	NE
Winter	SW	NE
Spring	N-NE	NE
Summer	SE	NE

Table 1: Wind aggregate data 1994-2006. Source: EPA Deception Bay Monitoring Station

Wind direction and intensity have the ability to impact on surrounding communities through the dispersion of emissions from the industrial estate. Based on the aggregate data contained in Table 1, Deception Bay is the town most likely to be impacted on by wind direction. Existing Mango Hill residents would not experience any impact from the industrial estate as it is not located in a direct wind path.

It is important to note that the new phase of the North Lakes set to commence in the area bounded by the Bruce Highway and along Boundary Rd may experience adverse impacts; for that reason it is included in the scope of the HIA.

4.0 Health Impact Assessment

Health Impact Assessment (HIA) is a process of estimating the potential impact of a chemical, biological, physical or social agent on a specified human population under a specific set of conditions and for a certain timeframe.

The HIA process ensures that human health impacts are carefully considered and balanced with the broad range of other factors that can determine health status. This is important as a problem that is overstated can potentially result in impacts that can compromise the sustainability of a region or present other health and social effects which can be the case if health risks only are examined and considered.

4.1 Health impact assessment process

There are many factors and conditions that influence health outcomes and these are referred to as the determinants of health (Table 2)¹. Some of these factors can be controlled by individuals e.g. smoking, while others are beyond the control of an individual or population e.g. air quality or genetics. Anything that alters a determinant of health may result in an impact on health (positive or negative). Those factors that have the ability to produce a negative effect on health are known as hazards and in an HIA it is often easier and more accurate to measure the hazard directly, rather than measure ill health due to the wide range of variables that have to be considered as illustrated in Table 2.

Health impact assessments should also consider matters such as demographic and health data, special populations, and environmental, social and economic impacts where appropriate, in order to provide a more balanced approach when considering human health impacts.

¹ Health Impact Assessment Guidelines, enHealth September 2001

Fixed	Social and Economic	Lifestyle and Behaviours	Access to Services	Environment
Genes	Poverty	Diet	Education	Air quality
Sex	Employment	Physical activity	Health services	Noise
Ageing	Social exclusion	Alcohol	Social services	Housing
	Community structure and infrastructure	Sexual behaviour	Transport	Water quality
		Drugs	leisure	Social environment
		Coping skills		Risk of injury
		Smoking		Sun exposure
				Disease vectors e.g. mosquitoes

Table 2: Examples of key factors that determine health

The framework for conducting HIAs generally involves the following steps:

- 1) Screening – making a decision about whether an HIA is required
- 2) Scoping – determining the areas the HIA will cover, and setting agreed boundaries to the HIA with regard to its timeframe, breadth of investigation, input of resources, etc.
- 3) Information collection – gathering information from agreed sources (field investigations, community statistics, focus groups, scientific literature etc.) about potential health impacts to enable a health impact evaluation.
- 4) Health impact evaluation – an assessment of the positive and negative health impacts of the NIE.
- 5) Strategy identification– identification of sustainable strategies to improve or eliminate negative health impacts, and enhance or support positive health impacts.
- 6) Health Impact Statement - a summary report of the potential positive and negative outcomes based on evidence, with recommendations to address these outcomes.
- 7) Evaluation and review – A review of the effectiveness of the HIA process itself, and whether health outcomes have been improved as a result of the HIA.

This HIA will examine data relating to demographics, health, environmental health and social and economic impacts to provide an overall summary of the positive and negative outcomes based on evidence. Where any negative outcomes are identified, recommendations for mitigation will be provided.

4.2 Health risk assessment

The term *risk* refers to the likelihood (probability) that an adverse outcome will occur in a person, group of people, plants, animals and/or the ecology of a specified area that is exposed to a particular dose or concentration of a hazardous agent, i.e. it depends on both the level of toxicity of the agent and the level of exposure.²

There are environmental (including human health) risks associated with the industrial estate due to the nature and composition of the businesses located there. The responsibility for managing these environmental risks rests with the businesses and the relevant regulatory agencies. Statutory compliance is just one example of a framework to assist in the management of risks.

This HIA is focussed on identifying any potential health risks rather than environmental compliance issues; however, any non compliance issues will be referred to the appropriate agency for follow up action.

Risk to the environment does not automatically equate with immediate risk to the health of the target population as other factors such as the type of hazard, dose-response and exposure need to be considered before the potential for adverse health effects can be calculated.

Health risk assessment is a process used to appraise health risks in the broader process of health impact assessment. It provides a systematic approach for characterising the nature and magnitude of the risks associated with environmental health hazards. The aim for health risk assessment is to provide the best possible scientific, social and practical information about the risks so appropriate decisions for the management of those risks can be made.

Health risk assessment involves the following five key stages:

- **Issue identification** – identifies issues for the risk assessment and establishes the context for the risk assessment
- **Hazard identification** – identifies what types of adverse health effects might be caused by the problem and how quickly the problems might be experienced
- **Dose-response assessment** – evaluates both qualitative and quantitative information to estimate the incidence of adverse effects at different exposure levels
- **Exposure assessment** – involves determination of the frequency, magnitude, extent, duration and character of exposures to a hazard. This step also takes into account future exposures and the identification of exposed populations.
- **Risk characterisation** – details the nature and potential incidence of effects for the exposure conditions identified in the assessment. This stage also evaluates the uncertainties and assumptions that may have been made throughout the process as they must be considered in any risk management of the situation

² Environmental Health Risk Assessment – Guidelines for assessing human health risks from environmental hazards, enHealth June 2002 p. xxv

This process often involves collecting data to obtain accurate information about environmental health hazards which can then be used to ascertain the current/potential level of risk.

Health risk assessment is dependent on a high degree of scientific skill to provide a credible, objective, realistic and balanced analysis.³

4.3 Scope determination

The Narangba Industrial Estate has a relatively high profile within the area of interest. Since the 2005 chemical fire it has featured regularly in the local media, both print and free to air. The media attitude has generally been negative towards both the businesses and regulatory authorities and in the period before the establishment of the CRG, numerous allegations were made by members of the public regarding certain business activities and their involvement in unregulated and/or illegal emission releases.

CRG members decided that any details surrounding HIA environmental monitoring would be kept confidential until after it had been completed. Environmental monitoring details will therefore not be provided in this report. This will assist in ensuring that ongoing monitoring is conducted under typical conditions and reduce any potential for the misinterpretation of results prior to the completion of the health risk assessment.

Prior to the commencement of the HIA, various reports and monitoring had already been conducted by government agencies. The CRG was provided with copies of those reports and results. Constraints and limitations behind the various reports were explained in person by the authors to enable the CRG to have a clear understanding of the underlying methodologies. The willingness of these experts to attend evening meetings and submit to intensive questioning was very much appreciated. The CRG also examined existing available data.

After seeking advice from the independent technical adviser and the Health Advisory Panel, the CRG agreed that a number of reports and studies should be included within the scope of the HIA.

These include:

- a post event review of the chemical fires that occurred in August 2005 and December 2006
- a range of environmental monitoring studies
- community profile development and
- community survey.

4.3.1 Geographical area of interest

When businesses were first established within the NIE, the surrounding area was rural residential with very little development within the immediate vicinity. This meant that there was a considerable buffer between industry and residential properties.

³ Environmental Health Risk Assessment – Guidelines for assessing human health risks from environmental hazards, enHealth June 2002 p. xii

This is no longer the situation as the demand for housing has led to residential properties being located within 200 metres of the industrial estate. (Further information on the planning framework for Queensland can be found in Appendix D).

Some of these houses are situated within the dominant wind direction for the area and some residents have complained of negative impacts, e.g. odours, from the NIE.

Defining the area of interest for this HIA was difficult and many factors were considered including location of complainants and wind direction.

The industrial estate is immediately surrounded by Deception Bay, Narangba and the yet to be completed Mango Hill development. The suburbs of Burpengary, Dakabin and Kallangur are also within a 6 km radius of the estate.

Deception Bay

Deception Bay is located within Caboolture Shire and lies 30 km north of Brisbane in the south-eastern corner separating the Redcliffe Peninsula and Bribie Island. It has a population of 20,368⁴. The area is a popular launching site for fishing boats into Moreton and Deception Bay waters.

The area consists of two suburbs, Deception Bay and Moreton Downs. Deception Bay is the older of the suburbs with some residential properties located approximately 200 metres north of the industrial estate. Moreton Downs is a relatively new housing estate which is located approximately 300m east of the NIE.

Narangba

Narangba is located within Caboolture Shire and lies to the west of Deception Bay. It has a population of 12,736⁵ and consists of a combination of acreage properties and suburban allotments. The western side of the industrial estate is located here and the nearest residential property is located approximately 50m from the lower impact industries on Old Gympie Road.

Burpengary

Burpengary is located 5 km to the north of the industrial estate within the Caboolture Shire. It is semi rural but is being developed to cater to the increasing demands of Caboolture's expanding population.

Dakabin

Dakabin is located approximately 3 km south of the industrial estate, within the Pine Rivers Shire, and has a population of 1,275⁶.

Kallangur

Kallangur is located approximately 6 km south of the industrial estate and has a population of 15,656⁷. It is located within Pine Rivers Shire Council and is directly south of Dakabin.

⁴ ABS Census Data 2006

⁵ ABS Census Data 2006

⁶ ABS Census Data 2006

⁷ ABS Census Data 2006

Mango Hill

Mango Hill is located along the Bruce Highway within the Pine Rivers Shire and is approximately 25 km from the centre of Brisbane City. It is currently under development and abuts the common boundary of Caboolture and Pine Rivers Shires along Boundary Rd.



Fig 2 depicts the close proximity of the residential properties with respect to the industrial estate through the use of 500m radius lines.

4.4 Quality assurance of data

Data accuracy is important to the HIA process as health risks are estimated from the available data. There are many ways in which error can be introduced into a sampling program. Faulty equipment, sample collection and sample processing are some of the identified points that error can be introduced. While error within a laboratory environment can be managed, sample collection is the critical point as it can often cause greater error and render the data useless.

Accreditation exists around certain sampling procedures to avoid/reduce sample collection error. There are Australian standards which provide the basis for quality assurance in addition to accreditation for procedures or analysis. In Australia, the national laboratory accreditation authority is the National Association of Testing Authorities (NATA). NATA recognises and promotes facilities competent in specific types of testing measurement, inspection and calibration. The CRG required NATA accreditation as a mandatory requirement for business eligibility to conduct the environmental monitoring.

Queensland Health, acting on behalf of the CRG, sought expressions of interest from a limited number of organisations known to meet these criteria and a selection process was conducted in accordance with *Queensland Government Purchasing Guidelines*.

5.0 HIA timeframe

When the HIA was initially established, a timeframe for completion was set for April 2007. However, after review of the timeframe by the CRG following the detailed scoping of the work to be covered by the HIA (step 2 of a HIA), a new timeframe of 31 October 2007 was negotiated with the Queensland Government.

5.1 HIA progress to date

5.1.1 Key Milestones

Date	Milestone
June 2006	Community Health Survey
July – September 2006	Development of the Health Action Plan; CRG recruitment
October 2006	Community Reference Group established
December-February 2007	CRG considered scope of work to be covered by HIA
March 2007	Tender selection process commenced
April 2007	Tender selection process finalised
May-June 2007	Contracts awarded First phase of environmental monitoring conducted Community survey designed
July 2007	Community survey trial commenced
August 2007	Community Survey completed
September 2007	Ongoing environmental monitoring Analysis of community survey data
October 2007	Commencement of post event review

5.1.2 Environmental monitoring

Phase one of the environmental monitoring has been completed. Reports were due in July 2007 however, monitoring was delayed for some time due to meteorological conditions such as:

- the late onset of winter
- unseasonable rain and
- gusty winds.

The latter conditions make sensitive air monitoring difficult and based on advice from the independent technical adviser and the consultants a decision was made by the CRG to delay monitoring until more favourable conditions existed.

Monitoring has been conducted at sites nominated by the experts within and around the industrial estate. Information from these sites will provide an indication of the diversity of compounds, levels that can be detected, and how they are dispersed in the environment.

5.1.3 Post event review

Expressions of interest for the post event review of the fire at the Narangba industrial estate were developed for release in April. With the release of the *Narangba Industrial Estate: Inter-Agency Fire and Firewater Risk Minimisation*

Inspection Report the CRG decided to revise the expression of interest document which was subsequently released in September 2007.

5.1.4 Development of community profile

Queensland Health's Population Health Services CAHS has commenced work on the community profile and completion is due in October 2007.

5.1.5 Community survey

The CRG worked with an epidemiologist to determine the purpose of the survey and the type of information required to inform the HIA. Research was conducted to identify all current data sets relevant to the area of interest. A Survey Steering Committee consisting of Queensland Health epidemiologists, public health physicians and a senior medical officer, and statisticians from the Office of Economic and Statistical Research (OESR) was established to provide expert assistance to the CRG in the development of the survey and the study design.

The survey was developed and ethics approval obtained. The trial was administered through OESR the week commencing 30 July with the survey completed mid August.

5.1.6 Health risk assessment

Recruitment processes for this position have commenced and until a successful appointment to the position the Project Manager and the Health Advisory Panel will continue to progress this work.

5.1.7 Community communications

Information has been provided to members of the community located within Deception Bay, Narangba, Dakabin, Kallangur and Burpengary through a variety of mediums including local pamphlet delivery, website development and a telephone based information source. In addition to this, contact was made with local and state elected representatives and local newspaper editors to provide details surrounding the HIA.

5.2 Outstanding work to be completed

As indicated earlier in this report, the original timelines for the HIA had to be amended for reasons already indicated. Although work is proceeding well, some tasks are still to be completed

5.2.1 Environmental monitoring

Phase two – summer monitoring

The timing of this is dependent on meteorological conditions and latest advice received from the consultants is that monitoring will be conducted in November/December 2007.

5.2.2 Post event review

This will be completed by December 2007, subject only to the availability of a suitably qualified person to conduct it.

5.2.3 Community profile

The community profile will be completed by end October 2007 subject to the release of the 2006 census data.

5.2.4 Community survey

The community survey has been completed with the data currently being analysed. Analysis of the data and a preliminary report is scheduled to be completed by 19 October 2007.

5.2.5 Health risk assessment

The completion of the HRA is dependent on the availability of data from other parts of the HIA.

5.2.6 Community communications

Community updates are ongoing and are currently being prepared for distribution by end October 2007. Updates will be ongoing until the project completion.

5.2.7 Key Miles to be completed

Date	Milestone
November 2007	Phase two environmental monitoring conducted Community Survey final report
December 2007	Post event review completed
28 January 2008	Phase two environmental monitoring reports due
February/March 2008	Environmental modeling completed
April 2008	Health Risk Assessment completed
May 2008	Draft HIA report and recommendations developed
June 2008	Final report presented to Premier

6.0 Conclusion

The operation of the HIA and the CRG has been very effective. The timeframe for the work has been significantly increased but this has been tolerated well by members of the CRG who see the integrity, credibility and completeness of studies, monitoring etc as essential to a transparent and honest outcome.

All members of the CRG are, by virtue of their selection for it, very active members of their community and business associations. They have maintained high attendance and interest levels throughout the ten months of work to date and have consistently added value and important local knowledge. Their expertise and interest is complemented by the level of professionalism and scientific/medical expertise the independent technical adviser and the health advisory panel has brought to the HIA. The level of positive interface between the CRG and panel members has been excellent and is undoubtedly based on mutual respect.

The overall progress of the HIA has been very good and there is confidence that an independent community driven health impact assessment process is well under way.

Data collection is continuing and once completed the health risk assessment can commence. It is still too early to pre-empt any findings of the Health Impact Assessment.

Appendix A

ORIGINAL WORKING DRAFT

NARANGBA HEALTH ACTION PLAN

The purpose of the Narangba Health Action plan is to outline the steps that will be taken to address community concerns, particularly the health issues associated with a) the Binary Chemicals fire and b) ongoing operation of the Narangba Industrial Estate.

Health Impact Assessment is a process by which hazards in the environment are identified and assessed in terms of the health of the community. The perception of health risk in the community is greater when the community is not involved in identifying and managing health risks. Therefore the health impact assessment needs to involve the community from the outset.

The Action Plan consists of four phases:

Phase	Description	Timeline
Phase 1	Obtain and analyse preliminary information	<i>Commencing immediately</i>
Phase 2	Design full Health Impact Assessment in consultation with the community, industry and other stakeholders	<i>Facilitator engaged immediately. Design, planning and consultation commencing July, over 3 months</i>
Phase 3	Implementation of Health Impact Assessment projects	<i>September-April 2007</i>
Phase 4	Dissemination of findings and Response	<i>April 2007</i>

Phase 1: Obtain and analyse preliminary information

Queensland Health

- Obtain preliminary health information on current health concerns through face to face interviews (at the Deception Bay Shopping Centre) and telephone interviews which can be arranged by calling a dedicated information line.
- These are being conducted over seven working days from the 21st to 27 June and 1 July 2006. To date, 68 persons have been interviewed.
- Health concerns are being noted and individuals with specific concerns will be referred to their General Practitioner. Queensland Health will provide some support to General Practitioners in this endeavour.
- Obtain existing emissions information from a range of sources and provide health interpretation of this information.
- Establish a newsletter to update community on the health impact assessment process.

Department of Emergency Services

- Provide a full report on the emissions generated during the Binary Chemicals fire to Queensland Health and to the people of Narangba.

Environmental Protection Agency

- Collate all data relating to emissions from the Narangba Industrial Estate and provide this information to Queensland Health.
- Continue to promote the Pollution Hotline.

Department of Local Government and Planning

- Identify future residential and other developments approved or pending approval for the area in conjunction with the Caboolture Shire Council.

Phase 2 – design a full Health Impact Assessment

State Development

- Engage an independent facilitator to liaise with the Narangba community about their general concerns and facilitate their input into the design of the Health Impact Assessment.
- Establish a joint community industry and government management group. The purpose of this group is to answer the questions raised by the community and to provide oversight to the design and implementation of the assessment.

Queensland Health

- Manage the process of designing the Health Impact Assessment, liaise with the independent facilitator.
- Participate in the management group.
- Provide interpreted information from Step 1 to the management group.

Environmental Protection Agency

- Participate in the management group

Phase 3 – Implement the Health Impact Assessment

State Development

- Continue to support the work of the management group

Queensland Health

Manage the conduct of the health impact assessment.

- Commission pieces of work from independent specialist consultants to assess the specific health impacts of issues raised by the management group (for example, odour, noise, chemical risks). Note this work could involve utilising existing information but may involve further monitoring. The management group can advise what monitoring may be of benefit to inform the study.
- Finalise the Health Impact Assessment report.

Environmental Protection Agency

- Conduct monitoring as required to support the Health impact assessment where appropriate.

- Continue to undertake routine monitoring and provide the information to the management group and to Queensland Health
- Liaise with industry to address emission concerns.

Phase 4 – report on the findings of the group

Queensland Health

- In consultation with the management group release the findings of the Health Impact Assessment.

Environmental Protection Agency/ State Development /Premiers

- Implement the recommendations of the Health Impact Assessment in collaboration with other agencies and industry.
- Liaise with local government to address planning concerns.

APPENDIX B

Summary of CRG Meetings

Date	Event	Comments
13 November 2006	CRG Meeting 1	General introduction to CRG members
20 November 2006	CRG Meeting 2	Meeting procedures, Tor and Independent technical adviser endorsement
27 November 2006	CRG Meeting 3	Guest speakers from DES Mike Logan & EPA mark Paton to talk through actions related to Binary Industries fire.
11 December 2006	CRG meeting 4	Guest Speakers from CSC Mike Madden and Ian Brough - Background information provided with respect to historical local government planning processes; Guest Speakers EPA Munroe Mortimer and Joacham Mueller - Dioxin report presented to the group with the findings interpreted and discussed; CRG decided upon initial environmental monitoring scope; Suitable businesses were identified to potentially conduct the work.
16 December 2007	Fire occurred at Zelum Australasia Pty Ltd	Chemical fire occurred at Zelum Australasia which resulted in some minimum environmental contamination.
18 December 2006	CRG Meeting 5	Guest Speaker from DES Kerry Tupper –provided a brief on the Zelum Australasia Fire. CRG members concerned about increased risk of fire and diminished confidence in existing processes; Discussed contents of environmental monitoring briefs.
January 2007	Interim review of CRG	Interim review conducted
29 January 2007	CRG Meeting 6	Findings of interim review, broad scope of the HIA and contents of the environmental monitoring briefs was discussed and refined.
5 February 2007	CRG Meeting 7	Expression of Interest for environmental monitoring developed and endorsed by CRG;

Date	Event	Comments
		Workshop on HIA scope and process
19 February 2007	CRG Meeting 8	Guest Speaker QH Coordinating Epidemiologist Catherine Harper - Workshop on community profile development and epidemiology
5 March 2007	CRG Meeting 9	Interim review recommendation endorsement; Community communication engagement program; CRG Endorsed preferred suppliers for environmental monitoring
17 April 2007	Multi-Agency Fire and Fire water Risk Minimisation report released	Some industries implicated in the report for non compliance.
30 April 2007	CRG Meeting 10	Guest Speaker QH epidemiologist Lisa Hall - worked with CRG to refine the aims and scope for the community survey and prioritised the identified domains for inclusion in the survey.
14 May 2007	CRG Meeting 11	Community survey contents reviewed and endorsed by CRG
25 June 2007	CRG Meeting 12	Guest Speaker DES Ralph Carlisle – Multi-Agency Fire and Fire Water Risk Minimisation Report discussion. CRG discussed the findings of the report and an update on the recommendations was provided. Guest Speaker DES Kerry Tupper – Discussion on QFRS resource allocation for the local area
3 September	CRG Meeting 13	Guest speaker Geordie Galvin Consultant for Pacific Air and environment to discuss first phase for monitoring
17 September	CRG Meeting 14	Review of two environmental monitoring reports from AWN consultants.

APPENDIX C

NARANGBA INDUSTRIAL ESTATE COMMUNITY REFERENCE GROUP Terms of Reference

Introduction

The Narangba Health Impact Assessment (NHIA) is an initiative developed by Queensland Health as part of the Narangba Health Action Plan to address the health-related concerns of the surrounding community regarding the Binary fire on the Narangba Industrial Estate (NIE). The focus of the NHIA is broader than an investigation of the impact of the Binary fire, and will investigate potential future impacts of the industrial estate on the surrounding community.

The HIA will commission a number of independent technical studies to inform the assessment of health impacts.

The Community Reference Group will be established for the life of the community HIA project, expected to operate from October – **April 2007** and will meet regularly throughout the project (fortnightly to monthly as required). It will be convened and resourced by Queensland Health, and facilitated by an impartial, professional facilitator (Jan Taylor).

Role of the Community Reference Group

The role of the Community Reference Group (CRG) will be to oversee the preparation of the Health Impact Assessment, and to make recommendations to the Queensland Government in response to its findings.

The CRG will be responsible for decision making in respect of commissioning project briefs, evaluating impacts and formulating recommendations to the Queensland Government.

It is expected that recommendations will address what health impacts exist and need to be addressed.

The CRG will aim to research negotiated agreement on matters before it; however, if agreement cannot be reached, decisions will be made on a majority basis.

Membership

The CRG will comprise representatives of a diversity of local communities of interest affected by the Narangba Industrial Estate and leading experts in health impact assessment.

Specific Tasks

The Community Reference Group will have the following tasks:

1. To make recommendations to the Queensland Government about the health risks associated with the operation of the NIE that are currently present, or expected to be present in the future, that need to be addressed.
2. To confirm the Terms of Reference

3. To confirm the scope of the HIA.
4. To confirm individual briefs for technical studies, approve the selection of tenders, monitor their progress and review their findings.
5. To oversee the peer review of technical studies.
6. With the support of an independent technical advisor, to review the Health Risk Assessment and formulate a Risk Management Profile in consultation with the QH Advisory Group.
7. To make recommendations regarding the project findings.
8. To provide general advice to the Queensland Government in relation to the Health Impact Assessment.

Responsibilities:

The Community Reference Group will have the following responsibilities:

1. Each member of the CRG is present as an individual with a respected knowledge of a sector of the community with an interest in the operations of the Narangba Industrial Estate. Members are not expected to act as formal representatives of a wider group or organisation.
2. Members should not speak to the media about the technical content of the HIA until relevant documentation is publicly available. We should point out that this information will only be publicly available at the end, or at least when the HRA is complete. It is the HRA document which will be able to place the technical documents into a paper which explains the human health impacts. The Risk Management Profile is the next logical step after the HRA.
3. Respect for the agreed rules of conduct of the CRG.

Operational Details

1. Meetings will be held at times convenient to the entire group, with meeting dates and times to be agreed at the first meeting.
2. Meetings will generally be two hours, unless otherwise negotiated, and will start on time.
3. The meetings will be held at a central venue near the study area.
4. Participation is voluntary; however, all out of pocket expenses (eg taxi, child care) will be met by Queensland Health.
5. Meals/refreshments will be provided.

Appendix D

Planning

Issue

As previously mentioned, the Narangba industrial estate is located within Caboolture Shire and bordering Pine Rivers. This has caused concern to businesses and residents regarding the effectiveness of local authority planning processes as a new housing development has been approved by Pine Rivers Shire Council to occur in a parcel of land located beside the Bruce Highway and abutting Boundary Rd.

Planning Processes

Planning within Queensland has evolved over time and currently local government planning schemes are the main instrument for planning and development. Queensland parameters for planning and development are contained within the *Integrated Planning Act (IPA) 1997*.

*The purpose of IPA is to balance community well-being, economic development and the protection of the natural environment by providing a framework for managing growth and change within the State.*⁸

The IPA commenced in 1997 and required local governments to prepare new planning schemes that would replace the existing ones. In addition, these planning schemes had to integrate state, regional and local development strategies and recommendations for the local government area.

The Department of Local Government, Planning, Sport and Recreation has oversight of sustainable planning within Qld. It assists councils in the preparation and implementation of their planning schemes as well as coordinating government review of the planning schemes to ensure they incorporate state interests and economic, social and environmental considerations.

A Planning Scheme needs to consider issues such as the desired outcomes for the local government, land use allocation and zoning, infrastructure and development assessment criteria.

There are numerous stages involved in the development of a local government planning scheme and the Department of Local Government, Planning, Sport and Recreation tracks nine main stages which include:

- Stage 1: Statement of Proposals Under Preparation**
- Stage 2: Statement of Proposals on Display** – Council places the Statement of Proposals on public display and considers submission made by State agencies and the public.
- Stage 3: Planning Scheme under preparation** - Council staff develop a draft planning scheme.
- Stage 4a: First state interest check** –DLGP circulates draft planning scheme to relevant state agencies and undertakes a review of the draft planning scheme. These are then collated and recommendations made.

⁸ “Key elements of IPA”, Queensland Government

- Stage 4b:** Response to **first state interest check** – Council considers the collated responses and undertakes a review of the draft planning scheme to take into account the recommendations.
- Stage 5:** **Planning Scheme Display and Submission Review** – the revised draft planning scheme is placed on public display and all submissions from the public and stage agencies are considered.
- Stage 6a:** **Second state interest check** - DLGP circulates the revised draft to relevant state agencies and collates all responses. A series of recommendations are developed and forwarded to council for consideration.
- Stage 6b:** Responses to **second state interest check** – Council considers responses and revises the draft plan. The Minister then approves the draft plan (the approval may be subject to certain conditions)..
- Stage 7:** **Transitional Scheme replaced by IPA Scheme** – Council considers any approval conditions imposed by the Minister.⁹

While the stages outlined above allow for comments to be made by government agencies it should be noted that comments are usually required to be provided in accordance with a specified response template. While the use of a template provides guidance on the type of information required and minimising collation time, the format has the potential to limit commentary and advice surrounding health related issues.

Development Applications

Local governments generally administer the assessment of any development applications within their jurisdiction. However, a state government agency may have responsibility to assess certain aspects of an application and in certain circumstances an application can be lodged directly with the state government.

Development Control Plans (DCP)

DCPs are planning instruments that apply to smaller sections of a local government area and can contain more specific guidelines for certain types of development.

As mentioned above, the Narangba industrial estate is located within the jurisdiction of Caboolture Shire Council and borders the Shire of Pine Rivers. Both of these local governments have development control plans in addition to their planning schemes.

Currently Pine Rivers Shire Council has a DCP, *Mango Hill Infrastructure Development Control Plan No 14*, to provide residential housing for approximately 25,000 people, a major shopping centre, educational, recreational and community facilities.

This DCP covers the area of the shire that is bounded by the Bruce Highway for much of its western boundary. Boundary Road truncates the north-western corner and Saltwater Creek truncates the north-eastern corner of the DCP area. This part of the DCP is of great interest to the HIA due to its close proximity to the industrial estate.

⁹ “Integrated Planning Act”, DLGPSR website

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