APPENDIX A

NOPSA activities related to the Apache's Varanus Island offshore facilities

Planned Inspections

Since its commencement in January 2005, NOPSA has carried out a total of nine (9) Planned Inspections (PIs) relating to the VI hub and its associated facilities. Five (5) PIs were conducted mostly on VI itself and four (4) related to the associated satellite facilities feeding oil and gas onto the island.

Installation/Facility Type	Basis of Planned Inspection	Number
Varanus Is Onshore (PL12)	Services Contract	5
Varanus Is Offshore	Services Contract	3
Varanus Is Offshore	PSLA82 (Post 27 March 07)	1

The five (5) inspections relating to the island itself resulted in reports being issued to DoIR containing a total of fifty-nine (59) recommendations for Apache Energy to make improvements in OHS areas.

Safety Assessments

A number of minor and major assessments which related to the VI operations (both offshore and onshore) were conducted at the request of DoIR.

There were 42 Assessments in total split as follows:

Assessment Type	Basis for the Assessment	Number
Diving Plans	Services Contract	13
Modifications (Advice on consent to construct/operate)	Services Contract	19
Scope of Validation (for PL12 Licence Renewal) (See Note Below)	Services Contract	1
Platform Safety Cases	PSLA67	2
Platform Safety Cases	PSLA82 (post 27 March 07)	3
HUB Safety Case Revision (incorporates all offshore platforms and Island installations)	PSLA82 (post 27 March 07) Services Contract (onshore) PSLA67	1
Pipeline Safety Management Plan (Licensed Pipelines in Cwth waters)	PSLA67	2
Pipeline Safety Management Plan (Combined all pipelines operated by Apache in the NWS)	PSLA82 (post 27 March 07) PSLA67	1
Total		42

Note: Given the publicity associated with the Lloyds Register certificate of validation provided to DoIR in the submission by Apache to renew the licence (PL12) covering the VI onshore facilities, specific comment should be made on the advice NOPSA provided to DoIR in respect of the proposed Scope of Validation.

On 13 June 2006, DoIR wrote to NOPSA seeking advice on the Apache submission for the renewal of its licence for the petroleum installations on the VI and in particular the Scope of Validation proposed by Apache. The key points of NOPSA's advice to DoIR were:

It should not renew the licence prior to the completion of the validation process as was being contemplated;

It should reconsider the scope of validation "to ensure all aspects of equipment within the licence area are properly validated", and

Any licence renewal should be contingent on there being a Safety case in force which incorporated all plant and equipment within the PL12 licence boundary

NOPSA did not receive any response from DoIR and it is uncertain if DoIR acted on NOPSA's advice. NOPSA did not see the final Lloyd's certificate of Validation until the commencement of the investigation.

Incidents, investigations and enforcements

The following is a summary of the Apache related incidents that NOPSA recorded up to May 2008. These incidents are those that related to the VI and its associated offshore facilities (i.e. it excludes other Apache facilities and excludes the Thevenard and Airlie Island related facilities).

Installation/Facility Type	Basis of Assessment	Number
Varanus Is Onshore (PL12)	Services Contract	18
Varanus Is Offshore	Services Contract	14
Varanus Is Offshore	PSLA82 (State Waters)	5
Varanus Is Offshore	PSLA67 (Cwth Waters)	2

A total of 39 incidents were recorded by NOPSA that relate to the VI operations and of these 32 related to Service Contract facilities.
There have been no requests from DoIR to NOPSA to conduct investigations (apart from the 3 June 08 incident which is not included in the above list) of these incidents that occurred on facilities which were subject to the scope of a Service Contract.

NOPSA recorded and processed incidents within the same system that it uses for incidents within its own regulatory jurisdiction.

APPENDIX B

Summary of NOPSA's Recent Planned Inspections History for Varanus Is

March 2008 – PI#0244. (Most Recent)

Relevant Items.

Review of the Plant Emergency Shut Down (ESD) / Blow Down (BD) system.

- Findings (Positive)
  - ESD and blow down system (for the Plant) is effective
  - Periodic inspection and testing (frequency and scope) driven by Apache computerised maintenance system
  - There is good understanding of the ESD systems (function and operation) by personnel
  - Information and documentation for the ESD systems are available on the island
- Recommendations
  - Develop and incorporate appropriate performance standards (eg blow down times)
  - Ensure that actual frequency of testing of critical ESD and BD equipment is consistent with its criticality

Facility integrity – maintenance systems - Topsides

- Findings (Positive)
  - The topside structural integrity management and maintenance system was included in the inspection scope as part of NOPSA's facility integrity national programme. It is concluded that overall, the system for ensuring the topside facility integrity is in place. (Topside structural integrity referred here to all of the production plant)
- Recommendations
  - Make changes to the current arrangements for estimating work hours for maintenance activities in order to have a more realistic indication of demand for maintenance resources.
  - Develop strategies to reduce current level of corrective (reactive) maintenance and reduce/reverse the current ratio of corrective to planned maintenance activities of 3:1.
  - a) Extend the 'Safety Integrity Level' concept over the whole Varanus Island production plant; and
    b) Develop criteria for identifying safety critical equipment in the computer based maintenance system to ensure its consistent inspection and testing.

Personnel competency system

- Findings (Positive)
  - Basic elements of the competency and training system are in place/available (procedure, records etc.)
  - Active response and willingness by personnel to address shortcomings of the current competency and training system.

- Recommendations
    - Complete the current review of the competency and training arrangements as a matter of priority and implement a comprehensive and effective competency management system covering all personnel (i.e. apprentices, employees and contractors).

May 2007 – PI#0163

Relevant Items.

Isolation, lockout or tag out of plant

- Findings (Positive)
    - Isolation, lockout or tag procedures in place
    - Critical Valve register maintained
    - "Unitag" system is in place and used.
    - Isolation tags selected for inspection were properly linked to the PTW.
- Recommendations
    - Permit to Work Standards – clarify the meaning of the term 'single block'
    - Address certain shortcomings of and discrepancies between the Critical Valve Procedure and actions of the personnel.
    - Apache to establish a register of flanges, blinds etc. to ensure proper certification and identification of construction material and pressure rating.

Blanket gas protection system (produced water tanks)

- Findings (Positive)
    - A produced water tanks blanket system is in use and generally fulfils its functions
- Recommendations
    - Ensure that all control and safety critical equipment e.g. Pressure Safety Valves (PSVs) associated with the blanket gas system is inspected and tested, and subsequently included in the computerised maintenance system.
    - Equip the produced water tanks blanket gas system vacuum relief valves (and other blanket gas systems) with spark arrestors.

Pressure integrity management system (included in the PI as part of NOPSAs facility integrity national program).

- Findings (Positive)
    - An integrity policy has been developed and personnel are aware of the policy.
    - A range of procedures have been developed and implemented.
    - There is ongoing monitoring of the effectiveness of pressure equipment (vessels, PSV, piping) inspection regime and corrosion mitigation systems.
- Recommendations
    - Ensure that relevant codes and standards (e.g. API 570) are cross referenced/captured in the plant inspection and maintenance routines.

- Ensure the position and responsibilities of the Senior Integrity Engineer are adequately reflected with the relevant organisational charts.

November 2006 – PI#0133 Varanus Island offshore – focus on Harriet Platforms

Relevant Items.

Integrity assurance for offshore pig launchers

- Findings (Positive)
  - It is concluded that inspection arrangements for pig launchers and receivers are generally implemented and functional and the system is maintained
- Recommendations
  - Apache to review existing pressure vessel design documentation, Piping and Instrumentation diagrams (P&IDs), maintenance (including inspection reports) and Distributed Control Systems (DCS) to ensure that correct information is recorded for each pressure vessel using the SI units, namely, design pressure, maximum allowable working pressure, test pressure, PSV setting and pressure gauge range
  - Make the necessary changes to the current pressure vessel inspection regime to ensure that only vessel inspections which covered the whole scope of internal or external inspection are recorded as completed
  - Pressure vessel inspection procedure to provide the rationale for pressure vessel inspections frequency, define the inspection frequencies and the process for varying them.

Safety of offshore pigging operations

- Findings (Positive)
  - offshore pigging operations, in general, are adequately controlled but with some room for improvement
- Recommendations
  - Ensure that the deficiencies identified during the inspection are addressed in the next revision of pigging Operational Procedure Guidelines (OPGs)
  - Update the existing PFDs and P&IDs to reflect the current mode of operation of the Harriet A platform
  - Inspect pig launchers and receivers on offshore installations to ensure that missing, non-standard or damaged equipment is replaced, e.g. non-standard bleed caps on door interlocks, valve handles, valve gearboxes or nameplates.

Facility integrity management system (included in the PI as part of NOPSAs facility integrity national program).

- Findings
  - It is concluded that while some elements of the facility integrity management system are implemented and functional, there are gaps which need to be filled
- Recommendations
  - Distribute the integrity policy to all relevant locations and communicate it to personnel
  - have all overdue procedures and OPGs reviewed and revised as soon as possible

- Include all corrosion monitoring data into the Apache Production Reporting system and Babelfish
- Ensure that regular audits of the facility integrity management system (procedures) are regularly conducted and track any identified corrective actions through to closure
- Ensure that regular audits of the facility integrity management system (procedures) are regularly conducted and track any identified corrective actions through to closure

Also

Management of integrity of small bore piping, tubing and flexible hoses

and

Arrangements for the control of OHS risks of handling and storing of hazardous chemical substances, in particular corrosion inhibitors & biocides

August 2006 – PI#0116 Varanus Island onshore

The inspection topics included:

- Major Accident Event controls (Fire & Explosion) for pig launchers and pigging procedures,
- Lifting equipment management,
- Small bore piping integrity and hazard identification, and
- Hazardous substance management on the island.

The inspection produced eleven (11) recommendations for improvements.

February 2006 – PI#0091 Varanus Island offshore

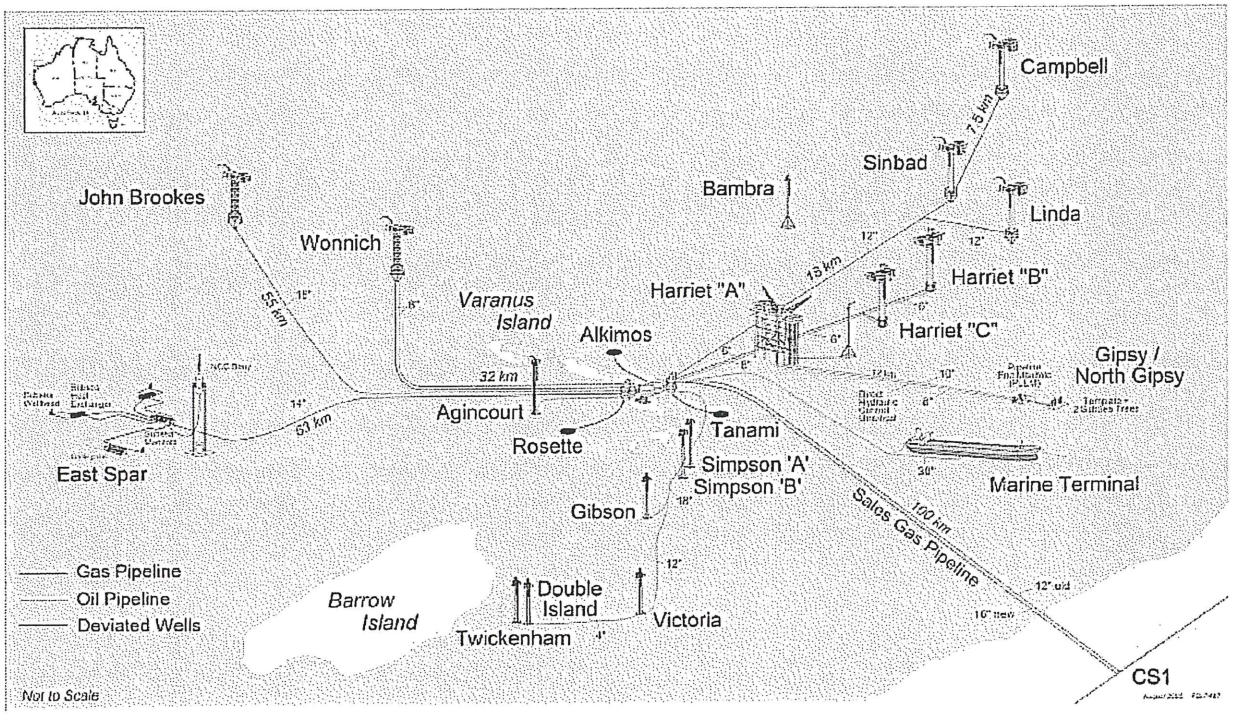
The inspection topics included:

- Lifting operations,
- Pipeline management
- Management of change processes,
- Management of alarms
- Management of ESDs

The inspection produced twelve (12) recommendations for improvements.

APPENDIX C

OVER VIEW OF THE INSTALLATIONS ASSOCIATED WITH THE VI OPERATIONS



APPENDIX D

Summary of Legislative Framework

The legislative framework for occupational health and safety (OHS) of persons engaged in offshore petroleum operations is under the Offshore Petroleum Act 2006 (OPA06).

The OHS laws under this Act are:

- Schedule 3 to the OPA 06
- Petroleum (Submerged Lands) (Management of Safety on Offshore Facilities) Regulations 1996
- Petroleum (Submerged Lands) (Diving Safety) Regulations 2002
- Petroleum (Submerged Lands) (Occupational Health and Safety) Regulations 1993
- Petroleum (Submerged Lands) (Pipelines) Regulations 2001, to the extent that they relate to occupational health and safety

Schedule 3 imposes duties relating to OHS on a number of parties. The operator of the facility bears the principal duty in the regime. This duty is for the operator to take all reasonably practicable steps to ensure the facility and its activities are safe and without risk to health.

This is a performance-based regime typical of all modern OHS regimes, whether applying offshore or more generally at workplaces. These regimes impose general duties on parties to the regime, especially operator and employers. The principle underlying these performance-based, general duties regimes is: the primary responsibility for ensuring health and safety should lie with those who create risks and those who work with them.

Following the 1988 Piper Alpha disaster in the North Sea, the Management of Safety on Offshore Facilities regulations were made to introduce a safety case obligation to strengthen the implementation of the duty of care regime. In 2005 an independent national regulator, NOPSA, was established with bipartisan and tripartite support.

As noted in the Explanatory Memorandum to the Petroleum (Submerged Lands) Amendment Bill 2003: "The term 'safety case' is used to describe a sophisticated, comprehensive, integrated risk management system. This is characterised by an acceptance that the direct responsibility for the ongoing management of safety on individual facilities is the responsibility of the operators and not the regulator."

The role of the regulator in performance-based regimes is to provide independent assurance that health and safety risks are properly controlled by challenging the operator's risk management arrangements during safety case assessment and then verifying by planned inspection that the operator has implemented its risk management commitments documented in the safety case.

NOPSA commenced on 1 January 2005 with a clear set of functions set out in section 356 of the OPA06, including:

- Promotion of OHS
- Monitoring and enforcement to secure compliance
- Investigating incidents

- Provide advice
- Cooperate with government agencies

These functions are discharged mainly through the following core activities: safety case assessment; planned inspection, and investigation of accidents & dangerous occurrences.

Safety Case Assessment:

The safety case is a regulatory requirement that forms part of the duty of care regime. The safety case documents the operator's commitments to reducing risks to a level that is as low as reasonably practicable. It is a document that describes the facility, provides details on the hazards and risks associated with the facility, the risk controls and the safety management system that will be used to minimise the risks. NOPSA assesses the operator arrangements in its decision to accept or reject the safety case. Once a safety case is accepted by NOPSA, the risk management commitments made by the operator must be complied with. These commitments are then verified by NOPSA during inspections of facilities.

Planned Inspections:

Planned inspections by NOPSA verify the risk management commitments of the operator as specified in its safety case. Planned inspections provide assurance that the operator is discharging its responsibility to manage risks to as low as reasonably practicable, based on the accepted safety case. NOPSA's planned inspections do not physically inspect every portion of the facility – rather they operate on a quality assurance basis. Planned inspections are a sampled evaluation of the safety management system and its implementation by the operator to manage the risks associated with the facility to a level as low as reasonably practicable. The operator is responsible for ensuring compliance with the safety management systems as laid out in its safety case.

Investigation:

Investigations are conducted when information obtained or received by NOPSA justifies seeking evidence of non-compliance with relevant OHS legislation as a basis for enforcement. All reports of accidents and dangerous occurrences are reviewed. Investigations can have either an administrative outcome, which is any outcome not involving prosecution, or a criminal prosecution outcome. An administrative outcome includes enforcement such as a warning or issuing an Improvement Notice.

A decision to investigate will take account of these criteria:

- There should always be an investigation of any accident that causes death or serious injury.
- Abandonment of a facility due to an emergency should always be investigated.
- An accident or dangerous occurrence which could easily have led directly to death or serious injury generally should be investigated.
- Any accident, dangerous occurrence or complaint which creates suspicion of a significant lack of compliance with relevant legislation generally should be investigated.

- Any accident, dangerous occurrence or complaint which creates suspicion of an immediate threat to health or safety generally should be investigated.
- An investigation should be more likely where the operator has a history of similar incidents or relevant enforcement.

In summary, the regime under the offshore OHS laws is a performance-based regime where the safe operation of the facility is the responsibility of the operator. It is regulated by a government inspectorate using the safety case as the basis for the operator's permission to operate.