EPA INQUIRY FINAL REPORT: Rio Tinto Alcan Petrol Spill Incident

The Incident

On 10 June 2010, it was discovered that a tank containing approximately 75,000 litres of unleaded fuel at the Rio Tinto Alcan (RTA) alumina mine in Gove had leaked its contents. The level of the tank had last been checked on 28 May 2010, prior to 42,000L being removed into isotanks for a purchaser for the fuel in Darwin. Water was pumped into the tank after it was found to be empty and the water immediately leaked out into the surrounds.

It was the intention of RTA that unleaded fuel was to be replaced as an energy source at the mine site by natural gas, involving the procurement of a LPG supply. As a result of this plan, the redundant unleaded fuel was being stored in the tank until a purchaser could be found. The tank was built in 1968 and was last inspected in 1997 when an upgrade and repair was performed. According to RTA, another inspection was due in 2007, however this did not occur and in 2009 it was determined that the tank would be decommissioned once the fuel had been sold and removed.

The incident was reported by RTA to Department of Resources (DoR) on 11 June 2010.

EPA Inquiry

The EPA Board was notified of the incident by DoR, and was briefed on the matter by the Executive Director (ED) of Mining on 14 June 2010. Following a visit to the RTA mine site at Gove by an EPA Officer on 22 June 2010, and a further briefing on the background to the incident by the Mining Team Leader of DoR, the EPA determined that the immediate risk to the environment was being managed and contained and therefore the EPA would not need to take immediate action but rather maintain a 'watching brief' on the matter. This Watching Brief included a review of the investigation undertaken by DoR. Objectives for the Watching Brief were established and are provided below. In accordance with its function and powers under the *Environment Protection Authority Act* (EPA Act), the EPA was to review and assess:

1. The adequacy of infrastructure standards for the current operational plant and mine;
2. The legal status, enforcement and compliance requirements in relation to those standards;
3. The adequacy of the current authorised mine management plan and the adequacy of the inspection regime and implementation of this regime;
4. Whether the public can be reassured that this will not happen again.

At its next meeting, held 3 September 2010, the EPA Board determined that the incident raised issues in relation to the management of infrastructure on the mine site that went beyond the immediate environmental risk and consequently decided that the Watching Brief over the RTA petrol spill incident should be escalated to an Inquiry, in accordance with Section 6(2)(a) of the EPA Act. The EPA was directed to prepare at the earliest convenience, draft advice for the Minister, in relation to the Inquiry objectives.

In accordance with Section 5A(2), as the advice and Inquiry report involve reporting on the operations of DoR, both documents have been made available to the Chief Executive Officer of DoR for comment and feedback. A period of two weeks was allowed for these comments. DoR's comments and feedback are at Appendix A.

Inquiry Process & Methodology

The petrol incident at the RTA Gove mine site was conducted using flexible Inquiry techniques, in order to respond to and account for the direction of the EPA Board and stakeholder actions following an environmental incident.

The methodology adopted by the EPA for the petrol incident Inquiry is briefly outlined below.

In the days immediately following RTA's notification of the incident to DoR (11 June 2010), DoR provided a telephone briefing to the EPA Chairman and offered the EPA an inspection of the site to ensure that all

necessary actions were being taken to minimise environmental harm from the leak. The Board determined the incident to be of significant concern and provided formal written advice (letter dated 15 June 2010) to the Mining ED outlining the specific issues of which it wanted to be kept informed, and advising that the EPA would accept the offer for an Officer to visit and inspect the RTA Gove site accompanied by a DoR representative, with whom these issues could be discussed.

A site visit was undertaken by an EPA Officer on 22 June 2010, accompanied by the Mining Team Leader from DoR. The EPA's concerns were raised and further information was provided by the Mining Team Leader in their discussions on site.

The site visit reassured the EPA that immediate risk to the environment from the spill was being managed appropriately. The EPA Board nevertheless determined that it was appropriate to maintain a Watching Brief on the incident and to continue to pursue information in relation to the circumstances that led to the incident occurring in the first place. At this stage DoR advised that they were awaiting receipt of RTA's internal investigation report.

Accordingly further documents were requested from DoR (dated 29 June 2010) including mining management plans, investigation reports, inspection records and licence details for the fuel storage facility at the Gove site.

There was considerable delay in these documents being provided to the EPA, and a number of follow-up requests were made prior to the receipt of the documents 20 August 2010.

At its next meeting on 3 September 2010 the EPA Board were again briefed on progress of the Watching Brief and determined that there was sufficient indication that the incident revealed systemic issues in relation to mine site infrastructure management that should be brought to the attention of the Minister. At this point the Board requested that the EPA escalate its Watching Brief to an Inquiry to result in a formal written advice and Inquiry report to be provided to the Minister.

To inform this Inquiry, further information was requested from DoR at this stage (letter dated 10 September 2010), relating to the conditions of relevant mining leases and the Mining Authorisation under which RTA operates. The EPA then commenced a review of all the evidence obtained.

Review of the Evidence

1. The adequacy of infrastructure standards for the current operational plant and mine.

Under this section, a brief outline of the standards applicable to the infrastructure at the current operational mine site has been provided. The adequacy of these standards is analysed in the following section.

- *Dangerous Goods Act* and *Dangerous Goods Regulations*

The application of the NT Dangerous Goods legislation is particularly relevant to the petrol incident as it regulates the storage of dangerous goods (in this instance, petrol), in the appropriate container facilities, and the condition of these facilities.

The *Dangerous Goods Act* (Section 14) requires persons in charge of a building or structure or plant or container used in the handling of dangerous goods to ensure, as far as practicable, that the condition or use of the plant, container, building, or structure is not likely to endanger the safety or health of a person or to damage any property.

The *Dangerous Goods Regulations* provide that dangerous goods can only be stored under and in accordance with the terms and conditions of a licence. A licence is required to store quantities greater than 100L of flammable liquid in a single tank (Regulation 210(2)(a)).

- *Dangerous Goods Business Licence*

Rio Tinto Alcan was issued with this licence in September 2009, by NT WorkSafe. There were no specific conditions regarding storage infrastructure imposed on the licence.

- *National Standard for the Storage and Handling of Workplace Dangerous Goods*

This national occupational health and safety standard is adopted and implemented under the *Dangerous Goods Regulations*. It provides that unleaded petrol is a Class 3 Dangerous Good, and this creates subsequent requirements for the treatment and handling of that product.

- *Australian Standard 1940-2004*

This standard is also implemented under the *Dangerous Goods Regulations*. Regulation 211 provides that flammable liquids are to be stored in accordance with the standard. Under AS1940, the unleaded petrol storage tank that suffered the leak is a Category 6 tank: 'vertical tanks up to any capacity, of any size, and type that is usually erected on site'. The owner of Category 6 tanks is to 'take all practical means to ensure that it remains in serviceable condition…and shall cause that tank and its foundations, fittings and appurtenances to be inspected and tested in accordance with Table 9.1'.

Table 9.1 creates the following obligations on owners of tanks:

- The tank shell, floor plates, roof plates and other structural members must be tested at minimum every 10 years;
- The whole tank, including floating roof seals must be visually inspected on a monthly basis;
- Valves and vents must be visually checked on a monthly basis, and physically tested at minimum every 10 years;
- Other fittings and appurtenances must be visually checked every 3 months;
- External foundations and tank supports must be visually checked annually;
- Internal and external floating roof seals must be physically tested, at least every 10 years;
- Cathodic protection (aimed at preventing corrosion) must be physically tested at least every 10 years;
- Level controls must be physically tested on a monthly basis to ensure all alarms and shutdown mechanisms, if fitted, are operating correctly.

NB. *Visual inspection* refers to a visual examination of tank parts, while *physical inspection* requires visual inspection plus appropriate tests to confirm the function and condition of the parts and to identify any weaknesses, deterioration or faults.

Section 9.17.2 of AS1940, *Inspection and Maintenance of Categories 5 and 6 Tanks*, in addition to the above, creates the following obligations:

- Any Category 5 or 6 storage tank, its foundations and fittings, shall be kept in a serviceable condition while the tank is in use.
- A permanent record of inspection and testing shall be kept.

- *American Petroleum Institute Standard 653 Tank Inspection, Repair, Alteration and Reconstruction*

This industry standard for the inspection and maintenance of storage tanks for petroleum establishes a number of different types of inspection, including periodic inspections by tank owners; internal inspections; external inspections by a certified inspector; and leak tests.

According to DoR, under this standard, periodic inspections undertaken by the owner were required every 10 years.

- *Mining (Gove Peninsula Nabalco Agreement) Ordinance 1968*: Special Mineral Lease No. 11

The Special Mineral Lease (SML) imposes a number of obligations upon the lessee (Rio Tinto Alcan) on the use of the land described. Those conditions relevant to the maintenance of mine site infrastructure require the lessee:

- 'to operate in accordance with good mining practice';
- 'to maintain, manage and operate…buildings and installations on the leased land in good and proper order and condition fair wear and tear and damage…and the right of the lessees to sever, remove, demolish, alter or rebuild excepted.'

- *Mine Authorisation No 0035-01*

The Mine Authorisation for the RTA Gove site does not impose any standards regarding mine site infrastructure, however states that the operator 'must comply with the activities and commitments in the current mining management plan'.

- *Mining Management Plan*

It is noted that there are no requirements or standards for mine site infrastructure (or any requirement that they be included in a MMP) provided in the *Mining Management Act*, the key piece of legislation regulating activities on mine sites. Similarly, there is no reference within the RTA Mining Management Plan to infrastructure standards applicable or inspection regime commitments.

2. The legal status, enforcement and compliance requirements in relation to these standards.

Under this term of reference, the legal status and enforceability of the above standards has been considered. Those frameworks which do not include references to mine site infrastructure have not been included.

- *Dangerous Goods Act* and *Dangerous Goods Regulations*

The *Dangerous Goods Act* and Regulations provide the legislative obligations regarding the storage of unleaded fuel at the mine site. Where RTA is found not to have complied with the provisions of the Act or Regulations, and this non-compliance constitutes an offence, the regulator is able to commence legal action.

The penalty for failure to comply with Section 14 regarding the proper condition and use of plant used in the handling of dangerous goods is $250,000 for a body corporate.

Similarly, the Regulations provide that a person who contravenes the Regulations commits an offence. Where a penalty is not prescribed elsewhere for a specific contravention, the maximum penalty is $2,000.

- *National Standard for the Storage and Handling of Workplace Dangerous Goods*

Whilst the National Standard creates certain obligations upon occupiers of premises where dangerous goods are stored, it is only those provisions of the Standard that have been specifically implemented under the *Dangerous Goods Regulations* (such as the dangerous goods classification system used under the National Standard) that create legally binding obligations or standards. The National Standard in itself lacks any enforcement mechanism by which RTA could be penalised for a failure to comply, and was designed as a guide in the development of legislation and regulations in each state and territory jurisdiction only.

- *Australian Standard 1940-2004*

The inspection regime and standards under AS1940 are implemented as a legally-binding obligation under the *Dangerous Goods Regulations* (under Regulation 211). This means that a failure to comply with the standards expressed in AS1940 can result in legal proceedings against RTA.

As provided above, a failure to comply with the Regulations results in an offence, punishable by a $2,000 fine unless otherwise specified.

- *American Petroleum Institute Standard 653*

The API standard is an industry standard that has not been adopted by the NT Government under legislation and subsequently it does not provide statutory commitments. Despite this, it was suggested by DoR that the API standards were more commonly accepted as the applicable standard amongst mine operators. There is no penalty for a failure to comply with the API standards.

- *Mining (Gove Peninsula Nabalco Agreement) Ordinance 1968*: Special Mineral Lease No. 11

The terms of the SML over the Gove mine site form part of a legally enforceable contract. The terms must be adhered to and in the event that a party breaches one of the terms, legal action can be brought against that party. Whilst this allows the Commonwealth Government to initiate proceedings against RTA where they fail to 'operate in accordance with good mining practice' or in accordance with other lease terms, the

broad and general wording of the terms of the lease would make it highly unlikely that a breach could be established.

In 2009, an inspection of the site against the existing lease conditions was commenced and completed, concluding that there were no breaches that had occurred that would preclude the renewal of the lease in 2011. In August 2010, a follow-up assessment was undertaken, with the conclusion that the situation was relatively unchanged and RTA had met all the conditions imposed by the lease.

- *Mining Management Plan*

Whilst MMPs are a key mechanism relied upon in the management of activities on mine sites involving environmental risk, the way in which the legislative framework for MMPs is structured essentially means it is legally very difficult to enforce compliance with individual commitments made in the MMP.

Under the *Mining Management Act*, it is an offence to carry out mining activities without a Mining Authorisation. It is also an offence for a mine site operator to fail to comply with the Authorisation, punishable by a fine of 1250 penalty units (for a body corporate). Mining Authorisations are to provide conditions under which activities on site must be conducted (Section 37). Condition 1 of RTA's Mining Authorisation states that 'Alcan Gove Pty Ltd ('the operator') must comply with the activities and commitments contained in the current mining management plan in respect of the Alcan Gove Project'.

Whilst MMP commitments are in effect legal obligations, provided under a condition of RTA's Mining Authorisation, the commitments contained in the MMP are imprecise and worded to have a general, non-specific application, making it inherently difficult to establish that there has been a breach. It is therefore legally very difficult to argue a failure to uphold a specific commitment within a MMP, and that that subsequently constitutes a failure to comply with the Mining Authorisation.

Whilst a failure to conduct activities on site in accordance with the MMP may grant the Minister the power to revoke the Mining Authorisation (under Section 38), this has never occurred. Once the Minister is satisfied that the MMP 'promotes protection of the environment' and grants the Authorisation, enforcement of and compliance with the MMP becomes the responsibility of DoR through day-to-day regulation, in the absence of legal penalties. As the *Mining Management Act* fails to provide a specific offence for a failure to comply with a MMP, it is otherwise legally difficult to compel RTA to carry out the MMP commitments.

3. The adequacy of the current authorised mine management plan and the adequacy of the inspection regime and implementation of this regime.

Under the *Mining Management Act*, RTA was required to submit, in accordance with the conditions of their Mining Authorisation, a Mining Management Plan (MMP). This MMP was submitted to DoR in April 2007, at the time RTA took possession of the Gove site. DoR responded with a requirement that additional information must be provided by RTA in order for assessment to proceed. Specific information required included that 'the storage of dangerous goods on site needs to be mentioned in the MMP'. The MMP was again submitted by RTA, with amendments, in May 2007, and in a letter to RTA dated 7 November 2007, was deemed acceptable by DoR. Comments in relation to the additional information requested by DoR were also provided, and include the comment that 'the storage of dangerous goods on site needs to be mentioned in the next MMP'. The resubmitted version of the MMP had not addressed the information gap identified by DoR in the initial MMP.

This issue has not been rectified within the current approved plan (dated 2008), as there is no reference within the MMP to the Dangerous Goods legislation, or the requirements for storage tank inspections under AS1940, despite the fact that the inspection regime established by AS1940 is a statutory obligation. The MMP does not include any commitments regarding inspections of mine site infrastructure and/or fuel storage tanks.

In relation to the process for approval of MMPs, the EPA has been made aware of the existence of a Memorandum of Understanding (MOU) between DoR and NRETAS, where triggers have been established for situations where the MMP is referred to NRETAS for their advice and recommendations regarding

specific environmental protection issues. DoR allow for the MMP approval process to be extended where the proponent is required to provide additional information, as RTA was in the present case.

Section 1.9 of the RTA MMP provides the 'Statutory Requirements' which RTA has identified as binding their operations. The MMP states that 'all relevant legal and other requirements have been identified in a database [and that] the database is regularly updated and used…as a means for compliance monitoring and compliance management.' The MMP includes only the 'key requirements for the operation [which] form a subset of the site's more detailed database'. The Dangerous Goods legislation has obviously not been considered a 'key requirement' for operations and is not included, despite the request by DoR for this information.

As provided above, there are a number of standards relevant to inspections of mine site infrastructure. AS1940 provides the statutory inspection regime, adopted under the *Dangerous Goods Regulations*, and the American Petroleum Institute (API) provides industry guiding principles and standards for inspecting and maintaining site infrastructure. Neither of these inspection regimes has been referred to within RTA's MMP.

Information provided by DoR indicated tank inspections were being carried out in accordance with the API industry standard (API 653), and that this was accepted practice amongst mine operators. This voluntary standard dictated a requirement for tanks to be inspected at ten year intervals.

Tank 342-3, the tank the subject of the incident, was constructed in 1968. The last inspection of the tank was in 1994, and under industry standards another inspection was required in 2004. In 1997 a full inspection followed by an upgrade and repair of the existing tank took place when the site switched from the use of leaded to unleaded fuel. The next inspection was therefore scheduled for 2007. This inspection did not take place and in 2009, the lack of inspection was realised.

As there were plans underway for RTA to secure a supply of natural gas to the Gove site for its energy requirements, avoiding further need for the use of unleaded fuel, the decision was made to decommission the tank and find a buyer for the remaining fuel. Throughout this process, no inspection was undertaken.

The investigation report provided by RTA to DoR included a summary of fuel tank inspections. This summary, or reporting data, is not included in the MMP, and appears to have been collaborated only for the purposes of the investigation report to DoR. Information contained in the summary includes the tank reference number, tank description, date of the last inspection, report reference number, and any comments regarding its condition or repairs undertaken as a result of the inspection. This indicates that an inspection report was produced following each inspection. It is noted that there are a number of gaps regarding inspection dates, and that almost all inspections resulted in repairs being undertaken.

In response to the incident, RTA undertook a preliminary review of all site fuel storage tanks and provided relevant information to DoR in its investigation report. The review demonstrated that four tanks required statutory inspections. Despite this, the investigation report itself states that 'tanks receive constant operational surveillance and regular dipping and inventory reconciliation'.

RTA also provided to DoR a number of Authority to Operate (ATO) forms. These internal forms apply in situations where infrastructure is found not to be compliant with relevant standards, and undergoes a risk assessment by an Authorised Technical Advisor, who (depending on the associated level of risk) approves the ATO, allowing the non-compliant infrastructure or plant to continue being used for a specified amount of time. The forms indicate that a number of tanks were non-compliant with inspection schedules. For example, Tank T777-3 was not to be inspected in 2010 in accordance with statutory requirements, nor was the RTA standard of five-yearly external inspections complied with. An extension until September 2011 was sought to rectify the non-compliance.

4. Whether the public can be reassured that this will not happen again.

In determining whether the public can be reassured that such an incident will not happen again, relevant evidence includes details of the regulator's role and their approach to enforcing mine site infrastructure standards, and how both the regulator and the mine operator responded to the incident.

DoR report that the industry is largely self-regulating where the standard to be adhered to is one of 'best practice' management, rather than strict regulations and requirements. This is also the approach where environmental incidents have occurred. These are often addressed through a management-based approach rather than through imposing penalties on the operator.

Subsequently, site visits by DoR for the purpose of monitoring and enforcing compliance with MMP requirements are undertaken sporadically and not in accordance with a designated schedule. A summary of field visits conducted by the agency for the period 1996 to 2010 was provided demonstrating this fact. In some years, no site visit was conducted. In practice, the frequency with which site inspections are carried out appears to be dependent upon the existence on a site of a particular environmental or management issue that requires further attention.

Field visit reports provided by DoR indicate mine site safety and compliance with the MMA are the primary focus of these inspections. Mine site infrastructure is rarely commented on by field officers. Not one of the reports provided included observations regarding the fuel tank storage area, except for the inspection undertaken immediately following the petrol spill incident.

Whilst audits of RTA's MMP are to be conducted annually (as stated in RTA's MMP), the last audit was undertaken by DoR in 2007. DoR report that the frequency with which audits can occur is limited due to staffing and resource requirements.

In 2004, regulation regarding activities and infrastructure on mine sites was divided between DoR and NT WorkSafe. Until this time, all regulation on mine sites had been under the *Mining Management Act* and fallen within the jurisdiction of DoR. DoR express a strong reluctance to duplicate the regulatory role of NT WorkSafe. The EPA notes, however, that under NT WorkSafe's establishing legislation, they are restricted to workplace health and safety matters and their activities and function does not address environmental risk on mine sites in any capacity. Environmental risk and management of that risk associated with mining activities remains the role and responsibility of DoR.

Evidence obtained by the EPA indicates there have been at least three environmental incidents at the Gove site that went unreported. These incidents included the dumping of alumina material into Melville Bay in April 2010, a leak in Tank T777-13 containing heavy fuel oil/caustic, and a diesel spill in 2003. Despite these incidents, and the fact that DoR were aware of their occurrence, DoR only conducted one site investigation at Gove. This investigation was undertaken in April 2010, assumedly in response to the alumina dumping incident. No prosecutions have resulted from any of these incidents.

In assessing the capacity of RTA to respond effectively and efficiently to an environmental incident of this nature, evidence of their procedures, policies and plans for incident and emergency response are considered relevant, and include the following:

- Documented procedures to identify the potential for and response to accidents and emergency situations, including specific template forms;
- An Emergency Management Manual, outlining a site-wide system and including requirements for regular training and testing of response systems;
- An electronic database system for incident reporting – this covers reporting, investigation, corrective and preventative action and follow-up of incidents.
- Environmental management system audits are conducted on a triennial basis by Alcan Inc by SAI Global to ensure systems and procedures (including emergency and incident response procedures) are consistent with International Standards.

The EPA notes that DoR are currently seeking advice on the potential for legal action under the MMA to be pursued in relation to the incident.

At the time of the incident, RTA took a number of actions, demonstrating the extent to which they are able to effectively and efficiently respond to environmental incidents of this nature:

- In accordance with the reporting requirements under the *Mining Management Act*, DoR were notified of the incident;
- In accordance with the requirement (also under the *Mining Management Act*) for an investigation report to be provided to DoR in the event of an incident, at the request of DoR, RTA provided a written report to DoR within the 14 day period specified;
- Immediate actions taken on site (detailed in the investigation report) included:
    - constant monitoring of groundwater;
    - the despatch of groundwater samples for analysis;
    - engaging company URS to model the movement of the fuel;
    - preparation (also by URS) of a draft spill remediation response plan;
    - drilling of recovery bores; and
    - installation of hydrocarbon recovery pumps.
- A preliminary review of site fuel storage tanks was also undertaken, and a schedule of works to address the incident was prepared.

An analysis of the above evidence obtained by the EPA and the extent to which the public can be reassured such an incident will not happen again is provided in the following section of this report.

Discussion & Analysis

1. The adequacy of infrastructure standards for the current operational plant and mine.

The standards in place for the current operational plant and mine are not considered inadequate. The adoption of AS1940 under the *Dangerous Goods Regulations*, creating a rigorous statutory regime of storage tank monitoring and inspections, where applied and enforced effectively, is able to mitigate the risks associated with the storage of fuel in those tanks at the Gove site. A failure to comply with this regime has the potential to result in penalty action being taken against the non-compliant party.

In addition to the statutory requirements, there are also industry standards, such as API 653, which guide mine operators in a ‘best practice’ approach to the storage of fuel in tanks, without imposing any penalties for non-compliance.

The conditions of the Special Mineral Lease (SML) also impose to some extent, standards regarding environmental management, encouraging RTA to ‘operate in accordance with good mining practice’. These obligations, however, are worded very broadly and are not intended to operate as a mechanism by which to enforce specific actions or practices to mitigate environmental risk.

It is noted that as a corporate entity, Rio Tinto operates in a number of Australian jurisdictions and is subject to a number of mining regulatory regimes as a result. As a nationally applicable standard, AS1940 would arguably be a familiar standard by which RTA undertake their operations. It is assumed the company would be well aware of the specific requirements expected of them under this standard.

2. The legal status, enforcement and compliance requirements in relation to these standards.

As acknowledged above, the infrastructure standards applicable to the current operational plant and mine at the Gove site are not considered inadequate. The key problem identified in the EPA’s inquiry is the agreed and accepted reliance on an *industry* standard as the applicable standard for the storage of dangerous goods on the Gove site, rather than the actual *statutory* standard and requirements. This can create an assumption within RTA that they will not be penalised according to the statutory framework, and results in a relaxed approach to the issue by DoR, where compliance with the statutory requirements is not monitored or enforced.

The compliance regime for mine site infrastructure in the Northern Territory subsequently creates confusion and uncertainty for operators, as there appear to be multiple standards that are relevant and little formal guidance as to which one a mine operator is expected to adhere to. This appears to be an issue which is subject to negotiations and agreements between the two parties.

The division of responsibilities between DoR and NT WorkSafe for monitoring compliance with infrastructure standards at the Gove site appears to have resulted in a gap in the compliance and enforcement regime for mine site infrastructure. Whilst NT WorkSafe are responsible for administering the Dangerous Goods legislation and licensing regime, the role of the agency is limited to occupational health and safety concerns and does not extend to ensuring environmental risks are mitigated. This is seen to fall within DoR's jurisdiction, however DoR are primarily concerned with RTA's compliance with the MMP and the commitments within the MMP. As the RTA MMP did not refer to mine site infrastructure or contain the relevant standards, this was an area of environmental management that was left unchecked.

Whilst the failure to include the requirements of AS1940 in the MMP was a contributing factor to the incident, even where the MMP had addressed the Dangerous Goods legislative requirements, the mining regulatory framework does not provide a robust offence mechanism for non-compliance with a MMP. The commitments within MMPs are legally difficult to enforce.

The EPA notes the intention of the government to amend the MMA to include a regulatory offence for a failure to comply with a MMP. This proposed amendment is strongly supported by the EPA.

Similarly, the regulatory framework fails to provide a robust offence mechanism where a mining company conducts its activities in a way that creates unacceptable environmental harm. The reliance on various levels of 'environmental harm' as the standard of proof have been tested under other environmental protection legislation and found to be problematic in penalising pollution incidents.[1] Section 21 of the *Mining Management Act* creates further obstacles in establishing an offence, stating that 'the fact that environmental harm has occurred on a mining site is not of itself evidence of an offence [under the Act]'. Subsequently, where evidence of environmental harm on a mining site is established, there is still no certainty that the mine operator will be found guilty of an offence and/or penalised. This is another weakness in the mining regulatory framework identified by the EPA in relation to the need for effective incentives for RTA to carry out their activities in a way that minimises environmental risk.

The lease conditions by which RTA is bound are not intended to act as a mechanism by which to enforce specific management actions on site. Whilst the lease is a legally-enforceable contract, the Commonwealth Government would be highly unlikely to act on environmental grounds under the conditions, and would consider a matter involving environmental harm to fall instead within the jurisdiction of the regulatory frameworks applicable at the state/territory level.

The DoR assessment of lease conditions in 2009 and the follow-up assessment in 2010 at the RTA Gove site both concluded that no breach had occurred that may preclude the lease being renewed. This was despite the fact that site infrastructure had clearly failed to be 'maintained, managed and operated in good and proper order and fair wear and tear', as required by clause 3(g) of the lease, due to RTA;s failure to adhere to statutory inspections of dangerous goods storage infrastructure.

The lease conditions do, however, allow the Commonwealth Government to retain the power to revoke the lease at any stage where RTA has not complied with those conditions. Whilst the administration of the lease has been delegated to the NT Government, the terms and conditions upon which any renewal of the lease can occur remains the responsibility of the Commonwealth Government. Where lease conditions were strengthened and the NT Government able to enforce compliance with the conditions, RTA would be required to meet a much higher standard of environmental performance.

[1] For example, the *Waste Management and Pollution Control Act*, the *Water Act* and the *Marine Pollution Act* all contain offences based on levels of environmental harm. No prosecution under any of these pieces of legislation has ever been brought. Recent pollution incidents at Melville Bay, Gove and East Arm have demonstrated the difficulty with which these levels of harm can be established.

Further confusion arises in the division of responsibilities for the leases between DoR and the Department of Lands and Planning (DLP). DLP have responsibility for the various Special Purpose Leases that have been granted under the SML. This creates uncertainty as to the appropriate enforcement agency where a condition of a lease is breached.

3. The adequacy of the current authorised mine management plan and the adequacy of the inspection regime and implementation of this regime.

The way in which the MMP was approved and the failure of the MMP to include the statutory requirements for the storage of dangerous goods on site is a significant concern to the EPA and has directly contributed to the petrol leak incident.

The failure of the MMP to include requirements relating to storage of dangerous goods on site was first identified by DoR at the initial submission of the MMP in April 2007 (required under the Mining Authorisation) when RTA commenced operations on the Gove site in 2007. Despite DoR's request that additional information relating to this issue be provided, the amended version of the MMP submitted in May 2007 still had not addressed the issue.

Regardless of the fact that the additional information requested by DoR was still absent from the MMP, DoR approved the MMP, commenting that 'the storage of dangerous goods on site needs to be mentioned in the next MMP.' The next MMP (2008), was also approved by DoR and is the relevant MMP in force at the time of the incident. Again, the storage of dangerous goods on site has not been addressed to any extent, despite the reference within the MMP to statutory 'key requirements' in Section 1.9.

The way in which the approval of the initial MMP and subsequent MMPs occurred indicates a less than rigorous approach by DoR to the inclusion of key issues for environmental management within RTA's MMP. Considering the reliance upon MMPs under the *Mining Management Act* as a key mechanism for environmental management on mine sites, the failure of RTA's MMP to address the storage of dangerous goods should reasonably have demanded action by DoR to ensure this issue did not lead to environmental harm. Despite this, and the fact that DoR were aware that mine site infrastructure dated back to the 1960s, no action was taken by the agency and the 2007 and 2008 MMPs were approved regardless.

DoR's role as the regulator of activities on mine sites places a significant burden on the agency to act in a way that demands and enforces appropriate environmental management by mine site operators, to ensure environmental risks are mitigated. The approval process described above and the petrol spill incident that followed suggest that DoR did not effectively discharge their responsibilities in this role.

Under the *Mining Management Act*, RTA's Mining Authorisation is subject to the condition that RTA comply with the current MMP in respect of the mining activities to which the Authorisation relates. The way in which this provision operates in practice, however, is that once Authorisation is granted, there are minimal checks on actual compliance, despite the fact compliance is a pre-condition to that Authorisation being granted. Compliance checks are limited to internal reviews conducted by RTA, with reports provided to DoR, and sporadic field inspections undertaken by DoR.

There is no legal obligation on RTA to provide MMP compliance reports to DoR. This mechanism or approach appears to have been adopted as most convenient to both the regulator and RTA. It is questionable how effective this approach is in securing compliance. In contrast, the *Mining Management Regulations* require RTA to provide monthly reports to the CEO on information relating to the number of persons working on the site and the number of occupational health and safety work-related accidents. There is no similar provision under the legislative framework for environmental incident or non-compliance reporting.

In addition to the above, whilst compliance checks are obviously founded on the commitments provided in the MMP, RTA's MMP does not include any of the relevant standards for mine site infrastructure or commitments for storage tank inspections. Subsequently, as the regulator of the MMP, DoR are unable to

uphold tank inspection regimes. The incident highlights that this is an area of site environmental management that has not been monitored or enforced with any rigour or thoroughness.

4. Whether the public can be reassured that this will not happen again.

Where the current approach to regulation and management of mine site infrastructure continues to be implemented, it is almost undoubtable that such another incident will occur.

The reliance of the regulator on systems of self-reporting and self-regulation has proved inadequate. Whilst field inspection reports addressed environmental and safety issues identified in some detail, the focus of these field inspections is predominantly compliance with the MMP and the MMA. Neither the RTA Gove MMP nor the MMA address mine site infrastructure to any extent. For that reason, the fuel storage tank area was not considered a key area or priority for field inspections and this is reflected in the field inspection reports.

The petrol spill is not an isolated incident. Evidence demonstrates that three previous environmental incidents had occurred on the Gove site and gone unreported under the *Mining Management Act*. DoR report that incidents are responded to through the use of a risk-based approach, where some incidents are addressed using improved management mechanism, rather than through the imposition of penalties. The occurrence of two relatively serious environmental incidents at the Gove mine site within a six month period, both of which could have been easily prevented, may suggest this approach is ineffective in managing environmental incidents.

DoR's awareness of these incidents and the corresponding lack of fines imposed or punitive action taken not only reflects the poor range of offence mechanisms and penalties available under the legislation, but could be interpreted as a lack of confidence by the regulator in the current offence mechanisms. RTA's failure to comply with the inspection regime specified in AS1940 was a breach of a statutory requirement creating environmental risk yet no action was taken by DoR to address this risk. Considering the sporadic nature of site inspections, this reluctance, where non-compliance is actually identified is particularly worrying and fails to encourage in any way the improvement of environmental management systems, policies and procedures on site.

Even where the offence mechanisms are utilised by DoR, the weakness of the penalties imposed, as mentioned above, fails to encourage best practice environmental management on mine sites. The failure of RTA to maintain the fuel storage tank in an appropriate condition, where determined to be a breach of their duty under the *Dangerous Goods Act*, can only result in a maximum fine of $250,000. Notwithstanding the provision of a security deposit for (amongst other purposes) clean up costs associated with incidents, this relatively minor amount of money is unlikely to provide sufficient incentive to RTA to invest in new infrastructure or adopt a new systems approach to the storage of fuel on site.

Additionally, whilst the security deposit may be used to cover the cost of remediation in the event of an environmental incident at the Gove site (provided by Section 43(b) of the *Mining Management Act*), the EPA notes that the amount secured was calculated on the basis of the 2008 MMP, which did not address to any extent mine site infrastructure standards. For this reason, the amount calculated as appropriate and secured by RTA, is unlikely to capture the costs associated with an incident arising from faulty or non-compliant infrastructure.

It is suggested that where DoR's response and attitude towards an environmental incident or significant environmental risk is not proactive, RTA will be prompted to adopt a similar response. In the event of the petrol spill, the information provided by RTA in their investigation report was specified in a written request from DoR. Had an investigation into the incident not been initiated by DoR, none of the material in the report would have been generated and the systemic inability of the MMP to adequately address environmental risk associated with mine site infrastructure at Gove would not have come to light. As a corporate entity, Rio Tinto are subject to far more rigorous mining regulatory frameworks in other Australian jurisdictions and around the world, hence there is no justification as to why they should be allowed to operate at a lower standard or with less rigour in their NT operations.

The final point in considering whether the public can be reassured another incident of this nature will not occur again is the lack of public participation in the regulation of mining activities. Regulation is confined entirely to the relationship between DoR and RTA, with no requirement upon either party for public accountability or transparency in decision-making. Under the legislation, MMPs are not public documents and details of the compliance monitoring, site inspections and enforcement actions undertaken by DoR are not required to be reported in any form or forum. The public are unable to access information regarding environmental incidents at mine sites, the causes of such incidents and how these are being dealt with.

DoR argue that the MMA places restrictions on their use of information obtained on mine sites. The EPA therefore recommends that this aspect of the legislation be reviewed as a matter of priority. At present there appears to be little in the way of reassurance for the public under the current regulatory regime and practice that such an incident will not occur again.

By DoR's own admission, information relating to environmental management on mine sites within DoR is spread across numerous files within the department. As the Government's agent in relation to environmental risk, it is suggested DoR ensure comprehensive records of inspections and incidents are maintained in a more integrated manner.

Conclusions

The EPA's inquiry and analysis of the evidence obtained has allowed the following conclusions to be drawn:

1. **Agreed and accepted reliance on an industry standard rather than the statutory standard.**
    - The industry standard is the accepted applicable standard for the storage of dangerous goods on site, as agreed between DoR and RTA;
    - This can create an assumption within RTA that they will not be penalised for failure to comply with the statutory requirements;
    - Compliance with the statutory requirement is not monitored or enforced.

2. **Compliance and enforcement**
    - Once a Mining Authorisation is granted, there are minimal checks on actual compliance. Compliance checks are limited to internal reviews by RTA with reports provided to DoR, and sporadic and informal site inspections undertaken by DoR;
    - DoR are under-resourced to undertake a more comprehensive site inspection regime;
    - No legal obligation is upon RTA to provide compliance reports to DoR – this approach appears to be adopted on grounds of convenience, for both parties;
    - The reliance on self-monitoring and self-regulating systems has proved inadequate – 3 incidents have gone unreported and without penalties being applied;
    - The response of RTA to an incident is primarily dictated or prompted by DoR.

3. **Penalties and offence mechanisms**
    - There is no robust offence mechanism for non-compliance with a MMP, or for situations where activities result in environmental harm;
    - The penalties under the Dangerous Goods legislation do not provide an effective incentive to encourage RTA to improve infrastructure and/or environmental management systems.

4. **Lease arrangements**
    - Current lease conditions are unable to be utilised as a mechanism by which to enforce specific management actions on site;
    - It is the Commonwealth Government, rather than the NT Government, that retains the power to revoke the lease where conditions are not complied with;
    - The division of responsibilities for the SML and the SPLs between DoR and DLP creates uncertainty as to the appropriate enforcement agency where a condition is breached.

5. **MMP approval processes**

- The process described failed to ensure key issues and statutory requirements for environmental management were captured within the MMP;
- MMPs are a key mechanism under the mining regulatory framework for environmental management on mine sites;
- DoR have been unable to effectively discharge their role as regulator of activities on mine sites in the MMP approval process that took place.

6. Requirement for a security deposit

- The amount is determined and calculated on the basis of the approved MMP, however the MMP may have failed to include key environmental risk issues;

7. Lack of public participation in the regulation of mining activities

- Regulation is confined entirely to the relationship between DoR and RTA, with no requirement upon either party for public accountability or transparency in decision-making;
- Approval, licensing and management documents associated with mining activities are not public documents, neither can information regarding environmental incidents be accessed by members of the public.

8. Lack of clearly defined agency roles and responsibilities for enforcement of infrastructure standards

- The division of responsibilities between NT WorkSafe and DoR for monitoring compliance with mine site infrastructure standards is currently blurred and has resulted in a gap in the monitoring regime in the Northern Territory.