QUEENSLAND FLOODS
COMMISSION OF INQUIRY

STATEMENT OF ANDREW STUART BRIER

WITH RESPECT TO THE CALLIDE POWER STATION

I, **ANDREW STUART BRIER** of c/- 400 George Street Brisbane in the State of Queensland, General Manager Strategic Implementation, Coal & CSG Operations, Regional Service Delivery, Operations and Environmental Regulator, Department of Environment and Resource Management (DERM), solemnly and sincerely affirm and declare:

Requirement from Queensland Floods Commission of Inquiry

1. I have seen a copy of a letter dated 13 September 2011, which is attachment **ASB-01**, from the Commissioner, Queensland Floods Commission of Inquiry to me requiring a written statement under oath or affirmation, and which details the topics my statement should cover.

Role

2. I am currently the General Manager Strategic Implementation, Coal and Coal Seam Gas Operations within the Regional Service Delivery Division in the Department of Environment and Resource Management. I have held this position since 21 February 2011 although I was involved in the management of flood related issues surrounding coal mines from the 10 January 2011 onwards.

3. Between 2010 and 2011 my roles were as follows:
   - 25/12/2009 to 05/08/2010 - Regional Manager GABSI & Major Projects
   - 06/08/2010 to 02/01/2011 - Regional Manager CSG Activities
   - 03/01/2011 to 20/02/2011 - Director LNG Enforcement Unit
   - 21/02/2011 onwards - General Manager Coal & CSG Operations

Item 1: Department of Environment and Resource Management's activities in respect of each mine's flood preparedness in advance of the 2010/2011 wet season, including whether any particular activities were undertaken as a response to the forecast of an above-average rainfall wet season.

4. As a regulator DERM's compliance activities are designed to strategically review the performance of individual regulated entities on the basis of perceived risk.

5. DERM undertook pre wet season compliance programs to evaluate water management preparedness ahead of the 2010/2011 wet season. This primarily involved evaluating past wet season performance and preparedness ahead of the

next wet season in terms of having available dam storage capacity to meet the minimum design storage allowance required on the 1 November of any year.

6. Environmental authorities include requirements for companies to prepare Water Management Plans that outline the overall mine water management strategy for their site. The environmental authorities require an annual review of these plans to ensure learnings from past wet season performance are incorporated into forward plans and preparations for future wet seasons.

7. Environmental authorities for mine sites also include dam structural design, construction and operation requirements that are commensurate with flood risks given a mines location, including:
    a. certified hazard assessment required for all dams;
    b. must be designed to prevent floodwaters from entering the dam, wall failure and overtopping up to and including a specified flood event based on AEP;
    c. certified design plans, high risk dams reviewed by DERM technical experts;
    d. having a marked "mandatory reporting level" above which DERM must be notified immediately, and actions put in place to prevent or mininise environmental harm;
    e. ensuring that dams are inspected by a suitably qualified and experienced person;
    f. undertaking reviews annually about the effectiveness of the dam during the preceding wet season and modifying the water management system accordingly;
    g. monitoring of water quality within the dam prior to the wet season;
    h. maintaining a register of dams and relevant information.

8. CS Energy is a government owned corporation that operates Callide Power Station, located approximately 10 kilometres east of the Biloela township in Central Queensland.

9. Power generation is an Enviromentally Relevant Activity (ERA) under the Environmental Protection Act 1994 for which a development permit is required. Waste ash and waste water produced as a result of power generation comprise of a range of contaminants that have the potential to cause environmental harm if not properly contained. CS Energy holds a Development Approval (CG0039 - **ASB-CPS02-01**), issued by DERM to authorise the ongoing operation of the power station and associated infrastructure. This approval also authorises the storage of contaminants on site in the Waste Containment Facility which includes Ash Dam B and associated seepage collection trenches and ponds, ash dam 1, 3 and 4 and evaporation areas. The Waste Containment Facility is located to the west of the power station.

10. CS Energy was issued with a notice to conduct au Environmental Evaluation (EE) (**ASB-CPS01-01**) in regards to the operation of Ash Dam B on 30 June 2010. This EE was a result of groundwater monitoring indicating elevated sulphate levels (above stock watering guideline limits) and increasing concentrations of trace elements such as Boron and Fluoride downstream of Ash Dam B. The

elevated levels are an indicator of possible ground water contamination as a result of seepage from Ash Dam B. The EE also included an assessment of dam integrity and water management. The information that had been gathered for this EE provided a basis for addressing the potential for discharge during the 2010/2011 wet season.

11. In response to the forecast of an above average rainfall, DERM prepared a Central West Region Summer Season Preparedness and Response Plan (**ASB-CPS01-02**).This document was designed to assist the Central West Region in identifying regulated water storage facilities which pose a risk of potential spillages during a summer season. Secondly, this document aims to identify what type of response is needed should an unauthorised discharge occur in order to best protect any surrounding water courses, population centres and land from pollution. The response involved writing to all holders of all environmental authorities that involved regulated storages prior to the wet season.

12. CS Energy was not included in the list of operators who were written to at the time as DERM was engaged with CS Energy through the statutory EE process where hazardous dam storage management was being actively evaluated. DERM formed the view that it did not need to reiterate management requirements through a formal letter.

Item 2: the water management sections of the environmental authority applicable at the mine during the 2010/2011 wet season, including:

a) **Any concerns held by him or the Department of Environment and Resource Management (DERM) regarding its terms and the ability of the mine operator to comply with it**
b) **Any terms that the mine operator has indicated it is unable to comply with, or breached**
c) **Any terms that had to be amended from the Fitzroy model conditions because the model terms were unsuitable for this mine site**
d) **Any terms that he or DERM consider do not adequately promote environmental protection and dam safety**

13. Environmental Authorities relate to Mining, Gas and Petroleum activities and are administered under Chapter 5 and 5A of the *Environmental Protection Act 1994* (EP Act). Chapter 4 of the EP Act relates to activities defined as assessable development under the *Sustainable Planning Act 2009* (SP Act) to which a Development Permit (also referred to as Development Approval) is issued. Environmentally relevant activities (ERAs) as defined in the *Environmental Protection Regulation 2008* are classified as assessable development under the SP Act. Development approval CG0039 (**ASB-CPS02-01**) is the permit for the Environmentally Relevant Activities associated with the operation of Callide Power Station does not authorise water to be discharged from Ash Dam B. The development approval includes conditions that establish a mandatory reporting level (MRL) for water level in Ash Dam B. If the MRL is exceeded, CS Energy is required to inplement a Contingency Plan which is developed from the Corrective Action Plan (**ASB-CPS02-05**).

a) Any concerns held by him or the Department of Environment and Resource Management (DERM) regarding its terms and the ability of the mine operator to comply with it

14. Ash Dam B was designed and the power station is operated to ensure that water is not discharged from the dam. The height of the spillway was raised in 2003 to minimise the risk of a discharge occurring.

15. The EE was issued on the basis of possible groundwater contamination from Ash Dam B. Whilst storage levels can influence discharge to groundwater it was not the basis for issuing the EE. In terms of storage levels on the 1 November 2010, DERM believed CS Energy was compliant with its Development Approval as Ash Dam B was within the Design Storage Allowance and below the MRL.

b) Any terms that the mine operator has indicated it is unable to comply with, or breached

16. On 20 December 2010, Kevin Harney (Site Manager – Callide, CS Energy) provided written notification stating that the MRL had been reached (**ASB-CPS02-02**). The notification included a contingency plan for managing the water level in Ash Dam. On 22 December 2010 CS Energy advised DERM that the risk of a discharge from the dam was low and would require a further 500-550mm of cumulative rainfall for this event to occur (**ASB-CPS02-03**). On 5 January 2011 Environmental Services Officers, CS Energy and SunWater representatives met to discuss management strategies and the possibility of a discharge occurring (**ASB-CPS02-04**).

c) Any terms that had to be amended from the Fitzroy model conditions because the model terms were unsuitable for this mine site

17. The Fitzroy model conditions do not apply to the Callide Power Station. The Fitzroy Model conditions apply only to coal mines operating within the Fitzroy Basin

d) Any terms that he or DERM consider do not adequately promote environmental protection and dam safety

18. To the best of my knowledge, I do not consider that the relevant conditions of the development approval contain terms that do not adequately promote environmental protection and dam safety

Item 3: any transitional environmental program (TEP) issued or refused or any emergency direction (ED) given or considered regarding either mine during the period 1 October 2010 to 30 July 2011 related to water management, and for each, the following:

a) Information received from the mine operator

b) **Any relevant dam safety issues**
c) **Relevant correspondence with the mine operator and other stakeholders**
d) **Whether and, if so, how DERM consulted with stakeholders**
e) **What considerations DERM took into account in making the decision**
f) **Whether, and if so, how DERM balanced environmental considerations and economic consequences of mines being non-operational**
g) **Whether, and if so how, DERM took account of downstream effects, including cumulative effects**
h) **The terms of the TEP issued or ED given**
i) **What actions were taken by DERM to advise emergency management personnel, including local and regional disaster management groups and local residents downstream of the dam about the TEP and any discharges or effects**
j) **Reasons for the decision given to the mine operator**
k) **Any breaches of the TEP or ED by the mine operator and DERM's response**

19. CS Energy submitted a voluntary TEP on 7 January 2011(**ASB-CPS03-01**). Environmental Services staff liaised with CS Energy and other stakeholders (e.g. internal experts, Water Services, Office of the Water Supply Regulator). A revised and final voluntary TEP was submitted on 11 January (**ASB-CPS03-02**).

20. The voluntary TEP was assessed in accordance with section 337 and 338 of *the Environmental Protection Act 1994* (**ASB-CPS03-03**). DERM approved a TEP that authorised the release of water for Ash Dam B on 11 January 2011 (**ASB-CPS03-04**). The main concern was the possible impact of Ash Dam B water on the groundwater aquifer and drinking water supplies. The TEP authorised the controlled release of water from Ash Dam B simultaneously with releases of water from the adjacent Callide Dam to minimise the risk of contaminants entering the groundwater aquifer and drinking water. The TEP also placed conditions on the discharge such as location of the release, discharge flow rate relative to the release from Callide Dam, notification and receiving environment monitoring to minimise the impact on the environment and ensure it could be assimilated into surface waters and the groundwater aquifer without the causing environmental harm.

a) Information received from the mine operator

21. The following attachments relate to the information received from CS Energy:
    a. Letter from CS Energy on 30 December 2010 re: Update of water level in Ash Dam B (**ASB-CPS03-05**)
    b. Letter from CS Energy on 7 January 2011 re: Update of water level in Ash Dam B (**ASB-CPS03-06**)
    c. Telephone conversation between Don Arnold (DERM), Lisa Thompson (DERM) and Kevin Harney (CS Energy) 7 January 2011 (**ASB-CPS03-07**)
    d. Program Notice from CS Energy 7 January 2011 (**ASB-CPS03-08**)
    e. CS Energy voluntary TEP dated 7 January 2011 (**ASB-CPS03-01**)
    f. Ash Dam B raw water results (**ASB-CPS03-09**)
    g. Email traffic regarding water level in Ash Dam B and Callide Dam release 8 January 2011 (**ASB-CPS03-10**)
    h. CS Energy Water Release Calculator 10 January 2011 (**ASB-CPS03-11**)

i. Email from Kevin Harney 10 January 2011 (**ASB-CPS03-12**)
j. CS Energy Final voluntary TEP dated 11 January 2011 (**ASB-CPS03-02**)

b) Any relevant dam safety issues

22. No dam safety issues were identified. From 24 December 2010 routine dam safety inspections by CS Energy staff were increased to daily. On 26 December 2010 arrangements were initiated with SunWater for an Emergency Inspection by a suitably qualified engineer. The inspection occurred on 29 December 2010 and no obvious dam safety issues were identified. An additional dam safety inspection was scheduled once the water level reached 214.53m and no issues were identified.. The inspections were conducted on 5 and 13 January 2011 and no integrity issues were identified.

e) Relevant correspondence with the mine operator and other stakeholders

23. DERM environmental services staff continually consulted and liaised with CS Energy and other relevant areas of DERM such as dam safety, water services and the office of the water supply regulator. This communication is reflected in the attachments listed below.
    a. Email from Don Arnold to Russ McConnell (DERM Dam Safety) 20 December 2010 re: High water levels is Ash Dam B (**ASB-CPS03-13**)
    b. Email from Kerry Marler (Water Services) 7 January 2011 re: Comments on Ash Dam B discharging (**ASB-CPS03-14**)
    c. Email from Don Arnold to Ian Ramsay (Environment and Resource Sciences) 8 January 2011 re: voluntary TEP for comment (**ASB-CPS03-15**)
    d. Email from Don Arnold to Heather Unwins (Office of the Water Supply Regulator) 8 January 2011 re: voluntary TEP for comment (**ASB-CPS03-16**)
    e. Email from Neil Tripodi to Lisa Thompson/Dave Love on 10 January 2011 re: voluntary TEP comments (**ASB-CPS03-17**)
    f. Email from Heather Unwins 10 January 2011 re: voluntary TEP comments (**ASB-CPS03-18**)
    g. CS Energy proposed monitoring plan 10 Jan 2011 (**ASB-CPS03-19**)
    h. Email from Kerry Marler (Water Services) re:Monitoring of release 10 January 2011 (**ASB-CPS03-20**)
    i. Email from Dave Love to Roger Hartigan (CS Energy) re: voluntary TEP comments 11 January 2011 (**ASB-CPS03-21**)
    j. Email from Greg Crisp (QLD Health) 12 January 2011 re: voluntary TEP comments (**ASB-CPS03-22**)

d) Whether and, if so, how DERM consulted with stakeholders

24. DERM staff consulted with internal DERM experts as well as Queensland Health, SunWater (the operators of the adjacent Callide Dam), the Office of the Water Supply Regulator and Banana Shire Council when considering the application, approval and conditions of the TEP. DERM Officers also attended a Callide Irrigators Advisory Committee Meeting.

e) What considerations DERM took into account in making the decision

25. Transitional environmental programs (TEPs) are specific programs that, when complied with, achieve compliance with the *Environmental Protection Act 1994* (EP Act) for an activity by reducing environmental harm, detailing the transition of the activity to an environmental standard or detailing the transition of the activity to comply with a condition of a development approval, an environmental authority or code of environmental compliance. The requirements for TEPs and the process for assessing and approving them is set out in chapter 7, part 3 of the EP Act (**ASB-CPS03-29**).

26. Draft TEPs may be submitted voluntarily by a mine operator, or DERM may require an operator to submit a draft TEP if it is satisfied that an activity or proposed activity is or may cause unlawful environmental harm. In either case, the draft TEP is prepared by the operator. DERM's role is to assess the draft TEP against the requirements of the EP Act and either approve the TEP, approve the TEP with conditions, or refuse to approve the TEP.

27. Section 338 of the EP Act (**ASB-CPS03-30**) provides the framework for considerations that the administering authority must make in deciding whether to approve or refuse a draft TEP or the conditions (if any) of the approval. In making its decision it:
    - must comply with any relevant regulatory requirement and
    - subject to the above, must also consider the following:
        - the standard criteria
        - additional information given in relation to the draft TEP and
        - the views expressed at a conference held in relation to the draft TEP.

28. DERM has produced guidance material to support regional officers and delegated decision makers in assessing draft TEPs. A two part procedural guide; Part 1-Notice requiring a draft TEP (**ASB-CPS03-23**) and Part 2-Considering and making a decision about a draft TEP (**ASB-CPS03-24**) is attached. Supplementing the guidelines are two correlating assessment report templates Part 1 Assessment Report (**ASB-CPS03-25**) to assist officers to record the information considered by DERM when deciding to issue a notice requiring a TEP and Part 2 – Assessment Report (**ASB-CPS03-26**) to assist users to evaluate the content of a draft TEP and make a decision to either approve (with or without conditions) or refuse a draft TEP. Prior to the procedural guides and assessment reports coming into effect, a draft Administrative Practice Note (**ASB-CPS03-31**) and a Request for Statutory Approval template (**ASB-CPS03-32**) was utilised by regional officers to assist with the TEP assessment process.

29. The voluntary TEP was assessed in accordance with section 337 and 338 of *the Environmental Protection Act 1994* (**ASB-CPS03-03** – Request for Statutory Approval). Section 338 requires consideration of the Standard Criteria, compliance with any relevant regulatory requirement, additional information give in relation to the TEP and views expressed at a conference held in relation to the TEP. The principal concern was in regards to the potential for impacts on water quality in the downstream Callide Creek aquifer system. This aquifer provides the

town water supply for Biloela as well as stock and domestic water and irrigation water for a variety of agricultural operations in the region. Consideration was also given to the potential for damage and disruption to downstream infrastructure including roads and bridges.

f) Whether, and if so, how DERM balanced environmental considerations and economic consequences of mines being non-operational

30. The EP Act and subordinate legislation governs the responsibilities of DERM in the environmental regulation of mining activities in Queensland. The objective of the EP Act is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. This is referred to as ecologically sustainable development (ESD). Accordingly, DERM is required to balance environmental, economic, social and equity considerations when making decisions.

31. When making any decision under the EP Act, including whether to approve a draft TEP, DERM must consider the "Standard Criteria" (**ASB-CPS03-27**) as specified in Schedule 4 of the EP Act. The standard criteria specifically require environmental and economic considerations to be balanced and considered. Part 2-Considering and making a decision about a draft TEP procedural guide (refer to **ASB-CPS03-24**) provides further guidance on some of the principles on evaluating ESD. In addition further direction is provided on other considerations of the standard criteria, relevantly the financial implications for an applicant in complying with a TEP (and any conditions that may have been imposed) and the character, resilience and values of the receiving environment.

32. Furthermore, part 2 and 3 of the *Environmental Protection Regulation 2008* (EP Reg) (**ASB-CPS03-28**) stipulate requirements for all environmental management decisions and additional regulatory considerations with respect to imposing conditions relating to a wide ambit of environmental and economic considerations including but not limited to monitoring, and releases to waters or land. Decisions must also consider any relevant Environmental Protection Policies (EPP) such as the *Environmental Protection (Water) Policy 2009* which sets out to achieve the objective of the EP Act with respect to Queensland waters. It does this by identifying environmental values and management goals and providing a framework for making consistent, equitable and informed decisions about Queensland waters.

33. The option of requiring the power station to cease operation was not considered as this would have been unlikely to make a significant impact on the water level in the ash dam.

g) Whether, and if so how, DERM took account of downstream effects, including cumulative effects

34. The purpose of the TEP was to reduce the risk of negative impacts on the quality of downstream water supplies that may have occurred in the event of an uncontrolled discharge from the ash dam. The TEP authorised the controlled

release of water from Ash Dam B simultaneously with releases of water from the adjacent Callide Dam to minimise the risk of contaminants entering the groundwater aquifer. Kerry Marler (Water Services), Ian Ramsay (Chief Scientist, Aquatic Ecosystem Risk and Decision Support) and Neil Tripodi (Principal Scientist, Aquatic Ecosystem Risk and Decision Support) were contacted by phone and email to provide advice on the TEP and to ensure discharge rates were at levels that would provide for appropriate assimilation of the discharge without impact on the receiving environment.

h) The terms of the TEP issued or ED given

35. Refer to attachment **ASB-CPS03-04** – Transitional Environmental Program Certificate of Approval. The Certificate of Approval included conditions relating to the location of the release, dilution ratio, notification and receiving environment monitoring requirements.

i) What actions were taken by DERM to advise emergency management personnel, including local and regional disaster management groups and local residents downstream of the dam about the TEP and any discharges or effects

36. CS Energy liaised with potentially affected landholders and issued a media release to the Central Telegraph about the discharge of Ash Dam B water. DERM staff also attended a meeting of the Callide Irrigators Advisory Committee to discuss the TEP and to explain the conditions placed on CS Energy to ensure a low level of risk noting the environmental values within the receiving environment.

j) Reasons for the decision given to the mine operator

37. It was communicated verbally to Kevin Harney that the conditions placed on the TEP was to protect the values of the downstream environment and aquifer.

k) Any breaches of the TEP or ED by the mine operator and DERM's response

38. CS Energy failed to submit a report 28 days after the cessation of the release. DERM contacted CS Energy and this was promptly provided.

Item 4: the effects on the environment, drinking water quality and public health downstream of each of the mine sites (as far as the Great Barrier Reef Marine Park) as a result of discharges of water under a TEP or ED.

39. The potential effects of releases of water from mine sites are assessed prior to the grant of environmental authorities or transitional environmental programs. In applying to receive approval to discharge to a surface water, applicants must prepare information to support the application which identifies the environmental values, water quality objectives and management intent (that is, the goals to be achieved in terms of meeting water quality objectives and protecting environmental values) of the surface water. This framework is provided in the *Environmental Protection (Water) Policy 2009* (EPP Water) **(ASB-CPS04-01)**.

Applications must be able to demonstrate that the management intent for the receiving water will be met despite the discharge occurring.

40. All applications for environmental authorities and TEPs submitted for the approval of discharge to surface waters must be assessed by DERM against the requirements of the EP Act which includes the EPP Water, including an impact assessment to ensure that environmental values of any surface water will be protected. In conducting these regulatory assessments, DERM has developed a number of decision support tools including the guideline "Protecting Environmental Values from CSG Water Discharged to Surface Waters" (2010, **ASB-CPS04-02**) Conditions for Coal Mines in the Fitzroy Basin – Approach to Discharge Licensing (June 2010) and the Operational Policy "Waste water discharge to Queensland Waters" (2007, **ASB-CPS04-03**) and associated procedural information (**ASB-CPS04-04** and **ASB-CPS04-05**). DERM has also prepared an "*Interim Decision Support Matrix Release of water produced in association with Coal Seam Gas activities to surface waterways*" (2010, **ASB-CPS04-06**) which informs assessments and resultant authority conditions

41. The approach used by DERM throughout the 2010-2011 wet season aimed to be consistent with state/national water quality guidelines e.g. The Queensland Water Quality Guidelines (2006), ANZECC/ARMCANZ Guidelines for Fresh and Marine Water Quality 2000, the Australian Drinking Water Quality Guidelines and the October 2010 released Draft for Consultation – Establishing Environmental Values, Water Quality Guidelines and Water Quality Objectives for Fitzroy Basin Waters. .

42. Controls and limitations are placed on authorities as conditions such as limits upon the volumes discharged, timing of discharge and required dilution and mixing zones for discharges. Conditions also include comprehensive contaminant monitoring programs for discharge quality which is supplemented by detailed receiving environment monitoring programs.

43. Releases of water from a dam at a mine site can be authorised by the conditions of an environmental authority or via specific permission under a transitional environmental program. Regardless of the statutory instrument, for releases of water from a dam at a mine site to be authorised, the assessment procedure described above would apply.

44. The EP Act and the subordinate EPP Water provides for drinking water values for Queensland waters. Accordingly, the protection of these values must be demonstrated prior to any authority being granted authorising a contaminant release to surface waters. Conditions of the environmental authority or TEP will provide quality limits and environmental monitoring to ensure that discharge quality is sufficient to protect drinking water values.

45. During the 10/11 wet season, DERM staff liaised with Queensland Health on a regular basis to ensure that any authorised or un-authorised discharges from mine sites were managed to ensure the protection of drinking water quality.

46. TEPs issued during or as a result of the 10/11 wet season also considered the effects of any mine site release on drinking water and were conditioned to ensure that the discharge was managed in such a way as to ensure the protection of drinking water supplies.

47. Surface water quality was monitored by DERM during the January release and CS Energy during all releases from Ash Dam B. CS Energy has also undertaken an expanded groundwater monitoring program.

48. Based on the monitoring data (**ASB-CPS04-07** for the TEP report and **ASB-CPS04-08** for DERM monitoring results report) the discharge of water from Ash Dam B has not impacted the environment, drinking water quality or public health downstream. Some parameters such as electrical conductivity increased during discharge but was maintained below the trigger values (e.g. Electrical conductivity 1000 µS/cm, pH 6.5-8.5, Dissolved Oxygen >2.0 mg/L) and returned to background once discharge ceased.

Item 5: details of how the new Fitzroy Model Conditions negotiated during 2011, or any other discussions with DERM, will resolve any issue raised above 1, 2, 3, or 4

49. The Fitzroy model conditions do not apply to the Callide Power Station.

Item 6: an explanation as to whether the new Fitzroy Model Conditions negotiated during 2011 are advantageous or disadvantageous to the mine operator in the management of water at the mine, the downstream environment and safety issues.

50. The Fitzroy model conditions do not apply to the Callide Power Station.

Item 7: any briefing (written or oral) given to any Minister or Director-General regarding a TEP or ED related to water management or non-compliance with an environmental authority at the mine and the reason for that briefing

51. A briefing note was written for the both the then Minister for Natural Resources, Mines and Energy and Minister for Trade and the Minister for Climate Change and Sustainability advising of a Water Release from Callide Power Station Ash Dam (**ASB-CPS07-01**).

52. There were a significant number of oral briefings provided to the Minister for Climate Change and Sustainability and the Director General of DERM in relation to TEPs during the wet season period of which there are no written records. In general, these were primarily in relation to the mining/CSG industry as a whole and the number of TEPs issued or currently being assessed. Individual mines were discussed at several of these briefings but I am unable to provide an accurate transcript or meeting notes from these briefings.

Item 8: DERM's opinion as to whether the mine operator should be managing water at the Mine other than by storing it in dams or ponds, including by using desalination plants, purification procedures or any other means

53. DERM is of the opinion that CS Energy is required to comply with the waste management hierarchy as defined in the *Environmental Protection (Waste Management) Policy 2000*. The intention of this policy was reflected in the requirements of the EE and was a consideration in determining the on-going activities that are being implemented as a result of the EE. As a result of the EE, CS Energy was required to submit a TEP that addressed waste water management, seepage interception and control and receiving environment monitoring (**ASB-CPS08-01**).

Item 9: an explanation of that which is involved in managing water at the Mine other than by storing it in dams or ponds, including by using desalination plants, purification procedures or any other means

54. CS Energy has implemented a Waste Management Improvement Program which identifies a number of measures to manage water. These include:
    - Reverse Osmosis Plant (installed and operating)
    - Evaporative sprays (installed and operating)
    - Minimisation of raw water usage(ongoing due for completion 10 August 2014)
    - Changes to the ash disposal system. (ongoing due for completion 10 August 2014)

Item 10: to the knowledge of DERM, the effects on the environment, drinking water quality and public health downstream of each of the Power Station sites (as far as the Great Barrier Reef Marine Park) as a result of discharges from Ash Dam B between 1 October 2010 and 30 July 2011

55. Surface water quality was monitored by DERM during the January release and CS Energy during all releases from Ash Dam B. CS Energy has also undertaken an expanded groundwater monitoring program.

56. Based on the monitoring data (**ASB-CPS10-01** – TEP report; and **ASB-CPS10-02** DERM monitoring results report) the discharge of water from Ash Dam B has not impacted the environment, drinking water quality or public health downstream. Some parameters such as electrical conductivity increased during discharge but was maintained below the trigger values (e.g. Electrical conductivity 1000 µS/cm, pH 6.5-8.5, Dissolved Oxygen >2.0 mg/L) and returned to background once discharge ceased.

57. To the best of my knowledge, neither DERM nor CS Energy has received any complaints in relation to the discharge of Ash Dam B water.

Item 11: a description of the concerns surrounding Ash Dam B during the period 1 October 2010 to 30 July 2011, including:

a. water level
b. dam safety
c. uncontrolled discharge
d. contaminants and hazardous waste in the contents of the dam

a) water level

58. Increasing water level in Ash Dam B during the wet season lead to two major concerns:
    1. Dam integrity and safety
    2. The potential for a discharge from Ash Dam B to negatively impact the quality of water in the Callide Creek aquifer and downstream water supplies.

59. Post wet season, DERM is liaising with CS Energy to track the current water level in Ash Dam B. DERM seeks CS Energy to reach the MRL and comply with the Design Storage Allowance prior to 1 November to ensure a safety factor is established heading into the wet season and comply with their development approval.

b) dam safety

60. As identified, dam safety and integrity was of concern during the wet season; however, dam safety inspections were undertaken and CS Energy conducted daily inspections of the dam. No integrity issues were identified.

c) uncontrolled discharge

61. There were a number of concerns with the potential for an uncontrolled discharge that factored into the granting of the TEP:
    - Impact on the Callide Creek aquifer and drinking water that is sourced downstream.
    - Unknown quantity of contaminants released into the receiving environment
    - Unknown volume of Ash Dam B water released into the receiving environment
    - Possible dam integrity issues with an uncontrolled discharge
    - Erosion of the landscape.

d) contaminants and hazardous waste in the contents of the dam

62. Ash Dam B contains a range of contaminants. The following elements were considered of greatest concern:
    - Electrical conductivity
    - Sulfates
    - Chlorides
    - Boron
    - Molybdenum.

63. These contaminants have the ability to negatively affect the groundwater aquifer. A controlled release from Ash Dam B is preferred to ensure it can be assimilated into the receiving environment with low risk of environmental harm. The volume of water released from Ash Dam B was capped at maximum 5% of the receiving water flow rate of Callide Creek with no release from Ash Dam B during low flows of less than 300 megalitres per day. The dilution rate was designed to ensure compliance with Australian Drinking Water guidelines and ANZECC/ARMCANZ (2000). An uncontrolled release of water from Ash Dam B would not guarantee a low dilution ratio and could potentially impact the environmental values within the receiving environment ie groundwater aquifer and drinking water supplies.

I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1867*.

Signed . . [redacted] . . . . . .
Andrew Stuart Brier

Taken and declared before me, at Brisbane this 27th day of September 2011

. . . [redacted] . . . . . .
Solicitor/~~Barrister/Justice of the Peace/Commissioner for Declarations~~