

**PANEL REVIEW OF THE  
*CHEMISTRY CENTRE (WA) ACT 2007***

**September 2013**

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## 1. EXECUTIVE SUMMARY

This review was carried out in fulfilment of the requirement of the *Chemistry Centre (WA) Act 2007* (the *Act*) for five-yearly reviews of the functions and effectiveness of operation of ChemCentre. The current and future relevance of ChemCentre to the State was examined, and the conditions required for its continued existence and viability were considered.

The review found that ChemCentre is at a crossroads in terms of its functions, mode of operation and financial viability, and that positive action will need to be taken in relation to funding and intellectual capital in order to secure its sustainability into the future.

The following points provide a brief overview of the key findings of the Review.

### General Observations

It is in the interest of the State and its citizens to ensure the continued existence and development of ChemCentre as an independent, quality provider of key chemical services essential to the management of community security and safety, the environment and public health.

The establishment of ChemCentre as a Statutory Authority located in modern, custom-built facilities on the Curtin University campus has been a very positive step in securing the future of the organisation as a first-class provider of specialist analytical services by providing:

- World-class equipment, facilities and infrastructure; and
- Location in the Curtin Chemistry Precinct to facilitate interaction with leading chemistry-based research organisations in Curtin University and CSIRO.

The development of a more business-oriented culture has led to significant improvements in the efficiency and cost-effectiveness of the operation of ChemCentre. This should be continued and subject to continuous improvement with appropriate performance indicators.

### Funding

The current funding model for ChemCentre is unsustainable, particularly in relation to the ongoing costs associated with the new facilities. There is an urgent need to address the funding arrangements to ensure the immediate survival and future sustainability of the organisation.

It is not feasible that the gap in funding be filled by the development of commercial activities, and attempts to do so carry the potential to distract from the core functions of the organisation. Commercial operations should therefore be restricted to efficient use of the spare and stand-by capacity required to be maintained for response to emergencies and varying customer demands in core areas, and only to the extent that those response capabilities are not compromised.

ChemCentre has a mandate to provide chemical services to government, however there is currently no requirement for government departments to use those services. This has created the situation of underutilisation of expensive resources, uncertainty in planning, and charge-out rates that do not cover the costs of the services provided. To address this, it is proposed that government departments should be required through Common Use Agreements to use the services of ChemCentre as appropriate, and that these services should be charged out at agreed sustainable rates specified in service level agreements.

An ongoing appropriation from the State Government will be required to cover the remaining deficit. Deficit reduction should be a continuous improvement goal.

### **Intellectual Capital**

ChemCentre's intellectual capital must be continually nurtured and grown to maintain the excellence, credibility and independence the organisation must have to earn the ongoing support of its customers and government. In the technically complex and rapidly evolving fields of analytical chemistry which are ChemCentre's core business; this must be founded on a firm base of recognised world-class research and development capability and performance, with strong technical leadership by an internationally recognised specialist in analytical chemistry. It was far-sighted of those who drafted the current *Act* to include R&D as a specific responsibility of ChemCentre but to date this has not been implemented. A vibrant research effort is not a discretionary "nice to have" activity for ChemCentre; rather, it is essential to its survival as an organisation. The problem is that R&D is expensive, so cost-effective ways must be found to achieve it. R&D also requires a critical mass of researchers beyond the reach of ChemCentre alone. These factors were recognised in the previous review (2003), which suggested a solution based on collaboration with existing research organisations. The choice of the Curtin Chemistry Precinct as the new site for ChemCentre was made with this in mind. It is now time to realise the golden opportunity so created by actively and energetically pursuing collaboration with Curtin University. Preliminary discussions have indicated support for the creation of an internationally recognised collaborative centre for analytical chemistry related to ChemCentre's core specialities, such as forensics and/or emergency response. This is not just a survival imperative for ChemCentre. It is also a major opportunity for ChemCentre, Curtin University and the State of WA to become a world recognised centre in areas of science which are of critical importance to the State.

### **Steering Committee**

Addressing the issues raised in the review will require significant changes to the funding, structure and business model of ChemCentre. It is therefore recommended that a Steering Committee be established to work with the ChemCentre Board to assist in the management of the change process.

## 2. PROPOSED ACTION PLAN

To assist Government in putting into effect the recommendations of the report, the following Action Plan is proposed:

2.1 A Steering Committee should be appointed to carry out the recommendations contained in this report. Its tasks should be to:

2.1.1 *Identify and clearly define the key essential services which Government requires ChemCentre to provide.* This will require extensive consultations with all Government agencies which are using, or should be using, the services of ChemCentre. In order to ensure the viability of these services into the future, it will be necessary to establish appropriate service level agreements and payment arrangements for each agency on an ongoing basis.

2.1.2 *Establish a mechanism by which the State Government's "Common Use Agreement" arrangements will be put into place as service level agreements and pricing arrangements are implemented.* From this point on, it is imperative that Government agencies do not obtain elsewhere any of the key essential services which have been defined as ChemCentre's preserve.

2.1.3 *Draft an instruction for the Minister to give to the Board of ChemCentre to restructure the organisation to carry out its key essential services which include appropriate associated research and development activities, and nothing else.* This instruction should also allow and encourage ChemCentre to use for commercial, money-making activities any spare capacity in the resources required to carry out its key essential services, provided the performance of its key essential services is not affected. The instruction should also encourage collaboration with Curtin University to underpin the preservation and ongoing development of the intellectual capital of ChemCentre.

2.1.4 *Inform the Minister of changes required in Government (legislative and otherwise) to ensure that the services identified as key essential services will be performed by ChemCentre into the future, and to establish the financing arrangements necessary to sustain ChemCentre.*

2.2 In reaction to the Minister's instruction the Board of ChemCentre must:

2.2.1 *Determine the facilities, equipment and human resources required to carry out the key essential services as defined by the Steering Committee.* Realistically, this "organisation design" should be

founded on the organisation being based in the existing building which was purpose-built at considerable cost. There will have to be consultation with the relevant Government agencies to determine the exact nature and volume of the services required.

- 2.2.2 *Investigate options for collaboration with Curtin University, for example through the creation of a Centre of Excellence in Forensic Science and Emergency Response, by establishing a Chair in Analytical Chemistry at Curtin University.* Any such arrangement will require a formal agreement with Curtin University and appropriate funding arrangements to be established. Such collaboration is seen as fundamental to the future of ChemCentre as an authoritative and respected agency in the areas in which it provides services to the State.
- 2.2.3 *Draw up an action plan to put in place the new organisation design in a reasonable time; including a program and costs.* The extent of the task to move from the current situation to the required one is not known but is likely to be significant.
- 2.2.4 *Draw up an operating budget based on the key essential services required and the new organisation design.* One of the outputs of this operating budget should be the true and sustainable costs of delivering the services required.
- 2.2.5 *Prepare a submission to the Steering Committee on a proposed financing model for the organisation.* This should include proposed charges for the key essential services; estimates of revenues earned from the limited commercial activity allowed; and an estimate of the annual additional appropriation required by ChemCentre.
- 2.2.6 *Determine the performance indicators which will be used to measure ChemCentre's efficiency and effectiveness.* These should cover adherence to agreed service levels; the cost of delivering the services and the improvement in these over time; and measures of the excellence and prestige of ChemCentre in its core professional specialities.
- 2.2.7 *Implement the action plan to make the necessary changes to the organisation once it has been approved by the Steering Committee.*
- 2.2.8 *Direct the management of ChemCentre to negotiate service level agreements and pricing arrangements for the key essential services identified.*

2.2.9 *Direct the organisation so that it is managed in accordance with the new dispensation.*

### 3. RECOMMENDATIONS, ENDORSEMENTS AND SUGGESTIONS

The panel has reviewed the *Chemistry Centre (WA) Act 2007* according to the terms of reference (see 2) and makes the following recommendations, endorsements and suggestions:

#### RECOMMENDATIONS

- R1 The panel recommends that ChemCentre should continue to exist and closure should not be contemplated; accordingly, positive steps must be taken to ensure its survival.
- R2 The key essential services required by Government from ChemCentre, particularly in the areas of high risk to the security, safety, environment and health of the state and its citizens, should be clearly defined.
- R3 The panel recommends commercial activities unrelated to the key essential services and pursued purely for profit should be ceased and not entered into in future.”
- R4 The panel recommends that ChemCentre should establish service level agreements for all major customers; use appropriate and transparent costing and pricing methodology for all services; apply standby charges for essential services; and that government should provide an ongoing appropriation to cover the deficit.
- R5 The panel recommends that the mechanism of Common Use Agreements be used to ensure that government agencies use the services of ChemCentre.
- R6 The panel recommends that ChemCentre continues to operate as a Government Non-Financial Corporation.
- R7 The panel recommends that comprehensive efficiency indicators be introduced for ChemCentre, one of which should be the trend in government appropriations, and that expert advice for other indicators be considered as well as suitable incentives for improved efficiency.
- R8 The panel recommends that the Minister considers an appropriate mix of knowledge and skills in ChemCentre Board appointments; that the Board have the authority to recommend to the Minister the appointment of a Chief Executive Officer; and that the Board should have authority over other staff appointments and remuneration.
- R10 The panel recommends that ChemCentre co-invest with Curtin University to establish a Chair in Analytical Chemistry at Curtin University with a view to creating a Centre of Excellence in Forensic Science and Emergency Response.
- R11 The panel recommends that an ongoing appropriation be made to ChemCentre specifically and exclusively to support a base level of Research and Development in areas of importance to the State.

R10 The panel recommends that, should substantial elements of this review be accepted, a Steering Committee be formed to work with the Board to manage the changes required, particularly in the relationships between ChemCentre and the rest of government.

#### ENDORSEMENTS

- E1 The panel endorses the conclusions of the Ritchie Review (2003) that it is not feasible to outsource the essential services provided by ChemCentre because the required capabilities do not exist in the universities or the private sector, and that its research and education functions should be strengthened.
- E2 The panel endorses the functions of ChemCentre outlined in S9(a) of the Act with the following comments:
- E2.1 It is appropriate for ChemCentre to supply services to other state governments, the Commonwealth Government and the governments of other countries, provided they are paid for fully by those customers.
- E2.2 Serious consideration should be given to including DNA testing in ChemCentre's forensic services and to integrating Forensic Science and Emergency Response into a single entity.
- E3 The panel endorses S6(b) (ii) – that ChemCentre should do applied research and development in pursuit of increasing its intellectual property, at its own cost. Any research and development required by other entities should be paid for by those entities.

#### SUGGESTIONS

- S1 The panel suggests that ChemCentre makes it a priority to improve its profile, reach and status with government and government authorities, its customers, and the public, in particular by educating government entities and the public regarding critical chemical issues facing the State, and its own roles and capabilities.
- S2 The panel also believes that ChemCentre should make allowance for research in the pursuit of academic advancement which should be formalised – either in employment contracts or by agreement.
- S3 The panel suggests that consideration be given to the following:
- S3.1 ChemCentre needs to have a minimum cash balance to operate and this should be maintained at all times.
- S3.2 ChemCentre should be encouraged to accumulate a cash surplus (in excess of the minimum balance) during each financial year.
- S3.3 In determining ChemCentre's appropriation for any financial year, the forecast cash balance for the previous year should be taken into consideration.



**S3.4** The growth of ChemCentre's appropriation at below the inflation rate or, better still, a reduction over time, should be an efficiency performance indicator.

**S3.5** A rolling ten-year capital plan should be maintained by ChemCentre so that the financial plan includes replacement capital.

**S5** The panel suggests that in the appropriations from Treasury the rental sum paid to Curtin University by agreement (to pay them back for building the complex occupied by the Chemistry Centre) should be separated as a budget line item to enable more realistic Key Performance Indicators to be reported to Parliament.

#### **4. TERMS OF REFERENCE**

Pursuant to Section 41 of the *Chemistry Centre (WA) Act 2007* (the *Act*), perform a review of the *Act* and the Authority (trading as ChemCentre) which includes a review of:

- The attainment of the objects of the *Act*;
- The Administration of the *Act*;
- The effectiveness of the operations of the Authority;
- The need for the continuation of the Authority;
- The functions of the Authority, taking into account the current operating and financial environment;
  - The constraints on the effectiveness of the Authority's operations imposed by:
    - The *Act*;
    - The Regulations;
    - Policies and procedures adopted by the Board or Executive; and/or
    - Policies and procedures adopted and imposed by government;
    - Any such other matters that appear to the review to be relevant to the operation of the *Act*.

#### **5. HISTORICAL PERSPECTIVE**

ChemCentre traces its beginnings to the appointment of the first Government Analyst in 1896. His brief was to provide mineral assays, chemical analysis to support Customs, forensic analysis for the Police, and general analytical work for government departments as required. These requirements grew rapidly and led to the formation of the Government Chemical Laboratories (GCL) in 1906, with headquarters in William Street, Perth. After a further period of expansion it moved to new custom-built premises in Plain Street in 1947. Throughout the twentieth century GCL (later known as the Chemistry Centre of WA, which has now been modernised to simply "ChemCentre") made major contributions to the development and security of the State, in areas as diverse as food and agriculture, fuel technology, water supply and forestry, wine certification testing, air quality, and many others. The period from 1957 to 1973 saw major growth of the size, reach and status of GCL as it established itself as a trusted independent advisor and consultant to government and the community under the leadership of Dr L W Samuel.

The growth of the organisation inevitably led to questions about its running costs and the suitability of its facilities. In 2000 a review (the Howard Review) concluded that the Plain Street laboratories were no longer adequate. Accordingly, detailed

planning was undertaken for a new centre which would amalgamate the Forensic Biology Section of Path Centre with ChemCentre and co-locate it with the new Police Forensic Branch at Midland. The cost estimate for this was not acceptable to government which then requested a further review, by a Functional Review Taskforce, of the future role of ChemCentre. That review recommended that ChemCentre be disbanded and the services it provides be put out to tender, with the expectation that the main chemical analytical and advisory services would be provided by the universities.

A further review (the Ritchie Review) was commissioned in 2003 to examine the feasibility and mechanisms for implementing the recommendations of the Functional Review Taskforce. The Ritchie Review concluded that it was not feasible to outsource the essential services provided by ChemCentre because the required capabilities did not exist in the universities or the private sector. It was therefore recommended that ChemCentre be retained essentially in its existing form but that it be relocated to new premises at Curtin University, and that its education and research capabilities be strengthened through the formation of a Chemistry Alliance with the universities.

Most of the recommendations of the Ritchie Review were implemented (see Table 1) and in 2009 ChemCentre was relocated to modern, custom-built premises in the new Chemistry Precinct at Curtin University, in which ChemCentre is now co-located with the Curtin University Chemistry Department and CSIRO Process Science and Engineering. The Chemistry Alliance did not eventuate, although the co-location with Curtin Chemistry was seen as a first step in the creation of closer ties between ChemCentre and the universities. Realising the advantages of this remains an area of opportunity.

**Table 1: Conclusions from the Ritchie Review (2003)**

2003 Conclusions	Still Applies?	Comments
1. The Chemistry Centre (WA) provides essential services to government, particularly in the high risk areas of forensic science, emergency response, occupational and public health issues and environmental incidents.	YES	There has been growth in the scope, capability and performance of ChemCentre in all these areas.
2. As a risk management strategy, government should remain in effective control of these Chemistry Centre (WA) activities which are high risk, because failure in these activities poses an unacceptable threat to the community, and to achievement of government objectives.	YES	There has been an increase in the importance and criticality in all of these areas. Examples include the need to provide strong support to the CHOGM meeting in 2011, the Rainey murder case, the growth in clandestine labs, and the Esperance lead issue.
3. There is an urgent need to find a long-term solution to the on-going issues surrounding the Chemistry Centre (WA) which ensures that the core analytical and scientific services and chemical advice required by government are available at appropriate standards of service and quality, and at acceptable cost and level of risk.	YES	This has become more critical because not only has it not been resolved but the current direction of decreasing government funding to be replaced by increased external commercial revenue is in the panel's opinion fatally flawed and will inevitably result in the dismantling of ChemCentre within five years.
4. There is some high-level analytical chemistry capability in Western Australian Universities but no institutions have the critical mass, available spare capacity or the necessary experience to selectively tender for the core Chemistry Centre (WA) activities.	YES	Loss of ChemCentre would result in an immediate loss of capability in critical areas. The costs to the State of the initial loss of capability and the subsequent need to re-establish it in some form would be far greater than the costs of continued support to the existing ChemCentre.
5. There are significant gaps in the capabilities of the universities, particularly in the high risk areas of forensic science and emergency response.	YES	It is not remotely feasible that the universities would be able or willing to fill this gap.
6. It is therefore not feasible to implement the recommendation of the Functional Review Taskforce to close the Chemistry Centre (WA) and call for selective tenders from the Universities for the services it provides to government agencies.	YES	As above.

2003 Conclusions	Still Applies?	Comments
7. There is limited capacity or interest among private sector laboratories in "value added" functions which characterise many of the high and medium risk activities of the Chemistry Centre (WA), because though important, these are inherently unprofitable.	YES	The panel notes that the activities referred to here are those listed in point 1, i.e. forensic science, emergency response, occupational and public health issues and environmental incidents. They are essential services that require full and guaranteed financial support from government.
8. A unique opportunity now exists to engage in a joint venture with the universities which will not only deliver the core chemical services and advice required by government but will also support chemistry-based education, academic and applied research essential for innovation and expansion of the Western Australian economy.	YES	This opportunity did not eventuate. Hence the issues that it was proposed to solve largely remain unresolved. The panel has identified an alternative, simpler opportunity which leverages the advantages of the new location at Curtin University by forming a one-on-one alliance with the Curtin Chemistry Department. The panel believes that this has the potential to resolve these issues in an effective and economically attractive manner and so should be given serious consideration.
9. The model for the Chemistry Alliance proposed by the CASC (Chemistry Alliance Steering Committee) should be adopted.	NO	As for 8.
10. The unanimous view of the Review Team is that the Chemistry Alliance Headquarters should be located at Curtin University.	YES	ChemCentre has been successfully relocated to Curtin University. The initial cost of this was far greater than envisaged and the ongoing costs have the potential to cripple the ChemCentre. Hence this remains a critical issue.
11. A Steering Committee based on the CASC should oversee the further development of the Chemistry Alliance proposal. This development should include formal business planning and a full financial analysis.	YES	The proposed Steering Committee did not eventuate and the CASC model was not pursued. The panel does not consider that the CASC model would be appropriate nowadays. There is nevertheless a need to chart a fresh course for ChemCentre which will require a new vision as well as formal business planning and full and transparent financial analysis.
12. To guarantee continuity of essential services the Chemistry Centre (WA) /Chemistry Alliance should operate	NO	This has been resolved with the successful relocation to the Curtin University site. However ongoing

2003 Conclusions	Still Applies?	Comments
from the East Perth site until new facilities are available.		issues remain, as noted in relation to point 10 above.

**E1 The panel endorses the conclusions of the Ritchie Review (2003) that it is not feasible to outsource the essential services provided by ChemCentre because the required capabilities do not exist in the universities or the private sector, and that its research and education functions should be strengthened.**

### Current Situation

Together with the move to Curtin University came an imperative from government to increase commercial activities: to earn extra revenue and profit by doing additional work for private companies and other entities. This implied competing with private sector businesses. Government wished to decrease its financial support of ChemCentre over time and the shortfall was to be made up by profits made from commercial activities.

A positive outcome of this development is that ChemCentre has increasingly operated like a business: efficiency and productivity have improved; more attention is paid to revenues and costs, and to customer service.

There have been negatives as well. Constraints have arisen which include: an expensive building which would not have been occupied by a commercial business; inflexibility in employment of people (including the inability to terminate staff); and a lack of commercial and marketing skills and experience. In addition, if ChemCentre's plans for increasing commercial business sufficiently to meet government's imperative of increased self-funding were to be achieved, a significant number of extra people would have to be employed who could not be accommodated in the existing premises. The employing of extra people and commitment to additional premises would increase the fixed-cost base of the business and this would have to be covered by extra revenue. There would thus be the risk of even greater funding shortfalls (to be borne eventually by government) should the commercialisation drive not result in the expected extra revenues.

The pressure from government on ChemCentre to "commercialise" is illustrated in the extract below from a letter written to the CEO of ChemCentre by the Acting Director – Infrastructure in the Department of Treasury on 5 March 2013:

"Given the nature of ChemCentre's business operations and its strategic aim to achieve full cost recovery by 2015, the Department of Treasury (Treasury) believes that it is appropriate to review whether ChemCentre is classified as a Public Non-Financial Corporation (PNFC) or<sup>1</sup> Government Trading Enterprise (GTE)."

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<sup>1</sup> The word "or" was missing in the original and has been inserted.

## 6. SHOULD CHEMCENTRE EXIST?

In considering whether ChemCentre should exist or not, the panel considered the following:

- 6.1 There were compelling reasons for establishing the role of the Government Analyst, and for why that led to the formation and evolution of the organisation we know today as ChemCentre
- 6.2 The question of whether ChemCentre should be closed, and what the process for that would be, has recently been tested in detail by a series of reviews, resulting in a very clear recommendation against closure because:
  - ChemCentre provides a number of key essential services to government, particularly in areas of high risk to the security, safety, environment and health of the state and its citizens;
  - It is not feasible to close ChemCentre and contract the necessary services from universities and private laboratories, for reasons of capability, security, stand-by capacity and economy. These reasons are given in detail in the Ritchie Review (2003), and are also dealt with in Section 7 below.

The 2003 review also recommended that the physical infrastructure of ChemCentre needed to be upgraded and modernised which has been achieved by the move to new modern facilities on the Curtin University Campus, securing the infrastructure basis of its capabilities into the future.

The panel considers these compelling reasons for the continued existence of ChemCentre remain valid today. The need for the services it provides has not diminished since the 2003 review and in some areas it has become more critical, in particular in the core areas of forensics and crisis and emergency response, but also in the area of environmental analysis and advice as illustrated by the Esperance lead contamination issue.

In financial terms, the sunk cost in the purpose-built building, the cost or impossibility of terminating the employment of people and the improbability that those people could be usefully redeployed in government, added to the costs of creating the capability to provide the necessary services from elsewhere, means that the dollar cost of closing ChemCentre in the foreseeable future would be very high indeed. The panel considers that the better path by far is to build on what has been invested to date by continuing to support ChemCentre into the future.

In terms of performance, a survey commissioned by the panel (findings attached) of ChemCentre's customers, many of them performing important public functions, demonstrated the need for the functions performed by ChemCentre and revealed a generally high level of satisfaction in the way they are delivered.

ChemCentre is at a crossroads in terms of its functions, mode of operation and financial viability as is examined in the remainder of this report. Positive action will need to be taken in a number of areas in order to secure its sustainability into the future.

**R1 The panel recommends that ChemCentre should continue to exist and closure should not be contemplated; accordingly, positive steps must be taken to ensure its survival.**

## **7. FUNCTIONS OF CHEMCENTRE**

Section 9 of the *Act*, defining the functions of ChemCentre, begins:

- (a) to provide chemical information, advice and analytical services to government agencies, particularly, but not exclusively, in the areas of –
  - (i) forensic science and medicine;
  - (ii) public health and safety;
  - (iii) environmental protection; and
  - (iv) crisis and emergency response and management

The panel regards this as a list of functions which should arguably be done in the public sector. Without going into detail about the extent to which ChemCentre fulfils these roles and whether this should be changed in any way, the panel has the following comments:

- 7.1 If the term “government agencies” refers only to the WA Government, it should be changed. ChemCentre, for instance, supplies forensic services to other state governments, the Commonwealth Government and even foreign governments. The panel deems this to be appropriate.
- 7.2 The services supplied in relation to forensic science and medicine exclude DNA testing, which is currently done by PathWest. Government should consider transferring DNA testing to ChemCentre so that it can supply a complete forensic service (with the exception of ballistics which should remain with the WA Police). The panel understands that for the purposes of minimising contamination of samples, the PCR (polymerase chain reaction) units for DNA replication should be housed in a separate building on the Curtin University campus, most likely at Technology Park.
- 7.3 “Public health and safety” is a very broad definition. ChemCentre has a role in this but there are other entities doing work which could fall under this definition. No changes are proposed although there could be scope for rationalisation.
- 7.4 There is possibly some restructuring to take place in the way the WA Government deals with environmental issues. In such a restructuring, additional value which can be provided by ChemCentre should be considered.
- 7.5 The crisis and emergency response management service rendered by ChemCentre is invaluable. It is difficult to imagine this being done as well by anything other than a government agency.
- 7.6 Consideration should be given to merging the emergency response and forensic functions.

**E2 The panel endorses the functions of ChemCentre outlined in S9(a) of the *Act* with the following comments:**

**E2.1 It is appropriate for ChemCentre to supply services to other state governments, the Commonwealth Government and the governments of other countries, provided they are paid for fully by those customers.**

**E2.2 Serious consideration should be given to including DNA testing in ChemCentre's forensic services and to integrating Forensic Science and Emergency Response into a single entity.**

Section 9 of the *Act* continues:

“(b) to undertake research and development that will, or is likely to, assist –

- (i) in the development of the State; and
- (ii) in the performance of its other functions;

(c) to promote, and assist in the provision of, chemistry based education and training and fundamental and applied research and development;”

The panel regards these two subsections as very general and requiring of operational interpretation/definition. If any research and development is required by any government agency (or any other entity) then a service level agreement should be negotiated defining the scope of the research and development, the expected outcomes and the cost. This service should be paid for. To the extent that research and development increases the intellectual property of ChemCentre to “assist” “in the performance of its other functions”, it will have to be funded internally.

The reference to fundamental research is probably inappropriate; it is likely and appropriate that the research undertaken at ChemCentre should be of an applied nature. The research outcomes must be such as will add to the security and health of the State, and of sufficient quality to gain peer endorsement and recognition according to such measures as publication in leading international journals, visits by internationally recognised experts, and a growth in the profile and prestige of ChemCentre.

ChemCentre employs chemists and other scientists who carry the capability for research activities. Such activities should be encouraged both in the interests of the State and as a motivator for staff in the form of professional and academic advancement. This will require the inclusion of research outcomes, including published papers, in ChemCentre KPIs (at the corporate and individual levels), and budgeted for appropriately.

With regard to education, ChemCentre does a certain amount (e.g. open days) as part of its social responsibility at its own cost. This probably has some benefit in the attraction of new recruits. Education and training can be done provided this service is paid for. It is possible, for instance, to imagine ChemCentre giving some valuable training to environmental or safety inspectors.

ChemCentre has a major opportunity in relation to education in a broader sense of educating customers and potential customers of its services, the public and government (in particular relevant government ministers) on its role, capabilities and performance, as well as on the current and emerging chemical issues facing State. A concerted effort in this area is essential to the long-term viability and growth of ChemCentre.



- E3** The panel endorses S6(b) (ii) – that ChemCentre should do applied research and development in pursuit of increasing its intellectual property, at its own cost. Any research and development required by other entities should be paid for by those entities.
- S1** The panel suggests that ChemCentre makes it a priority to improve its profile, reach and status with government and government authorities, its customers, and the public, in particular by educating government entities and the public regarding critical chemical issues facing the State, and its own roles and capabilities.
- S2** The panel also believes that ChemCentre should make allowance for research in the pursuit of academic advancement which should be formalised – either in employment contracts or by agreement.

In considering the functions of ChemCentre, if there are functions which it does that could effectively and efficiently be done by private sector firms, then consideration should be given to outsourcing them in the long term, provided that:

- 7.7 No revenue is forgone from underutilised resources which need to be in place for functions which are regarded as essential, thus resulting in greater funding being required by ChemCentre from government. Examples of apparent under-utilisation can be found in areas of environmental chemistry capability required to be in place to respond to outbreaks or episodes relating to poisoning from waste dumps or chemical accidents.
- 7.8 There is sufficient capability in the private sector for the services in question.
- 7.9 The public interest is not jeopardised in any way.

## **8. SHOULD CHEMCENTRE INCREASE ITS COMMERCIAL ACTIVITIES?**

Section 9 (d) of the *Act* states that it is a function of ChemCentre:

*“to earn revenue by engaging in commercial activities that are not inconsistent with, and do not have an adverse effect on, the performance of its other functions and are —*

- (i) connected with the performance of the Chemistry Centre’s other functions; or*  
*(ii) authorised by the regulations.”*

The *Act* does not encourage the pursuit of commercial activities in their own right, and specifically excludes any such activities that might impact on the core activities of the organisation.

The panel considers pressure from government on ChemCentre to increase its commercial activities to reduce the cost to government of the organisation to be inappropriate and highly counter-productive, for the following reasons:

- 8.1 Government appears to be ill-informed of the business environment of the chemical services industry as there appears to be no basis on which to form a judgement that such commercialisation could be successful.
- 8.2 Entering into additional property leases and employing extra people increases the fixed costs in the organisation considerably and there is a risk

that, should the initiative be unsuccessful, costs to government would in fact go up, not down.

- 8.3 ChemCentre lacks commercial and marketing skills and experience. These could be obtained by employing extra people but, again, the organisation's fixed costs would be increased. This would increase the risk to government of having to bear extra costs should success not be achieved. It should be emphasised that all business initiatives involve risk – success is never certain.
- 8.4 Presumably most of the services which ChemCentre would seek to supply in increasing its business are already being supplied adequately, mostly by private business. Whereas the supplying of some specific services by a public entity can be defended as explained previously, an initiative for government to invest resources and take business risk to compete with the private sector is more difficult to justify.
- 8.5 The pressure on the organisation to increase its commercial activities will almost certainly divert its attention from its core functions as defined in the Act. There is compelling evidence of this.

The panel does, however, consider the following wording in the *Act* regarding the functions of ChemCentre to be appropriate:

“(d) to earn revenue by engaging in commercial activities that are not inconsistent with, and do not have an adverse effect on, the performance of its other functions and are –

- (i) connected with the performance of the Chemistry Centre's other functions; or
- (ii) authorised by the regulations”

**S3 The panel considers it inappropriate that pressure be put on ChemCentre to increase commercial activities especially if investment, employee numbers and risk are increased solely for commercial purposes, but considers that commercial activities, within the limitations imposed by the Act, are appropriate.**

## 9. REVENUE SOURCES

The panel has formed the view that the current funding model for ChemCentre is unsustainable.

In particular, the direction towards full commercialisation as currently mandated will, in the panel's opinion, lead to financial failure and result in the dismantling of ChemCentre and heavy shut-down costs. This will be accelerated by the heavy rental impost. The panel sees this failure as inevitable despite the major effort that has been invested by the board and staff of ChemCentre in an attempt to find ways of complying with the current mandate. Accordingly, it is of fundamental importance that the funding arrangements be changed as a matter of urgency in order to secure the survival of ChemCentre and to preserve and enhance its value to the State into the future.

The panel considered whether ChemCentre should merely be funded by government and supply its services to other agencies for free but this was rejected. It could lead to waste as services not really necessary are requested and it would make even

limited commercial activity difficult. The discipline of determining the cost of services and charging for them to cover direct costs, overheads and contributing to a surplus, as appropriate, is a good one. It also facilitates productivity and efficiency measurement and improvement.

Payment for services can be dealt with in a number of ways:

- 9.1 ChemCentre should enter into service level agreements with large regular users, especially government agencies. These should cover the true full costs of the services to be delivered, measures of performance, the prices and indications of volumes.
- 9.2 Where appropriate, there could be discounts for increased volumes and penalties for reduced volumes, especially where there are dedicated resources for certain entities, provided full cost recovery is maintained overall.
- 9.3 There should be schedules of rates and a methodology for calculating prices for occasional users. These rates should not deter new clients with routine service requirements from being able to be connected with the Chemistry centre.
- 9.4 Standby resources (e.g. for emergency services) need to be paid for by fixed charges to the entity requiring them. They may be used as profitably as possible when not required for their primary purpose. Extra resources not normally on standby, if required *in extremis*, should be charged for as they are used.
- 9.5 Commercial business needs to be priced appropriately. Full cost recovery and a profit element is the ideal but market forces and competition impose a constraint on pricing. Sometimes businesses do indulge in marginal pricing to get extra volumes and this is legitimate. Any commercial business done within the limitations of the *Act* can be defended as reducing the total cost to the State of owning ChemCentre – even if marginal pricing is used. Of course, cost calculations need to be done accurately and transparently for such pricing.
- 9.6 There will probably be a deficit even if the ChemCentre deploys the appropriate resources for the carrying out of its functions, spare resources are deployed for commercial activity within the limitations of the *Act* and the business is managed efficiently. This will have to be covered by an appropriation from government.

**R2 The panel recommends that ChemCentre should establish service level agreements for all major customers; use appropriate and transparent costing and pricing methodology for all services; apply standby charges for essential services; and that government should provide an ongoing appropriation to cover the deficit.**

Government agencies using the services of ChemCentre will have to budget for the costs of services appropriately.

The necessity for appropriations to support the activities of ChemCentre together with the entity making a “profit” and paying tax equivalent and dividends would seem to be an anomaly.

- S4 The panel suggests that consideration be given to the following:**
- S4.1 ChemCentre needs to have a minimum cash balance to operate and this should be maintained at all times.**
  - S4.2 ChemCentre should be encouraged to accumulate a cash surplus (in excess of the minimum balance) during each financial year.**
  - S4.3 In determining ChemCentre's appropriation for any financial year, the forecast cash balance for the previous year should be taken into consideration.**
  - S4.4 The growth of ChemCentre's appropriation should be an efficiency performance indicator, with a goal to grow at below the inflation rate or, better still, a reduction over time.**
  - S4.5 A rolling ten-year capital plan should be maintained by ChemCentre so that the financial plan includes replacement capital.**
- S5 The panel suggests that in the appropriations from Treasury the rental sum paid to Curtin University by agreement (to pay them back for building the complex occupied by the Chemistry Centre) should be separated as a budget line item to enable more realistic KPIs to be reported to Parliament.**

A mechanism exists for making sure that government agencies requiring the type of services that ChemCentre offers are in fact supplied by ChemCentre – it is the mechanism of Common Use Agreements. The fact that ChemCentre is owned by government does not negate the suitability of, and need for, this mechanism.

- R3 The panel recommends that the mechanism of Common Use Agreements be used to ensure that government agencies use the services of ChemCentre.**

The panel also suggests that information in the following table be used for reporting on ChemCentre's performance (the numbers in the table are notional):

**Table 2: ChemCentre Income (%) according to Functions in the Act (conceptual)**

Fiscal 2013-14	<u>INCOME</u>			
Function	Government Appropriation	Government Departments	External Customers	TOTAL
(a) to provide chemical information, advice and analytical services to government agencies, particularly, but not exclusively, in the areas of (i) forensic science and medicine; (ii) public health and safety; (iii) environmental protection; and (iv) crisis and emergency response and management	25%	50%		75%
(b) to undertake research and development that will, or is likely to, assist — (i) in the development of the State; and (ii) in the performance of its other functions	10%			10%
(c) to promote, and assist in the provision of, chemistry based education and training and fundamental and applied research and development	10%			10%
(d) to earn revenue by engaging in commercial activities that are not inconsistent with, and do not have an adverse effect on, the performance of its other functions and are — (i) connected with the performance of the Chemistry Centre's other functions; or (ii) authorised by the regulations			5%	5%
<b>TOTAL</b>	<b>45%</b>	<b>50%</b>	<b>5%</b>	<b>100%</b>

## 10. THE STRUCTURE OF CHEMCENTRE

It is the view of the panel that ChemCentre should continue to be a Public Non-Financial Corporation. Structuring it as a Government Trading Enterprise would be inappropriate as it performs functions which the panel sees as core government functions. Commercialisation, as discussed, is only appropriate as defined in the *Act* and any further commercialisation, competing with the private sector, is not regarded as appropriate.

There is one change in the *Act* which is recommended, if possible, and this is discussed in section 10.

**R4 The panel recommends that ChemCentre continues to operate as a Government Non-Financial Corporation.**

## **11. THE EFFICIENCY IMPERATIVE**

ChemCentre is an expensive and complicated organisation which, although it performs functions which the panel regard as core government functions, looks and feels like a business and also has some characteristics of an academic institution. It has many highly qualified (and expensive) people and much specialised and expensive equipment. Clearly it is of significant benefit to the State to ensure that this entity is managed so that it performs effectively and efficiently. A key measure will be the trend over the years of the government appropriations as mentioned in 7 above.

Although it is beyond the terms of reference of the panel, there are various efficiency indicators, additional to the ones already reported on, which could possibly be introduced. Perhaps external expert advice on these could be sought.

The possibility of introducing staff incentives to motivate continuous improvement in efficiency should also be considered.

**R5 The panel recommends that comprehensive efficiency indicators be introduced for ChemCentre, one of which should be the trend in government appropriations, and that expert advice for other indicators be considered as well as suitable incentives for improved efficiency.**

## **12. BOARD AND STAFF**

For future Board appointments the panel recommends that the mix of knowledge and skills should include the following:

- Chemistry (in addition to the CEO)
- Finance
- Business Management
- Commerce
- Academia
- Machinery of Government

It would also be useful to have representation of customer agencies, for example the WA Police. It would be cumbersome for all the customer agencies to be represented on the Board so it is recommended that the larger ones agree to a person from one of the agencies to represent them all. This can be rotated over time. Board members should be remunerated appropriately.

The Minister responsible for ChemCentre should appoint Board members as outlined in the *Act*.

With regard to the appointment of the Chief Executive Officer (CEO) and other staff, the panel recommends that the *Act* be changed. The Board should select a candidate for the position of CEO and recommend her/his appointment to the Minister, with a suitable justification. The Minister can refuse such appointment, requesting the proposal of another candidate but this should only be done with good reason and in exceptional circumstances. The Board should also have full authority

over all staff appointments and remuneration, although it should always take into consideration the level of remuneration in other government agencies. Security of tenure should be no more than that provided by the appropriate labour legislation and should not be as in the public service.

In practice, the Board would ratify appointments at executive level proposed by the CEO and remuneration of all staff would be guided by a Board-approved Remuneration Policy. It is unlikely that the flexibility required by the Board will be achieved if the employees of ChemCentre are regarded as being in the public service.

Consideration should also be given to the introduction of a Staff Incentive Plan should the Board deem this to be appropriate. It should be designed to motivate executives, management and staff to achieve ever improving service levels and efficiencies and to reward such achievement. The categories of staff which are affected by the plan should be at the discretion of the Board, and the rewards payable should be appropriate for a government agency.

**R6 The panel recommends that the Minister considers an appropriate mix of knowledge and skills in ChemCentre Board appointments; that the Board have the authority to recommend to the Minister the appointment of a Chief Executive Officer; and that the Board should have authority over other staff appointments and remuneration.**

## 13. FUTURE DIRECTIONS

### 13.1 Priority Areas

ChemCentre has access to excellent modern facilities and equipment and is staffed by a team of highly qualified professionals. However it is a relatively small organisation with constraints in accommodation, staffing levels and funding. It is therefore essential for it to focus on and develop its strengths not only to provide the best services to the State but indeed in order to survive as a recognisable entity.

The *Act* specifies four areas in which ChemCentre will provide services to the State:

- (i) forensic science and medicine;
- (ii) public health and safety;
- (iii) environmental protection; and
- (iv) crisis and emergency response and management.

In (i) and (iv) ChemCentre has developed core capabilities in Forensic Science and Emergency Response (FS&ER) which are not available elsewhere and which are vital to the State. ChemCentre has assumed a leadership role in these areas in WA. In the case of Emergency Response, ChemCentre has a leadership role nationally and has achieved international recognition.

The panel believes that it would be appropriate for ChemCentre to further develop its strengths and actively build on the solid base that exists in these two key areas. As a first step the panel suggests merging them into a single department to create a recognisable FS&ER Unit to leverage underlying synergies; facilitate sharing of equipment, expertise and personnel; improve operating efficiencies; and promote networking and creativity. This could be made a priority area for active

development, with ChemCentre in a leadership role for the security and wellbeing of the State, and should lead to national and international recognition.

Items (ii) and (iii) are core responsibilities of other government agencies to which ChemCentre appropriately provides specialist chemistry-related advice and analytical services on request. Expansion of these services is an area of potential growth for ChemCentre and the possibility of amalgamating existing laboratory services in the ChemCentre organisation could be considered.

### **13.2 Leadership**

ChemCentre is a sophisticated and complex organisation whose core business is the science, practice and application of chemical analysis. The future viability and development of ChemCentre requires continued business leadership by a CEO with the appropriate business management skills and connections with business and government, and a good understanding of the business (of applied analytical chemistry) itself.

In addition, the panel believes that strong technical leadership by an individual with an international reputation in analytical chemistry, preferably related to forensics and/or emergency response, is necessary. However, in the panel's view, ChemCentre itself does not of itself provide the sort of vibrant research environment that is required to attract an internationally renowned analytical chemist, nor is it likely that such an environment could be developed within ChemCentre alone. This issue is implicit in the Ritchie Report which addressed it by proposing the formation of a Chemistry Alliance that would be a partnership between ChemCentre and the five WA universities. In the event, the Chemistry Alliance has not come to fruition for a host of reasons, not least of which is the complexity inherent in the concept of establishing suitable partnering arrangements between the five institutions. However, some essential building blocks for possible alliances have been achieved. The most important of these is the co-location of ChemCentre with Curtin Chemistry and CSIRO Process Science and Engineering at the Waterford Chemistry Precinct. But at present this co-location is just that – the creation of a physical proximity.

In this regard the timing of this five-year review is propitious as sufficient time has elapsed for the initial benefits of the relocation to have been realised and it is now time to take the next step.

The creation of an alliance with the Curtin Chemistry Department in the area of forensic and/or emergency response chemistry is a golden opportunity for synergy. Support for the Alliance would have to be tangible, for example through the creation of a Personal Chair at Curtin University for a Professor of Analytical Chemistry for an eminent scientist specialising in the area of forensic and/or emergency response chemistry, jointly funded by Curtin University and a special provision in the ChemCentre appropriation. This would provide the research environment needed to attract a world-class specialist in this area.

The incumbent professor would be required to work closely and co-operatively with ChemCentre, and both he/she and the ChemCentre CEO would have specific KPIs in that regard, with a goal of jointly creating a Centre for Forensic Science and Emergency Response of world renown. The panel believes that this would be a very cost-effective way to leverage the benefits of the sunk investment in people and



facilities to deliver enormous benefits to the State in terms of the quality and scope of delivery of essential services as well as international recognition and prestige.

**R7 The panel recommends that ChemCentre co-invest with Curtin University to establish a Chair in Analytical Chemistry at Curtin University with a view to creating a Centre of Excellence in Forensic Science and Emergency Response.**

### 13.3 Research and Development

Sections 9(b) and (c) of the *Act* require that ChemCentre engage in R&D activity related directly to the development of the State and to the performance of its own functions, and also research of a more fundamental nature. In reality, and despite considerable contributions in this regard in the past, ChemCentre's current ability to deploy resources and perform in this area is very limited. Without a change in funding arrangements and visionary technical/academic leadership, this situation is not likely to change for the better.

The panel sees two changes that need to be made in order to address this gap. Firstly, a specific appropriation should be made to support R&D. The amount should be negotiated with government and should be sufficient to support a basic level of core R&D activities required by government on advice from ChemCentre. This appropriation must not be used for other purposes.

**R8 The panel recommends that an ongoing appropriation be made specifically and exclusively to support a base level of Research and Development in areas of importance to the State.**

Secondly, the recommended alliance with Curtin University, through the joint appointment of an internationally recognised expert in analytical chemistry to a Personal Chair at Curtin University, should carry specific requirements to engage ChemCentre staff and facilities in research activities which will be augmented by the ability of the Professor to establish and maintain a vibrant research group in the university/ChemCentre environment. It is envisaged that he/she will be able to attract students, fellows and visiting academics from Australia and overseas. He/she will also have the position, research eminence and gravitas to secure public and private funding, both locally and internationally, for research activities and infrastructure.

### 13.3 Transition

The recommendations of the panel envisage substantial change from the *status quo*. The panel recommends the formation of a Steering Committee to work with the Board to realise the changes required. The main function of the Steering Committee will be to manage the changes required in the relationships between ChemCentre and the rest of government.

**R9 The panel recommends that, should substantial elements of this review be accepted, a Steering Committee be formed to work with the Board to manage the changes required, particularly in the relationships between the ChemCentre and the rest of government.**

## APPENDICES

### 1. Panel members

Mr M Edward Harbuz, BSc (Eng), MBL, Chief Executive Officer of Gold Corporation (The Perth Mint) (Chair).

Dr Ian MacLeod, B Sc (Hons), PhD, D Sc., FTSE, FRACI, FIIC, CChem, FRSC Executive Director, WA Maritime Museum

Dr Greg Power, BSc (Hons), PhD, DipEd, CChem, FRACI, Director, Arriba Consulting Pty Ltd

Executive Support was provided to the panel by Ms Patricia Summerfield, MPhil, Principal, Scientific Editing Services

### 2. Consultations

During its deliberations, the panel consulted in person with the following individuals and bodies:

Board of the ChemCentre

Governance Committee of the ChemCentre

Professor Ian Ritchie

Professor Mark Buntine, Department of Chemistry, Curtin University

Dr Keith Shilton, ChemCentre Board Deputy Chair

Dr John Farrow, CSIRO

### 3. Acronyms

CASC	Chemistry Alliance Steering Committee
CChem	Chartered Chemist
CEO	Chief Executive Officer
CHOGM	Commonwealth Heads of Government Meeting
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DNA	Deoxyribonucleic acid
FIIC	Fellow International Institute for Conservation of Historic and Artistic Works
FRACI	Fellow of the Royal Australian Chemical Institute
FS&ER	Forensic Science and Emergency Response
FTSE	Fellow of the Australian Academy of Technological Sciences & Engineering
GCL	Government Chemical Laboratories
GTE	Government Trading Enterprise
KPI	Key Performance Indicator

Acronyms (cont)

MBL	Master of Business Leadership
MRSC	Member of the Royal Society of Chemistry
PCR	Polymerase chain reaction
PNFC	Public Non-Financial Corporation
R&D	Research and Development

**4. Background Documents** (these can be made available on request)

2003 Review of the Chemistry Centre (WA) Volume 1 *known as the Ritchie Report*

ChemCentre Annual Report for the Year Ended 20 June 2012

ChemCentre Financial Model and Current Trading Conditions (2012)

ChemCentre Statement of Corporate Intent 2013/14

ChemCentre Strategic Development Plan 2012/17

Chemistry Centre (WA) Act 2007

Chemistry Centre (WA) Regulations 2007

P. Millington and R. Blakey (2012) ChemCentre as a GTE – Comparison with the *Water Corporation* – A case study

**5. Attachments**

1. Stakeholder Survey for the ChemCentre of WA: Survey Findings April 2013
2. ChemCentre Board Submission on the Review of the *Chemistry Centre (WA) Act 2007* (2013)

