PUBLIC AND PRIVATE OPTIONS IN AUSTRALIAN WATER MANAGEMENT

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EXECUTIVE SUMMARY

Since the early 1990's, the Australian water industry has embraced a wide range of options for engaging the private sector in water supply and wastewater management, short of actual privatisation. Under Australia's State-based administration of the utilities sector, differences between State governments have effectively combined to promote a wide range of alternatives to the previously prevailing public sector procurement practices. Cornerstone contracts let by Sydney Water in infrastructure and by Melbourne Water in services laid a platform for development of a significant and competent private sector that now provides a wide range of services to the sector; and which possesses the capability to service an even broader scope of external infrastructure and operations sourcing by the public sector water utilities. There remains considerable scope for institutional reform that would facilitate more efficient businesses with a better focus on customer and business outcomes, and more opportunities for public private partnerships with paralleled industry development outcomes. Although there is considered to be no real scope for conventional privatisation, other approaches that deliver both on the public's desire for protection of their interest in an essential services asset and better business and industry outcomes should be considered.

Keywords: Public private partnerships, Australia, water, infrastructure, services, industry development, institutional reform, privatisation.

PUBLIC AND PRIVATE OPTIONS IN AUSTRALIAN WATER MANAGEMENT

Background

Since the early 1990's, the Australian water industry has embraced a wide range of options for engaging the private sector in water supply and wastewater management, short of actual privatisation. Under Australia's State-based administration of the utilities sector, differences between State governments of various doctrines in their ideological emphasis on private sector engagement (realized through Treasury policies on private sector funding of public works) and differences in the effective liquidity in State budgets and subsidy programs have combined to effectively promote a wide range of alternatives to the previously prevailing public sector procurement practices. However, both historically and currently the water utility sector remains almost entirely in public ownership, with only a few small private townships (e.g., resorts and mining towns) under private ownership. This paper discusses the trends in private sector engagement in the Australian water industry over the last decade, and assesses the directions which might be pursued in the next.

The Sydney Water cornerstone initiative in infrastructure provision

Prior to 1990, the *service* businesses of water utilities were implemented by the utilities themselves at every level. Construction work was largely completed by the private sector, following considerable changes in the 1970's and 1980's, which to a large extent reflected an acknowledgement of the increasingly internationally-competitive capabilities of the Australian construction industry. It was not until Sydney Water, Australia's largest metropolitan water business, embarked on a major water filtration program at the beginning of the 1990's that the impetus for change to private sector operational involvement was provided. With no prior experience in very large scale water treatment operations, a management keen to examine reform practices (consistent with the philosophy of the then-current State Government), and the development of the supplier market to include the rapidly globalising British privatised water utilities alongside the French giants, there was a significant pretext for Sydney Water to implement three major Design-Build-Finance-Operate [DBFO] contracts. The successful implementation of these treatment plants – effectively introducing leading edge design practice at substantial savings to the budgeted program cost - was the first of two cornerstone contracts in the effective development of, and continuing impetus for, public-private partnerships [PPPs] in the Australian water industry.

The Melbourne Water cornerstone initiative in services provision

At the same time as Sydney Water was embarking on their water filtration DBFO program, the collapse of the State finances in Victoria had triggered the election of a reformist government of a conservative economic policy bent. Within that Treasury policy context, Melbourne Water, the major metropolitan water agency in that State, implemented a smaller DBFO project on much the same timeline. However, the

more significant initiative by Melbourne Water, in the context of ongoing change in the Australian water industry, was the large-scale outsourcing of the water and sewerage systems maintenance activities in 1992. Covering a service population of over two million, and involving several hundred employees, the successful implementation of that outsourcing program laid the second cornerstone for later programs – by delivering better quality customer service outcomes at a significantly lower price, with virtually no industrial action and with (commonly) better incomes for the outsourced personnel. Of course, it was recognised that the private sector had, in implementing these contract services, harvested all the remaining 'low-hanging fruit' in workplace reform. Nonetheless, that was something that the then relatively stifled bureaucracies of the public sector utilities had not been effectively able to achieve in any realistic timeframe, and it demonstrated the value of outsourcing contracts as a catalytic change-agent. Accordingly, it was recognised that second-generation contracts could not be expected to repeat the outcomes, and in that respect the savings achieved could not be arbitrarily promoted as typical of any outsourcing program implementation. This did not, however, detract from the industry-change value of the initiative.

Market change achieved

The successful implementation of the Sydney and Melbourne contracts had demonstrated the fundamental soundness – *invariably better outcomes and demonstrably no worse in any real respect* – of engaging the private sector in operational roles in the Australian water industry in addition to the private sector's established capabilities in design and construction. Additionally, with particular relevance to the sustainability of the change initiatives, the supplier market had been fundamentally restructured. The global water companies Vivendi, Ondeo and United Utilities – in their different corporate clothing at the time – had each established a major foothold. The major British service provider, SerCo, had secured one of the Melbourne contracts, cementing its recently established contracts in the Defence facilities maintenance sector. Additionally, local construction companies Transfield, Lend Lease, and Thiess Contractors had established some DBFO partnership structures and some standalone service capabilities.

Developments in Services

The economic driver for the reform in Victoria, which led to the cornerstone services outsourcing initiative by Melbourne Water, was also present in South Australia. However, the South Australian government pursued a fundamentally different path to reform in the utilities sector. With studies effectively demonstrating that the utilities sector was one of the few industry sectors potentially able to be leveraged for economic development in the State, the government pursued the concept of a cluster industry development model based around PPPs for its single-entity State water industry, SA Water Corporation. Proponents seeking to secure the outsourcing contract for the state capital of Adelaide (service population of about 800,000) – and for the $80M DBFO contract for the regional water treatment plants program– were

required to offer at tender, and then enter into, binding economic development agreements that were material to the continuance of the service contracts. A joint venture of Vivendi and Thames Water secured the Adelaide outsourcing contract. From the perspective of the public-private services market, the immediate effect of this contract was to stabilise each company's business operations in Australia. Given the size and capabilities of these businesses, the flow-on impact was to effectively stabilise (when combined with other existing businesses and the scope of current contract operations) the overall supplier competency and capability in Australia at a level that could meet almost any market eventuality.

Within the next two years, i.e. until 1995, both the Coliban Regional Water Authority and the Water Corporation of Western Australia also entered into significant services sourcing agreements with the private sector. Both set important benchmarks for the industry. The Coliban contract – centred on the Victorian regional centre of Bendigo – was the first, and still the only, non-metropolitan water industry services contract of any meaningful size. The Water Corporation sourcing – two contracts covering the north and south sides of the State capital of Perth – were developed and implemented as Project Alliances. The 'Project Alliance' model had only recently been introduced to Australia at the time, through the oil & gas industry in Western Australia, and as such the Perth initiative was the first application of that relationship contracting model within the water industry. The model has since been used to implement two subsequent services contracts in the industry – the ACTEW Corporation ~ActewAGL agreement in Canberra and the NQ Water ~ Citiwater water supply services contract in the North Queensland regional centre of Townsville. It has also been increasingly used in infrastructure provision.

The ACTEW Corporation ~ ActewAGL contract was also a relatively unique development in the market as it is the first genuine public-private partnership, in the corporate/legal sense of partnership, developed in the industry; an outcome which is discussed later in this paper.

Summary of PPP status in the Services for the Australian Water Industry

The outcome of the industry development described above can be characterised in several ways that are useful contexts for considering future developments and the potential knowledge base to be drawn upon in developing other services contracts:

1. There is a wide range of models to compare, to review the implementation issues thereof, and to assess the outcomes thereof; including fixed price, schedule of rates, fixed price – schedule of rates combination, fixed price cost incentive, and project Alliance delivery models. Additionally, the commercial framework for Brisbane Water, servicing Queensland's State capital, is effectively a concession type of delivery model.
2. There is an ability to compare a wide range of PPP boundary definitions; including maintenance only, systems operation and maintenance, IT sourcing,

billing and revenue sourcing, and very high level PPP interfaces - both at and just below strategic planning.

3. The effectiveness of services outsourcing has been demonstrated at a wide range of scales, with the smallest of the current contracts valued at only $6M per annum.

Developments in Infrastructure Provision

Following the success of the major Sydney water treatment projects, and the smaller project in Melbourne, a number of other smaller water utilities and local governments with water supply and sewerage responsibilities assessed the potential of the DBFO delivery model.

The State Treasury in Victoria, in the process of implementing the considerable economic reform processes in that State, developed a comprehensive set of tools for evaluating both outsourcing and infrastructure PPPs. The present program, *Partnerships Victoria*, which has been established under a subsequent government with a lesser drive to reform the fundamental economic models in the State, is nonetheless a framework which requires continual review of the value of the DBFO models for public infrastructure. The Treasury also produces an excellent set of guideline documents for evaluating infrastructure PPPs under the *Partnerships Victoria* program. Under the program, there have been several DBFO infrastructure projects implemented in the water industry; including some leading edge technology applications such as the 100 ML/d Sandhurst water treatment plant for Coliban Water, which uses submerged 'Memtec' crossflow microfiltration membranes backed by ozone/BAC. The risk profiles have been developed to an extent that has reached the edge of market acceptance; i.e. that have fully tested and stretched the private sector's ability to absorb quality and quantity risk. However, in a changing market and particularly in the context of one high value loss to the private sector partner, the continued application of the DBFO model in Victoria will need to pull back the risk transfer if there is to be any further engagement of the leading private sector firms. The continued high cost of transaction management for the DBFO model is also causing some issues with the model's potential to deliver the savings that would justify its use. By comparison, the design-build-operate [DBO] model, which leaves financing with the government utility, has been used on a few smaller projects in Victoria and is gaining wide acceptance in the regional areas of the other east coast states of New South Wales and Queensland.

The DBO model was initially used in Queensland, where structural issues in State legislation (since amended) prevented the application of the State subsidy program for water and sewerage headworks to infrastructure delivered under the DBFO model. The DBO model gained ready acceptance in a State where the economic problems experienced in the country's south had not occurred, and where the Treasury was and is a strong advocate of the inherent pricing advantage of sovereign debt. For small to medium water businesses in particular, it delivered the bundled

design and operations skills of the private sector for treatment infrastructure where the current technologies required considerably more scientific skill than was consistently available to the se businesses. As the transaction costs for the DBO model are considerably less than the DBFO alternative, the DBO model met the needs of these businesses on several fronts; and it has gained a broader acceptance. Some half a dozen projects have now been implemented across Queensland, ranging in size from $3 million to $25 million in capital value. The model has recently been adopted in New South Wales, with two wastewater projects of $35 and $40 million capital value currently at tender.

In Western Australia, following the successful use of the Project Alliance model for the services outsourcing, the Water Corporation committed to use of the model in its more conventional application of a major project – in this case the $125 million Woodman Point wastewater management complex.

As this delivery model is relatively rare or new in its application, it is worth noting the key features of the model in this paper to ensure clarity of communication. Summary characteristics of a Project Alliance include:

- ☑ There is a non-adversarial contract, constructed by mutual agreement, seeking an equitable balance of risk and reward for all parties
- ☑ Primary emphasis is on business outcomes with an objective to achieve a "win-win"
- ☑ All contractors participating in the alliance earn their profit from the same pool
- ☑ Encouragement of openness and co-operation between parties
- ☑ Parties agree not to litigate if something goes wrong

The Water Corporation has subsequently used the Project Alliance model for a number of other projects; other utilities, particularly Sydney Water, have also since adopted the model and have used it for projects valued at up to $450 million. There is an increasingly held view, as evidenced by the projects that are being committed to Project Alliances, that the delivery model is particularly useful in working on redevelopment and upgrade projects where there is considerable interaction with the existing utility knowledge base, unavoidable interfaces with current operations, and inherent uncertainty in the state of the existing asset.

The continuing (small) stream of major projects, and in particular the quantum of integrated operations projects, has meant that the supplier market has established at a reasonably competent level in regard to the ability to provide almost every form of contract from design-build through DBO to DBFO, including variants such as Project Alliances. Nonetheless, one could reasonably conclude that there is considerable scope for further skills transfer and private market capability development achievable in respect of operations activities, and that the economic potential of the Australian

water industry as a whole would be significantly enhanced if this were pursued [see Davis, Perkins & Dooley, 1998].

Developments in Ownership

Despite the changes indicated above in service and infrastructure provision, there has been very little in the way of public initiatives for change in the ownership of water utilities. The changes that have occurred have been by corporatisation models, i.e. moving the utilities to the competitive and tax equivalent of a private corporation whilst retaining public ownership. By comparison, a considerable degree of privatisation, principally by trade sale, has occurred with publicly owned electricity assets and other monopoly public assets such as rail systems, gas pipelines and airports. The only publicly mooted privatisation, which was of the author's own organisation ACTEW [*Australian Capital Territory Electricity and Water*] Corporation, did not proceed for the water business of the Corporation. The electricity business and assets were successfully moved into a partnership with the listed Australian gas & electricity business AGL Limited, to form the water and energy multi-utility ActewAGL.

To both the casual and informed observer, the differing treatment for various types of natural monopoly government owned assets was a politically-motivated distinction. Similarly, the energy utility businesses in a number of States remain in public hands as a matter of publicly stated government policy. But what drives public opinion on water to oppose such moves far more vigorously than in other utility sectors? Indeed, in Victoria, home State of more privatisation activity than any other, the State Government is proposing specific law to enshrine public ownership of water assets. The answer appears to be, as is usually the case, that there are several factors at play. If one reviews the press that has appeared over the period some factors emerge, in no particular order:

1. In general, there have been negative public assessments of the international outcomes in privatisation.
2. That water is an essential means to production and health, and therefore should be held in trust for the community through public hands.
3. The recent statements by the French national government that they would not allow foreign ownership of the private French water giant Vivendi Environnement.
4. Because water is a rare commodity in "the world's driest continent", and as such must be managed in the long-term public interest. And, unlike many other rare commodities, it is relatively cheap but not able to be transported cost efficiently; making the rarity localized as well as at a synoptic scale.
5. The "logical" argument is then run that a private utility business, as an entity seeking to maximize profit, would only ever seek to use as much of this valuable resource as it could, thus jeopardizing the long term interests of the community. This argument has also been extended by authors such as the

historian Christopher Shiel as applying to the existing State owned corporations in equal measure.

6. Water supply and sewerage services are, through their intensive capital network investment, a natural monopoly; and as a monopoly business need to be tightly regulated in the public interest. Such regulation can only be achieved through public ownership.
7. Water is 'free', like air, as it is not manufactured (as is electricity), and therefore should remain 'free'.

Of course, readers with anything more than a smattering of economic and regulatory experience and education will recognize the flaws in each of these arguments, and it is beyond the intended scope of this paper to enumerate the many nullifying propositions and evidence in that regard. But the essential lesson to be drawn is that the arguments are more than cogent enough and of a 'self-evident' nature that broad public opinion is readily drawn to them. In recent times, the technically artificial but economically and socially real, *cryptosporidium* 'crisis' in Sydney demonstrated the political realities of this, as the State Government de-corporatised Sydney Water and carved out its catchment management functions in response. Thus, the 'necessity of public ownership' was, in a real-politic sense, proven so far as the general public was concerned. That a real life technical systemic failure in public ownership happened at the same time in Walkerton, Canada or closer to home had recently occurred with the failure of the Auckland power supply, mattered little in the narrow window in which the Sydney 'crisis' was viewed and managed.

The additional macro-environment context of relatively stable economic conditions – Australia currently enjoys the highest headline national economy growth rate in the OECD – and thus the reduced likelihood of State financial collapses to create a catalytic spark for public sector reform, leads one to draw the conclusion that any form of privatisation – in the sense of a conventional trade sale of the public asset to private hands – is not within any reasonably forecast event horizon in Australia. However, it may not be unreasonable to draw different conclusions in terms simply of ownership models, a subject that is addressed below.

Potential Directions and Implications for the Australian Water Industry

Directions in Services

Recent times in Australia have seen more activity in second generation PPP service contracts than in any other respect. Optimisation of resources, through internal change management processes, continues to be pursued by those entities with internally sourced service workforces; and recent 'blind' benchmarking exercises by the industry (UMS, unpublished) showing that there is a spread of cost/quality benchmarks through water utilities engaging both internally sourced and externally sourced service workforces. However, that benchmarking exercise did clearly demonstrate that the average position of externally sourced workforces was clearly superior in cost and quality outcomes to the average internally sourced operations.

When this comparative is placed in the context of the increasing trend over the last decade within both the private sector and other government sectors to externally source facilities maintenance and non-strategic operations, the recent hiatus in outsourcing within the water industry seems, at least at a superficial level, to be inexplicable on management or governance grounds. It seems that one might reasonably draw the conclusion that there must be political drivers, influenced by public sentiment; there is no readily observable evidence that an external services sourcing strategy leads to any negative outcomes for the business. One could argue that this proposition – that there is a public sentiment driver – might find at least circumstantial support in the general political debate and public polling indicating considerable antipathy to the proposed further privatisation of Telstra, Australia's national telecommunications company. Recent research in one regional New South Wales local government area has shown (IDSM & ACA Research, 2002, unpublished) has shown that the experience of Telstra's reform process, with considerable regional job losses and a perceived lack of services, is a real influence within a significant part of the community on the public perception of any government sector proposal to initiate outsourcing projects. Nonetheless, the research identified an overall balanced position on negative and neutral/positive sentiment towards outsourcing, which is not an unexpected outcome for a significant change proposal that had been preceded by some negatively skewed press coverage. Notably, that research program is thought to be the only statistically valid research where the specific context of water utility services outsourcing has been analysed. As such, it of considerable value if one is to contemplate the means by which further outsourcing of water utility services might be implemented. There is clearly an implication that if the decision-making is placed in a local government political entity, subject to the whims of triennial public elections, that the potential loss of marginal votes is sufficient to override other 'rational' factors.

The platform for continued change in the sector, and thus the development of the economic potential of the water industry through a more vigorous private sector, can arguably then only be built on further reform of the institutional structures of the industry. The alternative, unpalatable and unnecessary, is to wait for another collapse of State finances to provide the State government level impetus for reform to be pushed through in the narrow window of opportunity during a reconstruction effort. Given that the smallest institutional entity level at which effective change has been implemented to date is at the larger end of the regional corporatised utilities in Victoria, one would argue that this should be the minimum entity size and form for any restructuring proposal. Of course, reinvigoration of the economic development potential of the water industry should not and could not be the only justification for such a change. There are, however, substantial arguments in favour of this reform in any case, including that agglomeration into regional corporatised water utilities would allow:

1. existing random land boundaries to be reconfigured to catchment based boundaries, with the attendant benefit of the opportunity for better integrated strategic water cycle planning;
2. the consolidation of water and sewerage services in many areas of New South Wales where these have been developed separately, and where there is accordingly a duplication of similarly skilled resources and a lack of integrated water cycle planning;
3. the de-politicisation of the principal corporate governance entity – from local government councillors to an independently appointed Board representing more stakeholder groups (where 'de-politicisation' means separation from day-to-day local government politics; rather than removing a political source of appointments), with the benefit of a better focus on customer and business outcomes rather than outcomes for the political careers of the governance entity; and
4. the opportunity to improve the quality of business systems and quality of customer service outcomes by building the size of the business to a larger entity, thus enabling the acquisition of better systems at a marginal cost to the customer base.

Direction in Infrastructure Delivery

There are probably four key trends/influences in infrastructure delivery within the Australian water industry at present. Notably, each is built from a fundamental assumption that there are significant benefits in implementing major or complex infrastructure projects through integrated design, construction and operations teams; whether the latter group is a utility team or a private sector provider is the significant differentiator. Those four influences/trends are:

1. A trend to the increasing use of Project Alliances and similar relationship contracts, replacing conventional engineering design–led and design-and-build delivery models; particularly by water businesses that have a strategy to maintain their operations and service businesses internally.
2. The influence on project delivery choices of the increasing technical complexity of treatment facilities; i.e. the design and operation of treatment facilities moving further away from simple rule-based methods to complex modelling requiring experienced interpretation for both capital and operating cost optimisation. This influence will have different impacts depending, principally, on size (and thus the internal skill base) of the water business, as noted below.
3. For smaller water businesses, the influence of increasing technical complexity is expected to lead to an increase in DBO delivery model applications. This size of organisation is less likely to have the requisite operating skills engaged internally, but they will likely be local governments with an aversion or inability to consider private sector capital.
4. For larger water businesses, where the 'mental divide' to private sector operation has already been crossed and where is invariably a more

sophisticated understanding of financial structures, the influence of increasing technical complexity will be appropriately viewed as a delivery (capital) and operational (expense) risk. Accordingly the business considerations will likely be more 'economically rational' and an equal consideration of DBO and DBFO delivery models is expected.

In summary, one would expect a continued spread of DBO and Project Alliance delivery models, particularly under stable economic conditions (which *ipso facto* do not provide the economic reform driver that tends to favour DBFO models). Irrespective of the economic conditions moderator, a continuing constraint on the more widespread use of DBFO models is the high transaction cost associated with this option; it is apparent from several commentators that there will need tax changes (viz. Section 51AD and Division 16D of the Commonwealth Tax Act) for the transaction efficiency to improve.

Other Implications of Water Utility Sourcing Strategy: Immediate Influences on Industry Development

As mentioned earlier in this paper, the major private sector sourcing contracts in South Australia required a commitment by the private sector partners to economic development allied to the water industry, measured in outcomes for the economy of the State of South Australia. The economic development theory assumed in pursuing this course of action was Porter's theory of industry clusters. It was a forthright and individualistic move at the time and, even if some aspects were open to widespread criticism – e.g. the effective elimination of Australian firms from lead roles in the tender process – and the results are not, or at least not yet, readily noticeable within the Australian industry sector; it was nonetheless a strategy that at least recognised the economic development potential of water utility reform processes.

The ACTEW Corporation partnership with AGL Limited, expressed through the ActewAGL partnerships, was the second industry reform process that recognised the economic development potential of the transformation in addition to any benefits of the outsourcing exercise. The model applied for the water business of ACTEW Corporation is that the ActewAGL partnership – 50% owned by each of the public sector ACTEW Corporation and the private sector AGL Limited - now provides a scope of services equivalent *in scope* to the typical *affermage* arrangement in France. At present, detailed financial and risk assessments are reviewing the outcomes of the initial Alliance contract, with the intent to implement conventional broad-scope operations and services contracts over a twenty year term. The full knowledge base of the ACTEW Corporation water sector personnel have thus been leveraged into a PPP business able to effectively compete in the private sector as a non-regulated business. Most importantly, ACTEW Corporation's share of the financial returns from the entire multi-utility business partnership already exceed – only two years into the business – the returns earned from the electricity and water businesses prior to the formation of the partnership. ACTEW Corporation believes that the partnership

model developed is one that many other public sector utilities world-wide should consider. The benefits of the model, and the *Berlin Wasser* model which closely parallels but preceded the ACTEW arrangement, will be worthy of comprehensive study.

Direction in Ownership

As discussed in the review of the recent developments in the Australian industry, there is little prospect, if any, of a conventional trade-sale or public float privatisation in the Australian water industry in the foreseeable future. When a partial or full privatisation occurs, it is anticipated that a *condition precedent* will be the development of a 'privatisation' model that satisfies the underlying concerns (points 1 to 8 listed in the previous discussion) that hold sway within the general public. One potential model is a split asset mutual / operating business model – creating two entities where the core asset remains owned in a unit infrastructure trust entity and the operation is leveraged into a private business part owned by the community and part sold to the private sector. The unit trust structure could allocate units on a one-per-served property basis, retaining genuine community ownership of the asset. This structure may also simplify the existing issues with gifted assets from new developments. Trust management could be established initially through the existing government owner. The operations business could be established on a franchise or concession model, reflecting the difference between this outcome and traditional privatisation. Separation of return on assets pricing and commodity pricing outcomes should simplify the regulatory outcomes and create a much more direct link for customers between business outcomes and service pricing.
Although the above is nothing more than a simple outline of an option, it presents a case that there are alternatives to traditional privatisation, just as has been implemented with the ActewAGL partnerships. Such proposals warrant further consideration if objectives of sustainable businesses, protection of public interest and industry development are to be the reasons for considering industry reform, rather than simply raising capital. These models must consider the inherent incentives to deliver across all three parts of the triple bottom line: economic, environmental *and* social.

Conclusion

Time and study will reveal which private/public interface options deliver the best economic and social benefits. It might be taken as a 'given', or at least not a significant variable, that the environment bottom line is just about a simple determinant from economic and regulatory constraints when one is delivering essential environment industry infrastructure and services.

Nonetheless, in the absence of time available and the completion of studies, there is still a broad opportunity for further development of public private partnerships in Australia to the probable benefit of all parties. Securing continuing institutional reform - both for smaller water businesses and in restructuring the larger corporatised

utilities - is a necessary precursor to enabling this sector development; and there should be some detailed considerations of proposals in this regard.

References

Clucas, John, 'Putting the Boot In', **Water Business**, July 2001

Davis J.D., Perkins P.J., and Dooley, G.J. (1998) 'Corporate Futures in the Australian Water Industry' **Proceedings of the 17th Federal Convention**, Australian Water Association, Sydney April 1998.

Gill, Jim, The Public/Private Spectrum in the Water Services Industry, www.atse.org.au/publications/irc-reports/paper-southafricanovember_1999p1.htm

Harford, Peter, Australian Water Industry Experience – Private Industry Involvement, presentation to session on Private Participation in Infrastructure in China, World Bank Group, http://Inweb18.worldbank.org/eap/eap.nsf/Sectors/Urban+Dev/

Moran, Alan, Privatisation in Australia, www.ipa.org.au/pubs/Moranwebpapers/amprivint0700sum.html

National Competition Council, A Viable and Sustainable Water Industry: Staff Discussion Paper, July 2002

National Council for Public Private Partnerships, A White Paper on Partnerships, For the Good of the People: Using Public Private Partnerships to Meet America's Essential Needs, www.ncppp.org

Neal, Kathy et al, Restructuring America's Water Industry: Comparing Investor-Owned and Government Water Systems, www.rppi.org/ps200.html

Partnerships Victoria, www.partnerships.vic.gov.au/

Perkins, Paul J, The Power of One, **Canberra Times** supplement, 28 August 2001

UNEP/GPA, Working document, Recommendations for Decision-making on Municipal Wastewater, www.gpa.unep.org/documents/other/recs/Recommendations%20for%20Decision-making.htm

Vann, Bradley and Quentin Solomon, Australian-Style Public-Private Partnerships, **Privatisation International**, July 2000

Water, December 2001

Water Business, July 2001

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- Chairman, Environment Industry Action Agenda and the Barton Group
- Chairman, ACTEW China Pty Ltd
- Chairman, ACTEW Retail Ltd
- Director, ACTEW Corporation Ltd
- Director, Australia China Holdings Pty Ltd
- Immediate Past Chairman, Environment Management Industry Association of Australia Ltd (EMIAA), now Environment Business Australia

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Mr Perkins is a past member of the Standing Committee of Australian Water Resources Ministerial Council (AWRC), past branch President of the Australian Water and Wastewater Association (AWWA) and a member of the Australian Trade Commission's Advisory Panel on Infrastructure.

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