

Dr Penny Burns'

ASSET MANAGEMENT QUARTERLY

ideas, contacts, good practice

March 1994

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Next Issue:

Special Feature: "Asset Management in Private Industry"

Editorial "Best Practice"

Welcome to this, the first, issue of Asset Management Quarterly.

Although it has been fashionable of late to look for examples of "best practice", it seems to me that this is a search for the holy grail. Surely there can always be a better practice!

This first edition of Asset Management Quarterly strives only for the more modest goal of "good practice". If it is better than the practice you are using, then adopt it, but keep looking (and when you find something better - write and tell me!).

Asset Management Quarterly is, however, in sympathy with the *philosophy* of "best practice" and believes that the "best" ideas have a habit of coming from "without" rather than "within" one's own area. It is with this in mind that a hospital catering service, for example, might look for examples of "best practice", not to other hospitals, but to, say, airline catering.

This potential synergy is to be found within these pages and the quarterly issues to follow. It makes it easier for you to follow up good ideas that are occurring in industries, disciplines, organisational structures and places other than yours. The indexing feature will help you to recall those ideas you noted in passing.

Penny Burns

Subscriber Referral Service

The Asset Management Quarterly is more than a specialty journal in asset management, it is a networking journal and an information service.

All subscribers are able to take advantage of the **Subscriber Referral Service**. If you seeking information on a particular topic or someone with experience of that topic to talk to, then you can ring or fax me on (08) 281 5795. If I know the answer, I will tell you. If I do not know, I will try to find out. And, if all else fails, and I have not come up with the answer you need by the time the next issue is due to come out, I will print your request as a "letter to the editor", so that others may assist.

This service does not only apply to literature or people either. If you have a problem that you can't solve, you are welcome to write saying (a) what the problem is, and (b) what you have tried so far and with what results. Again, if I cannot make a suggestion which gets you over your block, we will look for someone who can - and failing all else, we may design an (anonymous) case study competition covering your problem - and open the problem up for the application of many creative minds..

Improved asset management is in everybody's interest. So take advantage of this offer. *PB*

Ten Ways to Fund Asset Maintenance

what works and what doesn't.

Some of the earliest studies of infrastructure decay and neglect in the United States came from the University sector, eg "The Decaying American Campus, A ticking time bomb" which was a joint report of the Association of Physical Plant Administrators of Universities and Colleges and the National Association of College and University Business Officers. These suggestions for funding capital maintenance come from a later publication of these two organisations, "Financial Planning Guidelines for Facility Renewal and Adaption" (1989) (write in the first instance to APPA, see reference to Harvey Kaiser's "Facilities Audit" in the Bookshelf Section.). In the USA, "plant" includes buildings, roads and siteworks. The suggestions have been made with Universities in mind but can be adapted for your organisation.

What doesn't work.

Some institutions simply take the amount they spent last year for plant renewal and adaption and put it in the budget for next year, perhaps adding a few percent for inflation. When funds are limited this is tempting, but wholly unsatisfactory as there is no way of assuring that either the previous year's actual or the future year's budget has any relationship to the amount that is really required to maintain the assets or adapt them to changing needs. A more common approach is to do a condition audit, identify those that

need doing within the next few years, prioritise, attach price tags and include in the budget. This has the advantage of identifying real problems but tends to focus on specific identifiable problems rather than the overall level of funding that should be provided on a continuing basis. Another difficulty is that the audit approach tends to focus on maintaining current functionality, perhaps missing the funding needed to adapt the plant continually to the evolving needs of the institution.

Clearly a blend of modelling life cycle costs and condition auditing is required. But having determined the level - how do we get the money?

- 1. Adopt the Endowment Approach.** (Just as some endowment income must be reserved to cover inflation and extra funds added to the endowment to keep pace with the institutions needs, so too assets need extra funding for inflation and adaption to new needs.)
- 2. Recognise and fund asset depreciation**
- 3. Give at least equal budget weight to renewal and adaption as to new construction**
- 4. Raise private funds for asset renewal and adaption**
- 5. Ensure auxiliary and other facilities that generate revenue, or are covered by special funding or fees, cover their own renewal and adaption costs**
- 6. Ensure that a "building use proportion" of research funds goes into asset reserves and seek a more adequate reimbursement of these costs**
- 7. Build asset protection formulas into loan covenants**
- 8. Seek other sources of funding**
- 9. Borrow if necessary to cope with catchup maintenance** [but only where the rate of increase of maintenance costs or service loss is greater than the interest rate.]
- 10. Ensure that the balance of funding necessary is provided from unrestricted operating budgets.**

CAPITAL EVALUATION PROCESSES AND THE CORPORATE ADVOCATE

Electricity Trust of South Australia

New Capital Expenditure Projects are typically initiated within a small section of your organisation. This section will see clearly the benefits for itself and for its work but the wider client or organisational benefits may not be so clearly seen, nor may the wider client or organisational costs.

Some larger agencies may appoint a project sponsor, an experienced, senior member of staff, to "smooth the way" for the project development. Teams vie for the most powerful sponsor because he will "do battle" on their behalf when it comes before the executive committee, **but who does battle on behalf of the corporation itself?** Who checks assumptions for relevance, figures for accuracy, or questions the analytical rigour and ensures that section goals reflect agency goals?

The executive committee are generally too busy and, as we know, when it is everybody's business it is nobody's business, so in the general way of things, this corporate analysis may be left undone, or not done well. What is needed is a corporate "devil's advocate".

Two years ago ETSA incorporated such a role in their capital evaluation process.

Paul Newman, Manager Corporate Finance advises that all capital projects over \$100,000 in value have to be "audited" by the Corporate Finance Department to establish (a) that the analysis is up to scratch and would withstand critical external evaluation and (b) that the project objectives are consistent with corporate objectives. Corporate Finance has to sign off on this. (The adequacy of the data is not attested to because this is dependent on specialist electrical engineering expertise and the responsibility for this rests with the business unit making the project proposal)

The corporate advocate looks at the projects with an eye to the effect on clients as well as on the corporation (the rate of return). Where risks are involved, the costs of "wearing the risk" are weighed against the costs of risk avoidance.

Robert Lamp, Senior Economist, says the system would not have been possible but for the adoption of evaluation policies and the staff training carried out over the past two years (and still ongoing), targetted at the "top 100 key players" in the field. Evaluation techniques have been taught to middle level engineers (who are expected to take the strategic view), to technical officers and to business unit accountants. It was found that the economic principles were most easily understood by those with a professional background in accounting or engineering.

Robert acts as advisor to business units preparing evaluations but does not carry them out for them. This would conflict with his "auditing" function. He is careful to avoid the trap of acting as "lobbyist".

Devolving the task of evaluation to field officers has freed up Corporate Finance Department resources for the audit function.

Paul may be contacted on (08) 404-5265 and Robert on (08) 404- 4572

Value Management is

- ✓ a **structured, workshop-based process** for bringing together
- ✓ a **team** representing all facets of a particular problem, project or program
- ✓ to achieve **value for money** by
- ✓ providing **all the necessary functions**
- ✓ at the **lowest total cost** consistent
- ✓ with **required levels of quality and performance**

Carrying out a Value Management Study requires

- researching the topic
- selecting the people from different backgrounds
- conducting the study itself, using systematic exploratory techniques to determine and analyse the required functions and to ensure all stakeholders are involved
- writing and presenting the final report with recommendations
- monitoring the implementation of accepted recommendations

University of Canberra,
**Graduate Certificate in Human
Resource Development in
VALUE MANAGEMENT FACILITATION**

Brisbane and Sydney 1994

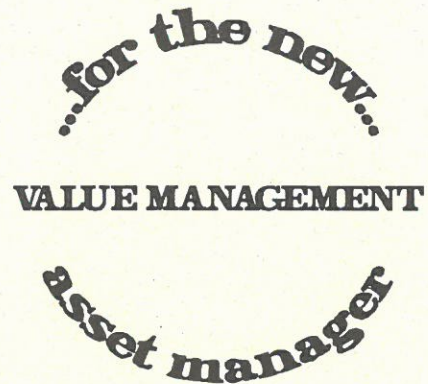
The course is offered by the National Centre for Value Management and the Centre for HRD Studies and brings together Value Management Methodology and Facilitation Skills. The course is structured to minimise the time away from the participants work place and includes two intensive weeks of study:

Brisbane: April 18-22, July 11-15
Sydney: May 2-6; August 22-26

The course is open to graduates of any discipline and is recognised by the Institute of Value Management, Australia, as satisfying its educational requirements for Membership.

Cost \$5000

Please direct enquiries to **Dr Frank Sofo**,
Centre for HRD Studies, University of
Canberra, PO Box 1, Belconnen ACT 2616,
Telephone (06) 201 5123, Fax (06) 201 5057



VM is best carried out early in the project when there is a greater range of options available.

What distinguishes VM from other problem solving techniques is its emphasis on **function analysis** and the **facilitation of group creativity**.

a little reading:

Roy Barton, "Value Management", *The Building Economist*, September 1989
NSW Government. "Value Management Manual", revised 1993,

.....
The National Centre for Value Management is a co-operative venture between the University of Canberra and NSW Public Works. The University of Canberra is the focus for research and educational programs in Value Management and group facilitation. NSW Public Works, through the Product Evaluation Unit, provides a Sydney office of the NCVM (see p. 15) which manages the commercial consulting services and assists with the associated administrative support and marketing.

A Graduate Certificate Course in Value Management was established jointly with the University's Centre for Human Resource Development Studies. The first students from Perth completed their course in 1993 and the second group of Sydney based students will complete their course in 1994. Higher degree opportunities are available through the National Centre for Value Management.

There are few VM facilitators in Australia and a growing demand for their services.

Condition Based Depreciation for Infrastructure Assets.

What is an infrastructure asset?

Infrastructure assets encompass networks (such as water and sewer pipes or electricity grids) and complex facilities (such as hospitals, generation stations and dams). They have two key distinguishing characteristics (1) they have very long physical lives, being essentially renewable rather than replaceable, and (2) the demand for their services is, for all practical purposes, infinite. Not all public assets are infrastructure assets. Furthermore any asset, normally classified as an infrastructure asset, eg a road, would become an ordinary asset, if it should become surplus to requirements or obsolete and the agency should plan its withdrawal from service, the essential characteristic of an infrastructure being its "ongoingness".

Should infrastructure assets be depreciated?

"Wearing out" and "obsolescence" does occur and thus the assets should be depreciated. For ordinary assets, it is assumed (correctly) that the residual value will decline until zero or some salvage value is reached, at which time it will be fully depreciated and replaced with a new item. This is not the case with an infrastructure asset, where depreciation is periodically made good by major maintenance. Infrastructure items are generally not permitted to reduce in value to zero and are only infrequently replaced as a whole.

Is Traditional depreciation acceptable for Infrastructure Assets?

No depreciation formula (eg declining balance, increasing balance, straight line) matches the residual value pattern of infrastructure, because all formulas have a monotonically declining residual value. They cannot cope with periodic major maintenance which keeps infrastructure assets close to full service value for most of their existence. Formula depreciation tends to

- (a) understate the real residual asset value
- (b) overstate the future asset liability, and
- (c) cumulatively understate the rate of return.

But most critically, it (d) does not reflect the real decline in the value of the asset when maintenance fails to be carried out. If "cost saving" dictates lower maintenance, there is no accounting for the resultant loss in future service ability of the asset, ie no accounting for the resultant loss in asset value. This is not so important for ordinary assets where only routine maintenance is required to enable them to survive for the economically pre-determined life, but it is important for infrastructure assets.

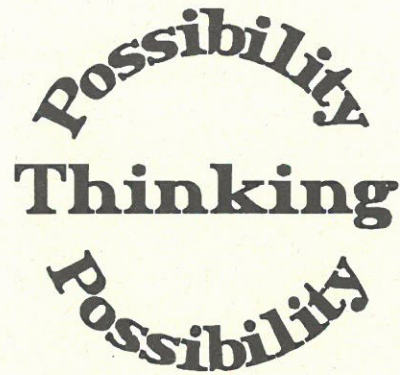
What is Condition Based Depreciation (CBD)?

Unlike traditional depreciation which is based on a pre-determined formula, hopefully approximating the true rate of value decline, CBD is a **direct** measure of the run down in asset value. Asset condition is measured by its deviation from "as new", and if the cost of bringing an asset up to "as new" or "fair working order" was, say, \$200m and its new cost was \$800m, then its written down value would be \$600m. By measuring the condition at periodic intervals, the change in value can be ascertained and this change is the depreciation over the period. Importantly, this change can be positive, if a major maintenance has just taken place. It will also pick up the loss of value from deferred maintenance. This depreciation method is being used by the Road Traffic Authority in NSW and by the privatised water industry in the UK.. It can, potentially, be applied to any infrastructure asset and is a protection against undesirable neglect of an asset through under-maintenance.

For further information, see "Condition-based depreciation for infrastructure assets", by Dr Penny Burns, in Readings in Accounting Developments in the Public Sector, 1992-93, ASCPA, Centre of Excellence in Public Sector Accounting.....and see page 10 in this issue for further research.

Innovative Re-Use of Heritage Buildings.

Poor communication and bad past experience have produced difficult relationships between heritage authorities and property owners and managers in the past but **David Conlon, Manager of the State Heritage Branch, Department of the Environment and Natural Resources, Adelaide**, believes that negative attitudes can be, and are being, overcome.



He advises anyone considering modification or adaptive re-use of a heritage place to discuss options and proposals with the local planning and/or heritage authority at an early stage, and certainly before proceeding to final drawings.

"A 'think tank' approach at an early stage enables all options to be explored and discussed, enables problems to be resolved without any party feeling that they have been forced to back down and produces a speedier, less costly and less frustrating processing of the application which is finally lodged." David is an advocate of innovative adaptation. He cites the old Adelaide Gaol (closed 1988) where the kitchen is being used as a commercial kitchen, the bakery as a kitchen for the preparation of Australian native food, and the cell block and exercise yard used as a unique function venue (all commercially leased). A brick electricity converter station, used in the days of electric trams, remains as a brick streetscape feature but has been converted inside to modern office accommodation and a brick primary school has been successfully adapted for use as a funeral parlour.

David stresses that the view that a heritage listed place can not be changed in any way stems from the notion that heritage places must be preserved. In some cases, he says, preservation of a total place is necessary, but more frequently preservation applies only to the more significant features of a place. In many cases adaptive re-use is necessary to ensure its long term conservation. It is important to identify and conserve the significant features and be 'respectful' to the heritage place in general. Within this general prescription, there is a wide range of creative, innovative and profitable ways of preserving heritage places.

David Conlon is speaking at the *IIR Conference on Strategic Public Sector Property Management to be held in Sydney on 11 & 12 April 1994*. (see p.19) **David can be contacted on (08) 207 2391.**

**More Possibilities –
Public Housing Authorities - What is your vacancy really costing you?**

If a house is empty for two weeks at every changeover whilst undergoing general cleaning and repair and, on average, house rentals change over every two years, then this amounts to one week per house per year when revenues are not being earned. What is this worth? Normally one calculates this by the revenues foregone. However this grossly understates when the rentals are highly subsidised. An alternative way of costing, which automatically calculates a net present value of future savings, is to calculate how many extra houses this is equivalent to. If you have an average vacancy rate of one week and a housing stock of, say, 20,000 houses, if you could half your vacancy rate, you would have 20,000/104, or 192 more houses available. This may be a better indication of what vacancies are really costing.

**Maintenance Night Work -
Juggling Social and Agency Costs and Benefits**

Launceston City Council's experience with City Road Refurbishment

Roads are a council's major assets and managing their refurbishment is a major task involving many considerations. A case in point is Launceston City road replacement and upgrading.

Roadworks cause disruptions to the Community with dust and noise, traffic hold-ups and loss of business to local shopkeepers. These costs are real yet seldom accounted for. Night work, while involving shift penalties, generator hire costs, extra on-site storage for lights, cords, generators, etc, and extra quarry access costs, can minimise these community costs, but can involve uncounted human costs. Balancing these costs along with agency costs is a fine juggling act.

Production rates for night work are higher than for day work in heavily trafficked work sites as witnessed by the George Street stormwater project in the city of Launceston, Tasmania. **Greg Preece was the Construction Manager** for this project and reports

that the crew was averaging three pipes per 8.5 hours day shift and, when switched to night work, they achieved six pipes per 12 hour shift (from 7pm to 7am).

Some crew enjoy the 12 hour shifts and are satisfied with sleep-filled days and arduous nights, particularly if the work can be done out of the heat of the day. Night work is peaceful, and with less traffic around, not only does the work proceed more smoothly but there is less chance of traffic related accidents. But workers with families may find that juggling family

responsibilities and afternoon naps can be trying. And on cold nights - and it does get cold in Launceston! - the work is perhaps less attractive.

"One night, there she was five below (degrees below zero). The man-hole lifter got frozen to the man-hole lids and we had shovels that froze to the road."

Much of the revitalisation of the CBD area of the city of Launceston has been undertaken by night work. However, **David Crockett, the Project Manager**, reports that there is now a tendency to work rather shorter night shifts and to start them earlier, running from 5pm to midnight.

Other works practice improvements that the City of Launceston have introduced to improve their road management include:

- ✓ **early starts** on asphalt sealing projects to avoid peak hour traffic (these cannot be carried out at night or when the temperature is below 10 degrees celsius)
- ✓ **crews working through Christmas-New Year holiday period** to make the best use of the good weather and long days, doing away with the traditional 4 week annual shutdown at Christmas time
- ✓ **use of contract labour** where good tender documentation can be prepared and retention of council labour for underground water main refurbishment where the unexpected can occur and it is difficult to document and therefore attracts higher risk premium contract rates

Both Greg and David can be contacted on (003) 371 314

**Five Golden Rules for Increasing Asset Productivity *
(from Network SouthEast, British Rail):**

1. Any asset not sponsored by a business must be scrapped!

Every single asset should be pinned down to a single business owner and then down again to a single owner within a business. Common assets "held centrally" are a recipe for waste. Application of this principle has reduced the locomotive fleet by 17% and wagons by 25%, saving A\$210m

2. If in doubt cut the asset base down

The trick is to live mean at periods of peak demand. Only two thirds of the train assets and half the infrastructure and station capacity is needed off-peak. NSE has been able to handle a 20% increase in commuting with a reduction in coaches, and still reduce overcrowding. Timetables are rewritten at least twice a year to matching changing demand patterns and no trains are scheduled for maintenance or cleaning in the peak. *A 5% reduction in assets is worth A\$26m per annum to NSE in reduced depreciation.*

3. Sweat those Assets!

Fenwick Street station is a lean asset with only four platforms serving a daily throughput equal to Gatwick airport. It commands a huge station trading potential and new shops, pubs and buffets now yield a second and growing profit. Situated in the heart of the city, in an ultra-expensive area of land, the sale of the airspace above the station has been exploited to the ultimate. Two rival office developments were built across the top of the station - yielding even more profit to the shops underneath. In another case, falling traffic led to the closure of a station, redirection of the route, and the station closed and made way for office development. *It is now earning 30 times as much as before.*

4. Asset Synergy or Lateral Thinking

Encourage lateral thinking between groups of assets: two plus two equal a profitable five! A good example lies in fill-in electrification schemes such as South Hampshire where a pocket of old diesel trains operated in a largely electrified network. The traction function's problem was to make a financial case for new diesel trains but the solution came from the infrastructure group with a proposal to electrify the route instead for the same capital cost as the diesel trains. The operations function then demonstrated that they could "sweat" the surrounding electric fleets avoiding purchase of any new electric trains.

5. Think Smart!

Low cost ingenuity can save millions of dollars of new assets. One division with a major communications problem but no hope of getting the A\$11 m capital investment from NSE, determined to solve its problem and finally hit on a short term solution of pocket "pagers" for all staff. For set-up costs of A\$30,000 and running costs of just A\$33,000 per annum, the Control office can bleep every member of staff whether on train, stations or trackside and send a 40 word consistent message detailing a cancellation, an emergency service or the business results of the day.

*From a Keynote address by CEW Green to the Conference on Railway Engineering, Adelaide, Sep 1991

Your chance to get involved in co-operative research

The NCRB-BAMC is opening up its current research program. 4 topic leaders, expert in their field, will guide and co-ordinate the development of each topic. 3-4 discussion meetings will be held in Melbourne during 1994 to develop the ideas and either late '94 or early '95 the NCRB-BAMC will be holding national seminars preparatory to producing definitive research monographs.*

To be part of this exciting development, all you have to do to get started is to write a paragraph or two (or a page or two) on any of the topics and issues listed on these pages and send them to the appropriate project leader. In return you will receive a combined draft of thoughts from around the country for your interest and further comment. For further information and for dates of the Melbourne meetings, please contact either the project leaders or the Secretary, Maurie Pawsey, on (057) 74 7303

Condition Based Depreciation

(Condition Based Depreciation is described in the article on page 6)

Issues in Developing the Condition Based Depreciation Approach:

- what assets are appropriate for condition based depreciation?
- how is the condition of assets to be measured and changes recorded?
- how can quality standards be operationalised?
- accuracy of information, what is necessary, what is available?
- what annuity measure should be used to spread future asset cash flows?
- developing the value of technical audits in CBD for generalising best practice
- incorporating longer term gains from asset management in the balance sheet

Project Leader: Penny Burns, Director, Infrastructure Economics, Telephone (08) 281 5795; Fax (08) 281 5795

Lies, Damned Lies and Your Maintenance Backlog.

How do we define and measure the "Maintenance Backlog"?

Issues:

- Current methods of measuring maintenance backlogs? Examples?
- What is the meaning and significance of the maintenance backlog so measured? ie,
 - - do we assume that the status quo should be maintained?
 - - how do we adapt to changing needs?
 - - how do we adapt to changing financial situations?
 - - how do we adapt to changing standards of provision?
 - - who sets the standards, who changes them, and according to what criteria?
 - - how do we determine an operational, yet flexible, definition of backlog?
 - - what do we/ should we use the measures for?
 - - justification for increased funding?
 - - effect on the future use of the asset?
 - - effect on the current use of the asset?

Project Leader: Dr Selwyn Tucker, CSIRO Division of Building, Construction and Engineering, Telephone (03) 252 6184; Fax (03) 252 6249

Total Quality Service

Summary: To meet the principles of Total Quality Service, an organisation must achieve a structure that delivers a service or product that consistently exceeds its customers expectations. Customer is taken to include not only the fee paying client, but the total network of service organisations, sub-contractors and internal departments that form part of the service delivery process. The need to consistently exceed customers expectations calls for the implementation of a process of continuous improvement, of internal and external benchmarking. The correct application of technology is an essential element of Total Quality Service.

Issues:

- Definition of customer
- Procedures
- Definition of continuous improvement
- Measurement of performance, eg "waste"
- Measurement of customer expectation
- Documentation
- Benchmarking
- Appropriate technology

Project Leader: John Hull, National Director, Property Management, Baillieu Knight Frank Pty Ltd, Telephone: (03) 604 4603; Fax:(03) 604 4737

Making and Breaking the Rules.

Summary: A major concern within the property owning industry including both public and private sectors is the plethora of regulatory control. Whilst the more visible of these are contained within the Building Code of Australia (BCA) in its various state manifestations, there is also an increasing amount of legislation under the Workplace Health and Safety rubric. BOMA (Building Owners and Managers Association of Australia) are mounting a major campaign to investigate the cost/benefit of the extensive fire regulations incorporated into the BCA, all of which are called up under state laws. Part of the problem lies in the incorporation of whole Australian Standards into Codes. None of these extensive regulatory controls have ever been subjected to rigorous cost/benefit analysis, more particularly by those responsible for drafting and incorporation into law. It is about time that all such measures were in the first instance subjected to cost/benefit analysis to identify full costs and real social benefits. At present, it is an expensive "warm inner glow". **How do we go about this task?**

Issues:

- Need for statement of regulation to be written in outcome terms
- Need for tests of relevance of regulation to achieve its stated objectives
- Need for cost benefit, (and acceptable methods of valuing human life)
- Regulatory impact statements - who does them, with what success?
- Process -Who should do the cost benefit analysis of new regulations?
- (ie, the agency proposing the regulation or an independent, commissioned perhaps by a "Bureau of Regulation") and who would fund this?
- Who is affected by the present over-regulation and what is being done?

Project Leader: Bill Humble, Director, Buildings and Grounds, The University of Queensland, telephone: (07) 365 2794, fax: (07) 365 1555

* **NCRB-BAMC** is the National Committee on Rationalised Buildings - Buildings Asset Management Committee. The NCRB-BAMC have been active for 25 years in the production of quality guidelines for asset management, including "Performance Indicators for Building Assets" by SN Tucker and RJ Taylor, "Standard Terminology for Facilities Management" and "A National System for Building Life Cycle Cost Performance Data Recording" by FJ Bromilow et al.

‘How the Brisbane City Council Saved Over \$100m in Avoided Capital Costs by Clever Use of Demand Management’.

An attitude of client service has helped the Brisbane City Council to reduce trade wastes entering the city sewers from an equivalent domestic sewer load of 630,000 persons to 420,000 over the past ten years. Generation rates of the more difficult hazardous wastes have been reduced from 3.5 ML to 0.9 ML over the past five years. With industrial growth and no waste minimisation activity, industrial wastes entering the sewers could today probably be expected to be in excess of a load equivalent of 840,000 persons and the costs of capacity expansion required for this increase would have been of the order of \$60m to \$120m (depending on the size of the treatment plant and technology used) plus costs necessary for extending the treatment of hazardous wastes.

What did BCC do to avoid these costs? In the early 1980s, Brisbane's sewage treatment plants were in overload. Scope for industrial growth was thus jeopardised and costly capacity expansion imminent unless steps were taken. The council adopted a combination approach. It increased capacity but it also sent out scientifically trained officers who offered help and suggestions to industry for minimisation and recycling of wastes, or for pre-treatment that would reduce the load on the treatment plant and thus the cost to industry. The officers served to relay best practice techniques from industry to industry and were even known to assist in recycling treatment plant from one firm to another. This very strong customer orientation, now backed up by increasingly sophisticated pricing practices, has reduced costs for both Council and industry, and all for a small additional cost in skill levels of trade waste enforcement officers, costs which have been more than recovered by the savings effected. Together with some capital growth, the freed up capacity now provides scope for increased industrial growth in the city of Brisbane within an ecologically sustainable framework. Contact is **Greg O'Brien**, (07) 875 8607 (between 12.30 and 2pm)

‘A new approach to Risk Management in Melbourne Water’

Early last year, in its budget framing exercise, Melbourne Water used a simple risk management model to estimate the expected costs of continuing the status quo. Comparing these costs with the cost of risk reduction options in present value analyses yielded relative rankings for various capital projects. Based on these rankings, those with the highest priority were funded in the financial year. The problem with this approach is that it compares projects with a mix of asset types, a mix of failure mechanisms and, more importantly, a mix of consequences of failure, some easily quantified in dollar terms, others not so easily quantified. This led to the development of an alternative way of prioritising projects using multicriteria decision processes, called Analytical Hierarchical Process which is looking very promising. For further information contact **Gary McLay**, A/Manager, Asset Management and Investment, Yarra Region, Melbourne Water Corporation on (03) 480 7319 or Fax (03) 480 7367.

An innovative solution to prioritising excess demand

- Litchfield Shire Council's Award Winning Accelerated Road Sealing Program

Residents of Litchfield Shire Council in the Northern Territory, like most other municipal areas, had a desire for sealed roads adjacent to their properties to lessen the dust problems, to enable all weather access and enhance property values, but with over 300km of unsealed roads in the council area and little spare cash, they were concerned that they might have to wait up to 15 years before the Council was able to seal their particular road.

Litchfield Shire was a "minimum rates" council but ratepayers accepted that roads could not be sealed rapidly without ratepayer contribution. A survey had determined that an accelerated road sealing program was a priority and that ratepayers themselves were prepared to be involved to contain management costs.

The solution:

- Residents desiring sealed roads ahead of the normal sealing program, would be required to contribute the identified cost per property as a once up payment. Council would meet the cost of forming the road, with the ratepayer contribution based on sealing costs only.
- As an incentive for the once off payment, Council would discount the property by a reduction of 15% per annum for 3 years.
- Where 80% of property owners on a particular road agreed to participate and contribute the required amount, the road would

be placed in the accelerated resealing scheme.

- Individuals would nominate as "Road Captains" and undertake to find out how many residents on that particular road wished to contribute to the cost of sealing the road.
- Council would identify the cost of sealing for each property.
- The "Road Captain" would undertake to collect the funds from residents, on behalf of the Council.
- Subdivisions would, in future, be required to provide all sealed roads.

And the results?

In the last few years, a few administrative refinements have been made, such as a policy for corner blocks, and 350 blocks have opted to take part in the program, resulting in contributions of \$355,000 and 22 new roads, total length 19.9Km. So far, for the 1994-95 financial year, 109 blocks have nominated and provided \$130,000 towards 7 new roads. There is now reduced pressure from the RL1 Zone ("urbanised", ie 2 hectares minimum). There is less pressure from the RL2 Zone where the blocks are larger.

This innovative program won the Royal Institute of Public Administration, Australia's "Innovations in Management Award" in 1992.

Contact is Peter Visentin, Shire Manager, 089 83 1912.

**Roger Byrne, of Gutteridge,
Haskins and Davey's.**

Roger heads up Gutteridge, Haskins and Davey's (GHD's) Life Cycle Asset Management Group, based in their Melbourne Office.

Born in 1945, Roger is now well into his life cycle and is beginning to consider his residual life rather than life-to-date! A civil engineer, Roger began his working life with hydraulic services (water, sewer, drainage) and rapidly became aware of deficiencies in existing plans and asset records. It is not surprising that he is now an avid advocate of better intelligence. Roger joined GHD in 1970 and over the years has become a recognised expert in the management of water, sewerage and drainage issues bedevilling municipally based authorities. He has worked with clients to develop

- asset inventory and management systems for all types of public infrastructure
- sophisticated processes and approaches to the management of infrastructure life cycles.

Not one to advocate information for information's sake, Roger's basic rule is "If there is no identifiable benefit, don't do it!"

This rule has resulted in major consultancies with

- Snowy Mountains Hydro Electric Authority
- Engineering and Water Supply Department, SA
- Melbourne Water
- Telecom Australia
- Indonesia Public Works Department
- Hydro- Electric Commission of Tasmania
- Australian National Parks and Wildlife Service
- Regional Municipal Councils throughout Australia and New Zealand

Roger believes that the identification and quantification of "business risk cost" will become the driving force for all infrastructure management activities. Key issues are: asset identification; maintenance and renewal cost justifications and condition monitoring.

Profile Profile Profile

Major areas of current activity for Roger, and his Asset Management Group at GHD, are:

Optimised Renewal Decision Making (ORDM) - Enabling the evaluation of all investment decisions for both the renewal of old assets and the provision of new services. This approach enables clients to assess the merits of maintenance, operations, rehabilitation, replacement and new services on an equivalent benefit/cost basis.

Asset Management Process Re-Design (Re-Engineering) - This work assists clients to adopt "world best" approaches to the management of their infrastructure assets from a service delivery perspective. Combined with "change management" it offers great benefits to asset owners.

Predictive Modelling of Assets. Being able to predict the performance of individual assets, and the network systems that they form part of, is essential to sound asset management.

Models assist clients to predict

- capacity failures
- condition decay and failure rates
- service costs
- maintenance needs, and
- renewal programmes.

GHD has offices in all Australian States and Territories. It has been practising in Australia in engineering and management of infrastructure systems for over 60 years. It is one of the largest independent Australian consulting firms with a staff of over 750, of whom approximately half are professional Engineers, Surveyors and Planners. They are leading consultants in the field of asset management.

Effective Value Management - Getting the Recommendations Implemented!

*-an interview with Alan Butler, Director, Sydney Office,
National Centre for Value Management.*

PB: I have noticed that after a VM study has been completed and the new directions have received consensus, nevertheless various project managers, project directors, property personnel, project team members and their consultants attempt to revisit detail or generally "right" the re-directions. What are your suggestions for getting the recommendations "locked in"?

Alan Butler: "It is difficult to be prescriptive in laying out a solution to this problem which often appears to stem from almost single minded arrogance. We might, though, suggest that each of the following contributes to ensuring recommendations actually get implemented.

- ✓ **Clear, Corporately Endorsed VM Objectives**
- ✓ **Corporate Support and Involvement** - a "champion" for the process within the executive management of the commissioning client organisations will provide strength of commitment to members in the VM study
- ✓ **Timing of the Study** - if the VM is conducted after there has been considerable team intellectual, physical or professional input then there may be personal resistance, loss of face or reason to rationalise actions which circumvent VM Study decisions. Concept stage VM Studies run less risk of this than design related VM Studies. Equally, at the design stage there may be a very clear client objective to save money or remain within the budget - care must be taken not to cheapen inadvertently.
- ✓ **Preparation of the Participants** to ensure positive, constructive attitudes and that all concerns and issues may be tabled so that they can be dealt with.
- ✓ **Quality Facilitation** - effective VM is **not** just the slavish following of a plan of activities A-Z and out pops a successful VM Study. There must be skilled facilitation utilising active listening and an earnest objective to produce a value added result. All participants will have their concerns, grievances and reservations drawn out so that consensus and ownership of VM Study outcomes is achieved.
- ✓ **Ownership of Recommendations by the VM Team** - this is the most powerful assurance for achieving recommendations that stick. The consensus possible through skilled management and facilitation of the VM Study will ensure that very few, if any, unresolved concerns remain. No-one should feel that they have not been listened to nor should anyone consider that the VM process has cheapened the final solution.
- ✓ **Monitoring of Actions** - some organisations provide a regular monitoring report which tracks the "take-up" of VM recommendations. This enables early recognition of any undermining.

Alan Butler can be contacted on (02) 372 8026.

Total Management Planning for Water Related Services in Queensland

A majority of Queensland Local Authorities are currently developing Total Management Plans for their water supply and sewerage schemes. Total Management Planning is an integrated approach to asset management and planning. It is a common sense, rational approach which is applied at an appropriate level by individual Local Authorities. It is compatible with the corporate planning and accrual accounting initiatives currently being addressed by Local Government. It is a means of addressing issues such as:

- ageing infrastructure
- long term financial viability of schemes
- efficient management of existing infrastructure
- regional planning and co-ordination; and
- the need for greater emphasis on broader and longer term planning.

The Department of Primary Industries (Water Resources) developed this concept in conjunction with financial specialists and town planners under the guidance of a multi-disciplinary steering committee. It has been developed and promoted through:

- issuing a series of Technical Bulletins on each component of a Total Management Plan. These bulletins are currently being compiled into a two volume Manual;
- undertaking a case study to confirm the applicability of the concept. This case study proved very successful and is allowing the Local Authority to meet its objectives of improved service levels while maintaining rate increases within CPI; and
- presentations to individual Local Authorities and peak bodies such as the Local Government Association. Implementation of the concept will require a change of culture in a number of authorities. As a result, significant effort has been made in promoting the benefits of Total Management Planning to elected members and staff.

Financial assistance for Implementation. The State Government has provided a subsidy of \$7m to Local Authorities. Over 90% of Local Authorities have submitted applications for financial assistance.

Benefits. While much of the benefits will accrue in the medium and long term some benefits are already becoming evident. These include improvement in infrastructure information systems, longer term financial planning, greater emphasis on formalised infrastructure maintenance management, quantifications of service standards and performance monitoring and the formalisation of policies in key areas. A number of Local Government engineers have indicated that they see the concept being applied to all Local Government infrastructure.

Contacts: Richard Priman (07) 224 2723 and Aneurin Hughes (07) 224 2706 Queensland Department of Primary Industries (Water Resources)

**Using Performance Information
to Develop An Infrastructure
Decision Model.**

Neville Binning's PhD work at the University of Western Australia is seeking to determine the influence of performance information in achieving an acceptable yet sustainable service level from public infrastructure at the least long term (life cycle) cost. He considers that decisions often pay insufficient regard to the preservation aspect of infrastructure and have an inherent bias towards meeting short term service level imperatives at the expense of realising the potential least long term (life cycle) cost. The net result is that the public ultimately pays more than is necessary for a given service level. Also, the service level provided is one it ultimately cannot afford and so is not sustainable.

Neville's research relates to the general area of incorporating long term consequences into current decision making behaviour. His initial studies concern bridges but the findings are likely to have significant application to the management of all types of public infrastructure, from the strategic through to the operational level.

Professor Ian Eggleton of the Department of Accounting and Finance is supervising the research but the eclectic nature of the research has required extensive liaison with other areas. *Neville is keen to make contact with others who have an interest in his research, particularly with those interested to discuss modelling the service level construct for public infrastructure into quantifiable terms that recognise its dynamic nature.*

Ring Neville on (09) 323 4111 or (09) 271 8216 (after hours) or contact him by fax on (09) 323 4430.



**Are we demolishing buildings
too soon?**

David Ness-Chang's PhD research at the University of Adelaide is looking for the answer. He is focussing on the omitted social and environmental costs of energy and other resources and his thesis is that

Full costing of energy resources would lead to a reduction in bias of commercial decisions towards demolition and rebuilding, and an increase in refurbishment and adaptation.

David argues that the economic life of buildings is being reached long before their physical life is up. Methods to extend the economic life (ie to make it economic to use the building for longer) would therefore lead to more rehabilitation and less rebuilding. David is looking at embodied energy costs and the effect of these on various decision models.

Dr Brian Atkinson of the Department of Architecture is David's main supervisor.

David may be contacted on (08) 226 5902 or after hours on (08) 373 3407. His fax number is (08) 226 5444.

The American Association of Physical Plant Administrators has brought out a completely revised and updated edition of its *Facilities Audit Workbook: The Facilities Audit: A process for improving facilities conditions* by Harvey H Kaiser, ISBN 0-913359-71-8.

The *Facilities Audit* is intended to help managers to analyse the condition and performance of buildings, and to quantify maintenance deficiencies. The author, Dr Harvey H Kaiser of Syracuse University has published a number of works on maintenance and facilities management.

The *Facilities Audit* principles are applicable to single buildings and to institutions which are housed in a number of buildings on several sites. The book provides a step-by-step guide to assessing the condition of buildings, which can be adapted to meet specific circumstances. A chapter on how to summarise and interpret the information generated is followed by advice on how to present the results to decision makers. Appendices include detailed checklists and sample forms for use at all stages of the audit. A bibliography is included.

Although written for managers of higher education institutions in the USA, the book contains much that will be of relevance to managers of all types of establishments in Australia, where the deferment of maintenance has left buildings in a less than satisfactory condition.

The *Facilities Audit* (102pp) is available at the price of US\$55 plus postage, from: A.P.P.A., Department FAC, PO Box 1201, Alexandria, VA 22313-1201, USA.

Adaptability and Flexibility

Adaptability and Flexibility in Educational Facilities, by Roger Clynes, OECD, Decentralised Programme on Educational Building, SME/PEB/90.1 April 1990.

FOR YOUR Bookshelf Bookshelf

Adaptability is the ability to readily change the physical structure to suit a new need. **Flexibility** is the ability of the existing area to adapt to a new need without physical alteration. Clynes' study shows that provision for adaptability was frequently not used because it was too difficult, too expensive, users were unaware of the potential or because the administrative procedures inhibited such action. This study discusses a number of possibilities for adaptability and flexibility and has suggestions for managerial and networking changes to enhance facility use.

AMQ readers who are not in educational facilities may be able to access this through their nearest Education Department Facilities Office.

Developing Indicators of Infrastructure Needs in Secondary Schools

A report to the Schools Council, is to be published shortly by the National Board of Education and Training and will be available from Government bookshops. The report discusses the deficiencies of the traditional, but negative, appraisal of "infrastructure gaps" and develops an approach using a number of indicators of use, utilisation and capability (ie what assets could do if used differently or modified) Much of the work was carried out by **Phil McKenzie of the Australian Council for Educational Research**, who may be contacted on (03) 277 5555

ASSET MANAGEMENT QUARTERLY, March 1994

Forthcoming Conference

Strategic Public Sector Property Management 11 & 12 April 1994, The Sydney Boulevard, Sydney

Day One (April 11)

Property resource agreements and the Commonwealth Rent Index: how will they work in practice? by Brian Cooney, Director, Property Policy, Department of Finance

Integrating property management with organisational objectives, by Paul Tosi, Director, Property and Development, Cambelltown City Council

Strategic Planning for future property requirements, by Sue Birtles, General Manager, Estate Management, Department of Urban Services.

Utilising property information systems to successfully monitor your property by David Eades, General Manager, Property, Queensland Rail.

Effectively working with the valuer and understanding the real meaning of asset valuations, by John McAuliffe, Regional Manager, Australian Valuation Office, Queensland.

How to maximise the value of your assets by Perce Butterworth, Assistant Director Policy Planning and Evaluation, NSW Board of Vocational Education and Training.

Assessing the options for ageing and surplus property, by Richard McIntosh, Manager, Business Development, Australian Property Group

Understanding life cycle costing by Bob Richardson, Director, Rider Hunt

Day Two (April 12)

Practical techniques for efficient building management, by Graham Lowe, Assistant General Manager Special Projects, Asset Services

Planning effective energy management, by Claude Morson, Senior Mechanical Engineer (Energy Management) Department of the Arts and Administrative Services

Contracting out the maintenance of public sector property: key issues and considerations, by Bob Rosen, State Manager, NSW, Asset Services, Department of the Arts and Administrative Services

Developing effective contract management by Carlos de Carvalho, Associate Director, Price Waterhouse Urwick

Steps to establish the benchmarking process, by Roger Patrick, Principal Consultant, PA Consulting Group, Sydney

Effective heritage property management, by David Conlon, Manager, State Heritage Branch, Adelaide, Department of Environment and Natural Resources

Practicalities of property disposal by Les Wallace, Assistant Secretary Estate Management, Department of Defence

Evaluating innovative options for financing government property by Mark Ford, Division Director, Property Investment Banking, Macquarie Bank

Registration for this conference can be made with IIR Conferences, PO Box 2133, North Sydney, NSW 2059. Or by Fax on (02) 959 4684. Fees for the 2 day conference are \$1395. An optional one day workshop on "How to effectively manage contracting out" on April 13th is available for \$795. (Conference and Workshop \$1930 - save \$260). This includes lunch, refreshments and conference documentation

Please include a cheque with your registration made payable to IIR Pty Ltd. Payment is required before the conference.

The Back Page Case Study Competition.

George Netherby, the Chief Engineer at Clena Waterways was delighted. The new cathodic protection results were excellent. For only \$100m, the bulk of the agency's pipelines, which were about 40 years old, could be extended out to 160 years, instead of their current 80 year design and economic life. Triumphantly he took the new results to Anna Burnside, the agency's accountant and suggested that a budget submission for the \$100m be submitted forthwith. Anna did not share his rejoicing. She explained that with the cathodic protection the asset values would increase from their current value of 50% of 4 billion (their current replacement value) to 75%, an increase of 1 billion dollars. Great! said George, beaming. Not so great! replied Anna, your cathodic protection will not increase my net revenues, in fact they will decrease them by \$100m, and with the same, or declining revenues, and an increasing asset base, the rate of return, the key performance indicator for this agency, will decline. Sorry, George, it's not on.

You are called in to advise. What do you say to George and Anna? Does your answer vary if Clena Waterways is a private company or a government agency?

The best entries received will be published in the June issue of AMQ and the winners will receive a personal subscription to AMQ for one year plus half a dozen bottles of premium South Australian red wine. Entries must be received by Friday 13th May!

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