

National Code of Practice for the Construction Industry

Towards Best Practice Guidelines

Australian Procurement and Construction Council

1999

Australian Procurement and Construction Council

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Introduction

The National Code of Practice for the Construction Industry (*the National Code*) was developed jointly by the Australian Procurement and Construction Council and the Departments of Labour Advisory Committee. The National Code has been endorsed and adopted by Commonwealth, State and Territory Governments through the Procurement and Construction Ministers' Council and the Labour Ministers' Council.

Existing codes or new codes developed by individual governments will be consistent with the principles established in the National Code, but will be tailored to suit the priorities and circumstances relevant to particular jurisdictions. Where a Commonwealth, State, or Territory has guidelines to support their Code, those guidelines will apply in that jurisdiction.

These Guidelines are aimed at encouraging continuous improvement and best practice approaches by all parties in the construction industry.

These Guidelines also support the national strategies to support industry development outlined in *Construct Australia: Building a Better Construction Industry in Australia*.

Definitions

‘Construction industry’ includes all organised activities concerned with demolition, building, landscaping, maintenance, civil engineering, process engineering, mining and heavy engineering.

‘Applicable Code’ means the applicable jurisdictional code; that is, either the National, State or Territory Code.

‘Party’ or **‘parties’** includes but is not limited to: clients, service providers (i.e. principal contractors, contractors, subcontractors, suppliers, consultants, employees), unions (their officials, employees and members), and industry associations whilst undertaking a representative role.

‘Tenders’ prices, bids, quotations, proposals and expressions of interest.

National principles

Responsibilities and relationships

The National Code and these Guidelines encourage co-operation, ethical behaviour, continuous improvement and best practice by clients and service providers in the construction industry.

In addition, it is expected that employer and industry associations and unions will contribute to the achievement of best practice standards in the industry.

Clients

Clients are expected to:

- comply with the applicable Code and take action to address Code issues
- inform parties of their responsibility to comply with the applicable Code
- ensure an appropriate level of expertise is available in all phases of procurement
- adopt a cooperative, non-adversarial approach in all business dealings and relationships in all combinations, and at all levels
- promote and strive to achieve best practice.

Service providers: contractors, subcontractors, consultants, and suppliers

Contractors, subcontractors, consultants and suppliers are expected to:

- comply with the applicable Code and take action to address Code issues
- adopt a cooperative, non-adversarial approach which must extend to all business dealings and relationships in all combinations, and at all levels
- improve skills, financial planning, management and business efficiency

- maintain high standards in employee and workplace relations, OHS&R and environmental management
- promote and strive to achieve best practice.

Employer and industry associations

Employer and industry associations are required to:

- work with clients, contractors, subcontractors, consultants, suppliers and unions to improve: relationships, efficiency, productivity, industrial and workplace relations, OHS&R and environmental management performance, and the competitiveness of the construction industry
- encourage compliance by members with the applicable Code
- establish internal mechanisms under their rules or code(s) of conduct to deal with transgressions from the applicable Code
- adopt and promote a cooperative (non-adversarial) approach in all dealings and relationships
- promote and strive to achieve best practice.

Unions

Unions are required to:

- work with clients, contractors, subcontractors, suppliers and employer associations and other industry participants to achieve new and improved standards in: industrial and workplace relations, OHS&R, environmental management, productivity, and in the competitiveness of the construction industry
- encourage compliance by members and union officials with the requirements of the applicable Code
- establish internal mechanisms under their rules or code(s) of conduct to deal with transgressions from the applicable Code
- adopt and promote a cooperative (non-adversarial) approach in all dealings and relationships
- promote and strive to achieve best practice.

Competitive behaviour

Ethical principles

The ethical principles outlined in the National Code were framed with the expectation that they would be embraced as a statement of ethics that underpin best practice tendering procedures, not only by those to whom they are directed but also by employer and industry associations in the construction industry.

By embracing the ethical principles, significant benefits will flow to the community and the construction industry as a whole through improved service outcomes.

In respect of individual parties to a particular tender process clients and service providers will benefit directly through—

reduced costs: a tender process underpinned by the ethical principles will provide service providers with the confidence that their tender will receive fair and equal consideration in accordance with the evaluation criteria described in the tender documents. This means that the effort and cost of tendering is not wasted through inappropriate selection or assessment processes and should ultimately reduce costs to both clients and service providers.

continuous improvement: confidence in the tender process creates a climate which encourages innovation and continuous improvement, on the basis that effort will be fairly rewarded in the long term.

Implementation of the ethical principles

To give effect to the ethical principles, tendering processes need to set out in detail the following obligations:

Clients' obligations

- Fair dealing
 - Commitment to proceed
 - Negotiations
 - Confidentiality
- Project definition
- Tender documents
- Selection criteria
- Procedures for inviting tenders
 - Advertisement of tenders
 - Handling enquiries by tenderers
 - Issuing amendments to tender documents
 - Receipt of tenders
 - Evaluation of tenders
- Outcomes of tenders

Tenderer's obligations

- Responding to invitations to tender
- Review of tender documents
- Formulation of tenders
- Statutory and legal obligations
- Tender conformance
- Competitive behaviour
- Submission of tenders
- Enquiries from the client
- Confidential information

Collusive practices

Collusive tendering practices are inconsistent with the establishment and maintenance of the ethical business practices which must underlie good working relationships between any client and any service providers seeking to do business with it, and between service providers.

These practices have both direct and indirect adverse impacts on the cost of projects. They include:

- **direct costs**
 - through the inclusion of allowances for unsuccessful tenders in tender prices and special fees payable to employer and industry associations
- **indirect costs**
 - through reduced effectiveness of the competitive tendering process.

Clients need to ensure to the maximum extent possible that the practice of unsuccessful tenderers' fees and other collusive practices do not occur.

Continuous improvement and best practice

Commitment to continuous improvement

The pursuit of best practice requires total organisational commitment to continuous improvement, which is essential if the industry is to:

- maintain its influential position in the economy, and
- to be internationally competitive.

Governments, as clients, will encourage the attainment of best practice by all participants. Commonwealth, State and Territory Governments will also work together to develop a compatible reward and incentive regime.

Outstanding performance will be encouraged and incentives provided for enterprises which show significant improvement. This includes outstanding performance in supply chain management relationships. The incentives include more opportunities to do business and longer term relationships.

Best practice

The reason an enterprise sets out to achieve Best Practice is that it simply makes good business sense.

The strategies are as diverse as the measures which must be used to gauge performance and identify deficiencies which need to be addressed.

The approach employed by an enterprise for delivering Best Practice will be framed according to the nature of the organisation, resources, market position, products and services offered, and a number of other factors.

In the context of a construction industry enterprise, Best Practice embraces:

- excellent business relationships and practices
- effective organisational and information systems and standards
- exceptional employee and workplace management policies and practices
- innovation and new technologies, and
- superior time, cost, quality, and service outcomes.

Enterprises with this focus will have a workplace culture and output that is characterised by value, service and competitiveness.

The “bottom line result” stemming from the achievement of Best Practice will take the form of such things as increased client satisfaction, improved market share, greater opportunities to do business, expanded income and profits.

Case study: Bildakit Homes – Client satisfaction and export potential

The Company

Bildakit Homes Australia was established in 1980 in Sydney and since 1985 has been actively pursuing export markets. The company has 40 employees and about 100 subcontractors, carrying out about 100 projects every year.

Bildakit's initial major export market has been Japan. It has also exported to South Korea, Malaysia and the South Pacific. It has competed successfully against US, Canadian and Scandinavian house building companies.

Commitment

The secret of Bildakit's success" says Director Greg Forrester, "is its commitment, during the negotiation phase of a project, to the client's budget and other needs, understanding the clients requirements and then providing Australian products which meet those criteria. We believe we are quite unique in this flexible approach to our promotion of Australian products and Australian content in Bildakit's finished houses".

In seeking out contracts in Japan, Bildakit was prepared to spend its own time and money in building solid long term relationships with its Japanese customers. This is the main innovative approach devised by the company to successfully carry out its business.

One of the most exciting projects in 1998 was the supply of a housing village to the Orix company, a very large Japanese multinational company which also happens to own the Osaka Baseball Team. This project offered a good opportunity to showcase Australian housing products. Bildakit expects that "volume villages" containing up to 20 houses will spread across Japan, giving Bildakit greater export opportunities.

In pursuing its Japanese success the company needed to add existing know-how to their engineering expertise, architectural services and translation services for interpreting technical building and construction language into Japanese. The other need was to work with the company's clients on an ongoing basis.

The company found private financing to fund the Japanese project, including making hedging arrangements against movements in foreign currency.

The gains

The recent fluctuation of overseas currencies to the Australian dollar has seriously affected the export market, but Bildakit's consistent and continuing liaison with its overseas clients, and its willingness to invest time and money in pursuing new contacts, has resulted in the majority of its export clients staying with the company by reconfiguring their requirements.

Source:

Department of Industry Science and Resources

Workplace reform

Workplace reform is a dynamic change process, and it requires the commitment of employers, employees, unions and clients.

Improving industry competitiveness and workplace productivity through workplace reform and workforce diversity are key components of Commonwealth, State and Territory Governments' development strategies for the construction industry. To this end, service providers should be encouraged to pursue and implement workplace reform and development strategies appropriate to the nature, size and capacity of the individual enterprise and its projects.

Workplace reform covers innovations and complementary approaches to workplace behaviour and continuous improvement in:

- management practice and relationships
- training and skill formation
- employee and workplace relations and practices
- occupational health and safety and rehabilitation (OHS&R) management and
- quality management.

The industry's long term need is to have a workforce that is able to adapt quickly to new situations and new challenges. Accordingly, workplace reform needs to be integrated into enterprise development. This integration has the potential to strengthen the construction industry's viability through workplace and productivity improvements. Such improvements can foster positive changes for individual enterprises, including:

- savings from improved productivity
- reduced waste and time lost
- better quality products and services
- a more flexible and adaptive workforce
- improved motivation, morale and commitment
- improved remuneration opportunities and/or working conditions for the workforce

- higher standards in occupational health and safety and rehabilitation performance
- improved planning, business, financial, technology use and management practices.

Case study: Workforce development in action

This study focuses on re-introducing long-term unemployed construction workers into the workforce and enhancing the skills of the site workforce. This was achieved through an on-site Construction Skills Development Centre (CSDC) at the Liverpool Hospital Redevelopment Project.

The key issue is continuous improvement in productivity-oriented learning. By integrating structured learning into work processes, sustainable productivity improvements were achieved.

The Australian National Training Authority awarded Barclay Mowlem Construction Limited the 1996 Australian Trainer Award.

The project

The Liverpool Hospital Redevelopment Project involved the construction of two buildings and refurbishment of an existing wing. It was completed in mid 1996.

At the time, unemployment in south-west Sydney was 17%, with chronic long-term unemployment.

The project was undertaken by the Department of Public Works and Services for the South Western Sydney Area Health Service. The contractor was Building Group South, Barclay Mowlem Construction Limited (BMCL).

The gains

Improved quality of life for trainees

244 recruits entered pre-vocational training, and 198, most aged between 20 and 35, achieved full-time adult apprenticeships.

Many joined subcontractors on the site, others were offered jobs by employers who heard about the training initiative and the quality of the trainees.

Improved project performance, due to:

- *high levels of communication, planning, co-ordination and co-operation which led to continuous improvement on the job*
- *broad awareness of production, time and quality requirements*
- *development of subcontractors' core competencies*
- *broadening of employee competencies to include teamwork and work management*
- *a client-focused work ethic which supported the project's commercial imperatives, as well as social values*
- *clearly expressed needs, agreed expectations, monitoring progress and achieving the rewards and benefits anticipated by stakeholders.*

Industry skill base strengthened

The learning program filled project skill shortages and brought long-term unemployed workers back into the industry.

Subcontractors' core enterprise competencies were improved by employing apprentices competent in the skills required and able to work safely and productively on site.

More than 700 persons beginning work on site completed a substantial Occupational Health and Safety induction course which was competency-based and where participants had to successfully complete an assessment process.

A team building and leadership program was conducted for 30 subcontractors' employees. Participants were also given the opportunity to put theory into practice by leading weekly discussions or 'tool box' meetings.

The 23 members of the Enterprise and Occupational Health and Safety Consultative Committees participated in training on consultative committee processes.

40 persons attended English language and literacy classes. In addition all workers were assessed for English language competency.

500 persons were given an education session on skin cancer awareness followed by the offer of physical examinations by the hospital.

All workers on site were encouraged to obtain additional qualifications such as tickets for crane chasing and excavation. Training was also available in scaffolding, formwork, carpentry, concreting, materials handling and project supervision.

The story

BMCL set out to extend consultative management and client-focused values to the workforce. A Partnering Charter, agreed by major stakeholders, established a framework for achieving continuous improvement.

The CDSC was to deliver productivity-oriented training. A steering committee created a broad support base, while the design and running of the program was left to on-site leadership.

Meeting the commercial imperative

A skills audit at the project found that 80–90% of the ‘tradespersons’ had no formal trade training, had a narrow skill base and had never participated in structured on-the-job learning.

BMCL saw that the project needed a skills development program to:

- *upgrade skills on the job*
- *improve the apprenticeship intake*
- *contain labour costs, and*
- *lift productivity and the standard of workmanship.*

Subcontractors entered into individual enterprise agreements supporting and accepting involvement in the training initiative.

The stakeholders agreed to apply the skills acquired by the trainees immediately to the job, and to guarantee apprenticeships to successful trainees.

Bringing training to the workplace

While most of the training was delivered on the job or at the site learning centre, TAFE coaches were available on the job and were vital to linking productivity targets with training inputs. TAFE coaches on the job freed tradespeople to do their own work and ensured the quality of the training. Pre-vocational training was structured so that trainees could take work to a stage where a tradesperson could finish the job.

The CSDC put training in the work context where communication, co-ordination, problem solving and teamwork are a part of doing the job.

Evident best practice

- *training alliance formation*
- *establishment of resources and systems for training*
- *flexibility of training*
- *subcontractor development*
- *contingency response planning*
- *mentoring*
- *accelerated learning*
- *productivity-oriented competency-based training*
- *neutrality of the training forum*
- *a cultivated learning culture*

Conclusions

- *Continuous improvement and best practice in workplace development are possible where training is aimed at agreed production goals.*
- *Partnering creates a climate for learning.*
- *Existing skills must be assessed and recognised early.*
- *Site-based productivity-oriented competency-based learning produces continuous improvement, leading to best practice in construction.*
- *Less hierarchical management heightens ownership of work processes at the workface.*
- *Subcontractors can improve performance when their needs are identified and responded to.*
- *Focusing on subcontractors' core competencies contributes to improved productivity.*

Case study: South Australia – School-to-Work skills training program

The project

A pioneering school-to-work program has been developed by the South Australian Government, industry, unions and educational authorities to help students find jobs and to overcome a critical shortage of young people entering the building industry. This was an important development as in recent years the industry has been struggling to attract young people to this field of work as a preferred career choice. In addition, the industry workforce requires the innovation, team work, technology skills, and agility which young people can bring.

The program is designed to provide students with essential basic skills in building and construction and help in their transition from school to work if they decide to join the industry. Completion of the program will go towards meeting the students' SA Certificate of Education requirements, while at the same time giving them credit towards qualifications under national industry training packages.

A set of guidelines has been issued for use by schools, which were prepared by the Construction Industry Training Board (CITB). They were preceded by 12 months of consultation with employer and employee associations, private and public schools and vocational training bodies.

The benefits

Gawler High School, to the north of Adelaide in South Australia, was involved in the successful pilot program, together with several other public, independent and Catholic high schools, and the Douglas Mawson Institute of TAFE Marleston campus. Sixty students were involved in the pilot program in 1997 and forty-five in the previous year, with 40-50% of those involved finding employment as apprentices.

The program covers a course based on national competency standards and is supported by various resources developed with the CITB. The modules prepared for the course cover a broad range of topics from safety, materials handling and workplace communications through to more specific subjects such as scaffolding, the construction process and demolition.

Benefits to the industry include young people being better informed about industry requirements and having an early opportunity to learn about the current and future expectations of industry reform and requirements of the South Australian Code of Practice.

Occupational health, safety & rehabilitation

Commonwealth, State and Territory Governments have given the highest priority to improving the management of occupational health, safety and rehabilitation in the construction industry. A systematic approach to OHS&R management is to be encouraged to ensure that OHS&R management becomes an integrated part of the organisational culture of construction industry enterprises and facilitates continuous improvement of OHS&R performance in both individual enterprises and on projects.

Improving the industry's OHS&R performance requires positive measures that aim for prevention rather than correcting things when they go wrong. To this end, service providers should be encouraged to have OHS&R management systems and to establish a site-specific OHS&R management plan before work commences. A comprehensive OHS&R management system and plan aims for prevention and elimination of hazards that cause injuries and illnesses at the workplace.

A comprehensive OHS&R management system and plan will include:

- explicit management commitment
- employee involvement
- rigorous work practices analysis
- pro-active worksite analysis that anticipates and assigns roles and responsibilities and defines efficient procedures while on site
- hazard identification, prevention and control
- induction and task training
- appropriate injury management and rehabilitation
- efficient maintenance of records.

It is essential that an OHS&R management system is fully documented and clearly communicated to people in an enterprise and on a project. It should systematically cover the way that everyone is expected to work safely, the way the contractor managing a project and each subcontractor or other service provider will ensure others work safely and the ways they intend to improve their practices over time. This will also entail defining roles, duties and responsibilities so that everyone knows what they have to do, when and in what circumstances.

Case study: Implementation of OHS&R management systems

In 1994 the NSW Government introduced requirements for the use of OHS&R management systems on government projects.

By June 1998 55 audits had been completed on government projects and 30 on non-government projects where contractors had a system accredited by the Construction Policy Steering Committee (CPSC). Results were positive overall, and supported the continuation of the initiative.

The third edition of the NSW Government's OHS&R Management Systems Guidelines was released in November 1998. This included a guide on how to prepare Safety Management Plans and Safe Work Method Statements. This guide will help subcontractors, and small-to-medium enterprises generally, understand how to meet their new obligations. As outlined in Construct New South Wales, this will:

- *extend the system requirements from nine elements to eleven by adding design and internal OHS&R reviews*
- *lower the contractual threshold for mandatory use of an OHS&R management system from \$5 million to \$3 million*
- *introduce a contractual requirement for contractors to ensure that subcontractors implement Safety Management Plans or Safe Work Method Statements, compatible with the project OHS&R Management Plan.*

In October 1998 a Memorandum of Understanding was signed between the NSW Government and seventeen major construction companies, as well as employer associations and unions, on improving safety performance across the industry based on accelerated implementation of the OHS&R management system approach.

By April 1999, 270 contractor corporate OHS&R Management Systems had been accredited by the CPSC member agencies.

Environmental management

The community's demand for ecologically sustainable development (ESD) puts the performance of the construction industry under a sharp light.

In the past, economic development, social programs and environment protection occurred largely in isolation from each other. Today, however, there is a growing understanding that these systems are interlinked and that social, economic and ecological objectives are interdependent.

Governments will encourage ecologically sustainable development by working with industry to:

- define ecologically sustainable development in a way which is meaningful for participants in the construction industry
- establish environmental best practice on projects
- showcase projects with outstanding environmental innovation and management
- pilot recycling and re-use of material on construction projects
- support effective use of scarce resources.

Service providers should also be encouraged to have in place, sound environmental practices above and beyond mere compliance with regulatory requirements. This may include the development and implementation of a systematic approach to environmental management to ensure that environmental planning and management become an integral part of organisational culture and day to day work practices. In this way, service providers can be recognised for their environmental performance and contribution to ESD.

A systematic approach to environmental management will ensure that the organisation's environmental issues are identified and managed and includes:

- explicit management commitment and environmental policy
- acceptance by the organisation that its activities, products or service have an impact on the environment
- development and implementation of planning processes and procedures that assist in identifying possible environmental impacts and measures to mitigate or minimise these impacts
- establishing organisational responsibility, systems and procedures to review the implementation process, and
- establishing management processes for the review of these systems and procedures which support the organisation's commitment and environmental policy and which leads to continually improving performance.

It is essential that roles, duties and responsibilities are clearly defined, documented and communicated to people in an organisation so that everyone knows what they have to do, why, when and in what circumstances.

Case study: Olympic Stadium waste minimisation program

The Sydney 2000 Olympics adopted the tag 'the Green Games' and, in keeping with this goal, Multiplex Constructions implemented a series of waste minimisation measures at the Olympic Stadium site at Homebush.

Up to 30% of material going to landfill in Australia is construction and demolition waste. Much of this waste is recoverable in some way, whether it be reclaimed, reused or recycled.

At the Olympic Stadium site, Multiplex developed a waste management plan and successfully implemented a number of waste minimisation initiatives. These included training personnel in waste minimisation practices; ensuring that all subcontractors developed waste minimisation plans for the scope of their works; the reduction and separation of waste streams to avoid pollution. Multiplex engaged Eccell Environmental Management to assist in implementing its waste management plan. As a result of these initiatives, 60-80% recycling rates were achieved on the Stadium site.

On-site waste separation was an important part of the Stadium construction process. Waste was separated into a number of streams – concrete, steel, timber and cardboard – through the use of recyclable waste bins which were produced by the waste removal contractor, Dial-A-Dump. This resulted in the reduction of the number of general waste bins, which are expensive to remove, and an increased number of less costly recyclable waste bins. The on-site separation and processing of waste materials not only reduced the amount of waste going to landfill but resulted in cost savings.

Much of the waste generated on-site was able to be reused through the use of processes such as the concrete reuse system. For instance, 32,000m³ of concrete generated during the excavation and demolition phase of the project was stockpiled, crushed and reused on site. The stripping and crushing of the concrete hardstand from the demolished catterlyards alone took over three months to complete. Similarly, 600,000m³ of clean fill was stockpiled and later reused on site for backfill.

Waste separated on-site was recycled wherever possible. For example, in the 6 month period from March to August 1997, 1300m³ of timber, 500m³ of steel, and 16m³ of paper and cardboard went out in recycling bins.

Multiplex involved its subcontractors and allies in the waste minimisation process. In many instances waste was able to be reduced at its source. Brick packaging was changed from shrink-wrap to recyclable metal strapping, 7000 fire doors were delivered directly from the manufacturer without packaging, and light bulbs were packaged in bulk rather than individual packaging.

Source:

Department of Industry, Science and Resources

Industrial relations

Commonwealth, State and Territory Governments are committed to encouraging an improved management and industrial relations culture. To this end service providers are being encouraged to be proactive and to have a strategic approach to the management of industrial relations at the enterprise level and to integrate industrial relations management activities in project management activities.

The development of a specific industrial relations plan represents a proactive approach to be encouraged. Such a plan would identify how industrial relations will be managed by enterprises involved in the project while maintaining the integrity of individual enterprise agreements.

An industrial relations plan includes but is not limited to:

- explicit management commitment
- industrial relations risk identification and management planning
- implementation plan that assigns resources, accountability and responsibilities
- a communication and consultation strategy
- processes for measurement, evaluation and review

Industrial relations management, workplace reform, occupational health, safety and rehabilitation performance are all performance aspects which clients should give focus to in the tender evaluation process, when reviewing the performance of service providers on their projects as well as other clients' projects.

Case study: Northside Storage Tunnel Alliance Project Enterprise Bargaining Agreement 1998-2000

Background

The agreement is consistent with the NSW Government's Code of Practice for the Construction Industry.

The Code provides as a general principle that project agreements will only be appropriate for major contracts, as defined by the Principal (client) from time to time. The resulting project agreement must be related to improved productivity measured in time and or cost saving performance to the benefit of the client. The integrity of individual enterprise agreements must be maintained.

The project

The Northside Tunnel will consist of 16 kilometre tunnel to collect and store sewage overflow and pump it to the North Head Sewage Treatment Plant. The tunnel's construction is a major component of Sydney Water's Sydney 2020 Management Plan. Following its completion in early 2000, the tunnel will significantly reduce pollution on Sydney's beaches.

An innovative feature of the project is the involvement of a public enterprise, Sydney Water, as a member of the project team ('alliance'). Sydney Water is also the commissioning client. Other alliance members are Transfield Pty Ltd and two smaller environmental consultants, Montgomery Watson and Connell Wagner.

Multi-employer project agreement

This agreement, approved under the NSW Industrial Relations Act in July 1998, has been developed to meet the specific circumstances of this major construction project. A single bargaining unit of construction industry unions was formed under the auspices of the NSW Labor Council to represent the workers on the project.

Features of the agreement include:

- *five core project objectives: workforce safety, timeliness, cost savings, sound environmental management and meeting community obligations;*
- *linking project returns to the level of performance of core project objectives;*
- *a six-monthly wage increase of 1% to be paid if lost time due to injury is 25% less than industry average;*
- *an additional 2.25% wage increase to be paid six-monthly;*
- *a productivity share scheme to be negotiated with unions and employees; and*
- *flexible working hours with the aim of achieving continuity of project operations, including up to 12 hours /day work at a single time for tunnelling employees;*
- *a project monitoring committee, consultative committee and occupational health and safety committee.*
- *project-specific employee induction program and a project skill development strategy;*
- *an OH&S and Rehabilitation Assurance Plan for dealing with safety and rehabilitation on the project.*

Project planning

A pro-active approach by clients and service providers to project planning is encouraged.

Three key issues have tended to dominate the process of bringing projects to fruition:

- time
- cost, and
- quality.

However, the fulfilment of a successful project also depends on:

- how well or how badly the project initiation was handled and innovative solutions found to satisfy the client's needs
- the quality of the involvement of the parties

- the strength of communications and how well and how badly people interact
- the observance of probity, fairness and flexibility in all phases from development of the concept, through the planning and construction processes, and
- whether or not the parties have performed well and within the law.

Pro-active project planning encompasses pre-tender and post-tender activities for both clients and service providers in terms of:

- the application of strategic management principles
- clear definition of project scope
- clear risk identification and management strategies including industrial relations
- early identification of planning and resource issues — human, physical, occupational health safety and rehabilitation, environmental and financial
- well defined lines of communication
- clearly defined roles and responsibilities
- scheduling of tasks, and
- preparation of contingency plans.

In this way the efficient management of work will be optimised and project delays minimised.

In terms of construction programming, the impacts of inclement weather can be substantially reduced if contingency plans have been developed to:

- minimise down time so that productive work continues where possible
- enable transfer to other projects not affected by inclement weather, and
- utilise down time to the maximum extent possible for other productive activities. This may include: training, professional development, skills enhancement initiatives.

Case study: Banora Point Sewage Treatment Works Augmentation Project

The project

The total project budget was \$18.1 million, of which \$12.6 million was allocated to construction.

The project involved the concept investigation, detailed design, construction, and commissioning works required to increase the capacity of the existing treatment works from 26,000 to 56,000 persons.

Key stakeholders in the project were:

- *Tweed Shire Council – the client*
- *NSW Department of Public Works and Services – principal and project manager*
- *Belmadar Constructions – contractor*
- *CMPS&F (Environmental Engineers and Scientists) – design consultants.*

Subcontractors included Aquatec-Maxcon, Manor Constructions, Siemens, Haden Engineering, UVS Ultra Violet, Tubemakers Water, Hamilton Australia, Environ Mechanical Services, G. James Glass and Aluminium and James Hardie Building Services.

Common project goals established at an independently-facilitated partnering workshop were:

- *to enhance each team member's reputation as a preferred contractor, preferred agent or a provider of community services*
- *to complete the project on time, to budget with minimum defects*
- *to be part of a harmonious team, on and off site*
- *to become familiar with and committed to the alliance/partnering process*
- *to ensure the project is a safe workplace, and*
- *to review variation issues at the partnering meetings.*

Dispute resolution procedures were agreed to resolve problems quickly and at the source. Monthly project team evaluation meetings were held for on-site team members, while off-site members attended the meetings every three months or as required.

Benefits achieved

The participants agreed that the arrangements contributed to the following project outcomes and characteristics:

- *no litigation*
- *no disputation*
- *reduced administration costs*
- *time savings*
- *total variations (low number and value) amounting to only 2.8% of the original contract sum*
- *design enhancements*
- *reduced rework*
- *improved safety*
- *exchange of specialist knowledge and portable knowledge and skills on project partnering*
- *value engineering savings of \$73,500*
- *enhanced reputations*
- *strong, mutually supportive relationships*
- *open communication*
- *increased trust and mutual respect, and*
- *greater teamwork.*

The project was the winner of the National Master Builders Australia Award for Partnering in 1995.

Cooperative relationships

The quality or nature of relationships is a key component to industry productivity. These relationships occur at all levels and take many forms ranging from the contractual between enterprises, through to an enterprise based employer/employee arrangements.

Irrespective of the environment within which the relationship is operating, the historical adversarial approach has exacerbated issues when problems arise as each party looks to its own interests. In a contractual sense the first question is ‘how can I avoid liability in this situation?’ This approach:

- does little to solve the problem
- does not facilitate communication between the parties – or at least, not real and effective communication
- creates an adversarial management style
- sets the stage for conflict.

Inevitably it leads to increased costs for clients and reduced profits for service providers.

Improved project outcomes, especially in the management of contracts, is dependent on a commitment to an industry culture focussed on resolving issues through open and effective communication. This means that relationships at all levels of the industry need to be based on the core values of commitment, trust, respect and fairness.

Case study: Wandoo B Offshore Oil Platform

Alliances

'Services can be bought – but alliances must be built on trust' according to Robert Care, State Manager NSW, for consulting engineers Ove Arup and Partners. He was commenting on alliance partnering as the project delivery mechanism for major construction and engineering projects.

'Clients must willingly be part of the process if this method of project delivery is to be a success. In regard to the Wandoo project, the thrust came from the client, Ampolex, which demanded an innovative solution, and Ove Arup became part of the group that delivered the whole project.'

The Project

The Wandoo B project was the construction of an offshore oil platform for the Wandoo Oil Field on the North West Shelf of Australia, some 70 kilometres offshore from Dampier. The platform consists of an 81,000 tonne concrete gravity substructure, 400,000 barrel oil storage capacity, ten producing wells, one gas injection well (and one spare), and accommodation for up to 20 people.

'The project was put out for expressions of interest to 19 different organisations, asking them to tell Ampolex what they thought was possible,' Dr Care said.

Ultimately, an alliance of Ampolex (now owned by Mobil Exploration and Production Australia), Ove Arup, Leighton Contractors, Brown and Root, and Keppel FELS of Singapore was formed to deliver the \$480 million project on a 'gain share/pain share' basis: the parties agreed to work together for a three month period to establish the project and work out the target price on an 'open book' basis.

The alliance approach to the project has been different from traditional – and confrontational – ways of doing projects.

'The whole idea was to take the initial project objectives and align these with the benefits to project participants. We formed an alliance involving all participants and demanded that all board decisions were to be unanimous. This is a great motivator to reach decisions quickly, as any costs incurred by delays in the decision making process come out of the common profit pool'.

'The alliance brought in consultants (JMW Consultants Inc) to help with the process.'

'When you've had people working in a confrontational working environment, you have to invest in some effort to move people out of the particular mindsets that creates,' Dr Care said.

One feature of the alliance was the 'no blame' clause in the alliance contract. On 29 April 1995 the seawall separating the rig construction area from open sea was breached and flooded the site to a depth of seven metres. By 11 May the breach in the dyke was sealed and within four weeks all water had been removed, resulting in a delay of one week in the concrete pour for the platform base.

'Traditionally, recovery from an incident like this would have taken months: there'd be covering up, people blaming each other, lawyers, litigation. There was no blame assigned – I've never seen anything like it.'

'Alliance partnering is a process you have to go through, it's not a blueprint. The most important part is the process you use to get to that contract. Each part of the alliance must give to the alliance the people, or groups of people, within those organisations who are willing to take on alliance partnering as an opportunity, to be open-minded about their trust, and have the same level of commitment to the project.'

The gains

The approach appears to be successful: the Wandoo B project was delivered in 26 months, as opposed to three years for similar projects using traditional delivery methods, and 4% under budget.

Source:

Department of Industry, Science and Resources

Case study: C21 Construction Contract

NSW Department of Public Works and Services (DPWS) with the Roads and Traffic Authority, Railway Services Authority, Department of Housing, and Sydney Water have developed the NSW government's new C21 Construction Contract. The new general conditions of contract is based on cooperative contracting and provides clearly defined mechanisms.

A key element of this initiative is a contract that reflects a relationship that is client focused, non-adversarial, committed to best practice, and geared to drive industry development.

The NSW construction industry was provided with opportunities to review the C21 document and to offer suggestions for improvement. To assist in this process, a group of significant players in the construction industry advised DPWS of improvements, which were incorporated into a second edition, released in 1999. The NSW Department of Public Works and Services is now using this later edition of the C21 Construction Contract on its major architectural and engineering contracts valued at over \$1 million.

In conjunction with this initiative, the NSW Department of Public Works and Services introduced a minor works contract which is based on a flow chart designed for easy understanding by small contractors.

C21 Project – successfully completed

Part of the development of the new C21 Construction Contract has been its use on five projects, so improvements from this experience could be incorporated into the second edition. The five projects were:

<i>Loftus TAFE – stage 3</i>	<i>\$5 million</i>
<i>Banks House refurbishment</i>	<i>\$0.8 million</i>
<i>Blue Haven public school</i>	<i>\$3 million</i>
<i>Narrabri sewerage augmentation</i>	<i>\$0.8 million</i>
<i>Dubbo Hospital – refurbishment and new work</i>	<i>\$9 million</i>

The results on the first four projects have been most successful. The final project, Dubbo Hospital, is due for completion in mid-1999.

Loftus TAFE

The project team on the Loftus TAFE – stage 3 project assessment of the project is that it had an ‘excellent’ safety and environmental record, and had achieved an ‘above expectation’ result in the areas of time, cost, and quality. Project relationships at all levels of the project were also of high standard, and had been enhanced through regular monitoring and evaluation meetings which promoted communication between all project participants.

Banks House

The Banks House project involved renovations of the psychiatric unit at Bankstown hospital. Commenting on C21 from a builder’s perspective, Mr John Hodges, Finance Director, Richard Crookes Constructions said, “When tendering for the Banks house project many of the problems inherent in an upgrade of an older building became apparent. Because of this we had reservations about the suitability of C21 for this project. However, this was a good project for our company and I believe C21 was one of the main reasons for the success of the project.”

The Department of Public Works and Services has been awarded an Engineering Excellence Award by the Institution of Engineers, Australia for the new C21 Construction Contract.

Contract management

The level of expertise which is applied to the management of a project can have a significant and lasting impact on its final costs and the cost efficient delivery of services.

Contract management must therefore be undertaken with an appropriate level of competence and is to address:

- financial and technical skills
- knowledge of the applicable procurement and contract system
- commercial expertise, and
- identification and allocation of risk.

With the adoption of new approaches to private sector participation in the provision of government assets, for example by way of Build/Own/Operate schemes, it is even more important that appropriate levels of professional and commercial expertise are applied to the negotiation and implementation of these procurement packages.

Non-adversarial approach

Even with good management, a conducive environment and the best intentions, contract disputes may still occur. Where these disputes cannot be resolved within the scope of project management, a formal process needs to be available.

In order to strategically improve on previous practices and expedite settlements agreeable to all parties, Alternative Dispute Resolution (ADR) techniques and applications are encouraged.

ADR is intended to ensure that litigation becomes a remedy of last resort, for the settlement of project and contract disputes. To be an effective management tool, ADR requires a genuine commitment to:

- resolution of disputes
- recognition of the other side's perspective
- objective appraisal of issues, conflicts and fair practice, and
- adoption of an open approach to conflict and the rights, entitlements and interests of competing participants.

There are a number of alternative avenues for dispute resolution, some non-intrusive requiring the parties themselves to reach agreement by compromise and other intrusive processes requiring a third party to impose a decision on the parties. In any case the parties must agree to any process outside litigation or arbitration which are available under most contracts.

The rules of such process are somewhat flexible in that the parties must make an agreement on what form the process should take, a timetable, and whether the decision of any third party expert or appraiser should be binding on the parties.

For non-intrusive processes such as mediation or conciliation to have any chance of success, there must be a willingness between the parties to make some compromise. It would be rare for these methods to achieve success if either party is firmly entrenched in its position. These processes have best chance of success where it is agreed that a party has a contractual right and the dispute relates merely to quantum.

Intrusive processes such as expert determination or independent appraisal are more appropriate for disputes where the parties have fixed and differing views on both liability and quantum and the issues are of a technical nature.

Security of payment

Commonwealth, State and Territory Governments are applying the *National Actions on Security of Payment* outlined in the National Code in their jurisdictions.

Security of Payments, in the context of Best Practice, means a:

- responsibility on claimants for accurate and timely preparation, documentation and submission of claims
- responsibility on each party to consider, process, pay and finalise claims in a reasonable and timely manner
- requirement on each party to a claim to address, negotiate and settle any dispute in a reasonable, timely and cooperative way, and
- requirement by contractors, subcontractors, consultants and suppliers and employers to fulfil applicable industrial award and/or enterprise or workplace agreement or legislative requirements regarding their employees.

Subcontractors, consultants and suppliers

To provide greater security with respect to monies due to subcontractors, consultants and suppliers:

- should have the option of providing approved unconditional undertakings (Bank Guarantees) in lieu of cash security and cash retentions
- cash security and retention monies should be secured by the holders of those monies
- prior to work commencing, contracts must be in place down the contract chain which include reasonable terms of payment and reflective payment clauses consistent with that which exists between the Principal and contractor and to ensure the following:
 - equitable terms of payment are observed for all parties down the payment chain
 - alternative dispute resolution is available down the contract chain, and
 - interest on late payments in subcontracts are the same as in the head contract.

The effect this approach will have is that the potential extent of subcontractor, consultant or supplier exposure to non-payment for work done will be dramatically reduced by:

- ensuring the payment period between contractor and subcontractor, consultant or supplier (as the case may be) is linked to that between the Principal and contractor and therefore reduce the quantum of money owing
- prohibiting the practice of 'pay-if-paid', and
- by placing security and retention monies in trust subcontractors, consultants or suppliers have better than a secured creditor status in respect of these monies.

Compliance principles

Compliance

The client's role is to comply with and apply the applicable Code. The client ensures that the Code is formally applied to the project through inclusion in documentation and by obtaining an undertaking of compliance from the tenderer. The client is also responsible for actions taken to address Code issues which might arise in relation to a project.

Sanctions for non-compliance with the applicable Code are based on a government's right as a client to choose with whom it does business.

The type of sanctions that will be applied will vary according to the nature of the specific breach and circumstances.

Monitoring by clients

If a code-related problem is brought to their attention, clients might wish to respond with actions designed to encourage the modification or cessation of non-compliant behaviour. It would be open to a client to write to a party to request clarification of behaviour which is considered to have breached the Code, or to write requesting that the behaviour cease or be modified.

Clients will observe the right of parties to be aware of allegations of breaches of the applicable Code and to be given the right to respond to such allegations.

Where a more severe sanction or government-wide sanction is being contemplated by a government client which may have serious commercial impacts, the party alleged to have committed the breach should be offered the opportunity to show cause why such a sanction should not be imposed and, in the case of a government-wide sanction, to seek an independent review on the following matters:

- whether, in fact, there was non compliance with the applicable code and the extent of non-compliance, and
- whether the requirements of procedural fairness were observed.

Given the potentially serious nature of such sanctions, and their likely infrequency, Governments should carefully consider their implications on a case by case basis. This may require a clearly documented procedure and consultation with relevant Chief Executive Officers, Ministers or nominated government authorities in reaching decisions on the imposition of severe or government-wide sanctions.

The Government client or relevant authorised body would inform the party affected by the sanction, and advise the relevant ministers in their jurisdiction.

Exchange of information

Breaches of a Code in one jurisdiction may be regarded as a relevant factor by other jurisdictions when considering the suitability of parties for government projects.

Commonwealth, State and Territory governments will exchange information on serious breaches of the Code in their jurisdiction on the following basis:

- the breach has led to the imposition of a severe sanction (not including a formal warning or registering of a breach) at the Commonwealth, State or Territory level
- the breach is considered to be so significant that it requires national sanction action, or
- the Commonwealth or a State or Territory is satisfied that several breaches have been committed by the same organisation
- the breach has resulted in a successful prosecution under Commonwealth, State or Territory legislation
- the breach has resulted in a successful prosecution brought by the Australian Competition and Consumer Commission
- the breach has resulted in a successful criminal prosecution in a Court of competent jurisdiction

Complaints concerning government agencies

The applicable Code imposes obligations on all parties, and it is possible that a government client agency or its representatives may breach, or be alleged to have breached that Code. In such circumstances, the complaint should be dealt with in the first instance, by the normal internal complaints mechanism of the subject agency, and through the other avenues available for the review of Government agencies' performance within the relevant jurisdiction (i.e. Commonwealth, State or Territory).

In this regard, the following actions may be taken:

- if reported breaches are attributable to a government agency's policies, practices or procedures, appropriate changes should be considered and may be made;
- if the breach has resulted from the actions of an individual, in contravention of established policies, practices and procedures, consideration should be given to appropriate action consistent with the relevant Commonwealth, State or Territory Public Service Act or Code of Conduct.

If the breach has been committed by a party contracted to represent the government agency, consideration may also be given to imposing sanctions on that party.

Contact details

Queries about the National Code or these *Guidelines* can be referred to the Australian Procurement and Construction Council.

Copies of the *National Code of Practice for the Construction Industry*, these *Guidelines*, and *Construct Australia* can be downloaded from the APCC web site or ordered from:

Australian Procurement and Construction Council Inc

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Deakin West ACT 2600

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web page <http://www.apcc.gov.au>.