AustralAsia Railway Fact Sheet

INAUGURAL TRAIN SERVICES

FREIGHT SERVICES

FreightLink Pty Ltd is the operating company of Asia Pacific Transport (APT) and the company that will run the new railway. FreightLink plans to be the preferred provider of cost effective and reliable rail transport services between Darwin and the rest of Australia. FreightLink will operate between Adelaide and Darwin, including the newly constructed 1,420 km line from Alice Springs, and manage the operation of cargo terminals at Alice Springs, Tennant Creek, Katherine and Darwin.

The inauguration of the railway will be marked by the official launch of the first FreightLink freight train to run from Adelaide on 15 January 2004 with community celebrations to take place in towns along the way, arriving in Darwin on 17 January. The first freight train will comprise of two locomotives painted in indigenous colours and will coincide with the start of FreightLink's commercial services in which Australia's north will finally be linked to the south.

The first major business for the new line is expected to be existing Darwin-bound freight, which currently goes to Alice Springs by rail and then on to Darwin by road. The timetables and train schedules have been designed to suit the requirements of the various market sectors and connect with regular interstate schedules providing competitive transit times with road transport. The timetables and price structures have been provided to the major customers and are aimed at being competitive with road transport.

All inquiries regarding freight services should be directed to:
FreightLink Pty Ltd, PO Box 944, NORTH MELBOURNE VIC 3051
Telephone: 03 9326 6570 Facsimile: 03 9326 5573 Website: www.freightlink.com.au (OR)
FreightLink Pty Ltd, GPO Box 2750 ADELAIDE, SA 5001
Telephone: 08 8245 9100 Facsimile: 08 8396 7244

PASSENGER SERVICES

The first freight train will be closely followed by the first passenger train, 'The Ghan', which will leave Adelaide on its inaugural journey to Darwin on Sunday 1 February 2004, arriving in Darwin on 3 February. Regular passenger services will begin the following week on Sunday 8 February.

Great Southern Railway (GSR), the operator of 'The Ghan' have made arrangements with Asia Pacific Transport to operate on the AustralAsia Railway to extend their service to Darwin. GSR have released their timetable and fare structure for their inaugural and regular services to Darwin. It is almost 75 years since 'The Ghan' first left Adelaide for Alice Springs, and in that time, the train has established a reputation for being one of the truly great train journeys of the world.

All inquiries regarding passenger services should be directed to:
Great Southern Rail Travel (GSR), GPO Box 445, Marleston Business Centre, MARLESTON SA 5033
Telephone: 132147 Website: www.trainways.com.au

Further detailed information about the AustralAsia Railway's inauguration and the series of celebrations planned will be made available in coming months, please check the AustralAsia Railway Corporation website for additional information. www.aarc.com.au

AustralAsia Railway Fact Sheet

COMPLETION OF THE AUSTRALASIA RAILWAY

COMPLETION

The AustralAsia Railway has been under construction by ADrail, under a design and construct contract for APT and was practically completed on 31st October 2003.

Although the construction of the line was completed ahead of the contracted completion date of April 2004, commissioning processes and procedures need to be carried out to ensure the line is ready for commercial operations to commence. The commencement of operations is a milestone in the political, economic and social history of Australia.

COMMENCEMENT OF OPERATIONS

The AustralAsia Railway Project was predicated on the provision of a competitive freight service that will deliver benefits to all Australians and ensure the ongoing viability of the line. The commencement of FreightLink's commercial services will coincide with the official launch of the first FreightLink freight train to run from Adelaide on 15 January 2004, arriving in Darwin on 17 January. All inquiries in relation to freight services should be directed to FreightLink.

Great Southern Railway (GSR), the operator of 'The Ghan' have made arrangements with APT to access the AustralAsia Railway to extend their service to Darwin with the inaugural passenger service departing Adelaide on 1 February 2004, arriving in Darwin on 3 February. Regular scheduled services will commence the following week. GSR have released their timetable and fares structure for their inaugural and regular services to Darwin, all inquiries regarding passenger services should be directed to GSR.

LOCATION OF PASSENGER TERMINALS

Construction is well advanced on the Darwin passenger Terminal, adjacent to the Darwin Business Park, in the East Arm Development Area off Berrimah Road. The Berrimah terminal will be an interim facility that will support the initial start-up phase of a rail passenger service.

The NT Government will continue to review opportunities for a more permanent facility for the Darwin region as part of their transport policy development after extensive consultation with key stakeholders. Facilities are under construction in Tennant Creek and Katherine in the vicinity of the former sleeper factories. Whilst the prime business of the railway is transporting freight, the addition of a passenger service is welcome, however the appropriate level of facility to be provided is dependent on the frequency of service. View images of terminal locations (pdf files) Darwin, Katherine, and Tennant Creek on our website.

CONTACT DETAILS

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FreightLink Pty Ltd
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Great Southern Rail Travel (GSR)
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Facsimile: 08 8213 4329
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Website: www.trainways.com.au

AustralAsia Railway Fact Sheet

ALICE SPRINGS

Updated 18 December 2003

Construction Progress

Tracklaying between Katherine and Tennant Creek was completed in December 02. Earthworks are now complete between Alice Springs and Tennant Creek with all the Grade Separated Crossings (overpasses) now opened to traffic. Tracklaying commenced south from Tennant Creek towards Alice Springs in January 2003 with approximately 156km still to be laid, construction of the final leg into Alice is expected to be completed by late 2003.

Transport and Logistics

Roe Creek, about 20km south of Alice Springs, is the transport and logistics centre for the railway. Roe Creek has been leased to Asia Pacific Transport by the NT Cattlemen's Association and is the transhipment point for weekly Australia Southern Railroad trains. The rail is loaded from trains onto Sling Shot Haulage specially designed road trains and taken to construction depots in Katherine and Tennant Creek in 27.5 metre lengths. Sling Shot will take more than 64,000 tonnes of rail to Katherine and about 81,500 tonnes to Tennant Creek. Already some 138,000 tonnes of rail have been delivered to depots in Katherine and Tennant Creek.

Regional Development

FreightLink will operate the AustralAsia Railway and has undertaken considerable work on structuring its service to help facilitate and promote regional development, international trade and tourism. A number of opportunities have been identified particularly large mineral projects that are set to generate economic development in and around the central railway corridor. The existence of the line will be a key factor in unlocking the development potential of the Northern Territory's largely untapped mineral reserves and FreightLink expects that a number of mining developments along the central corridor will be viable as a result.

Economic Development Study

Under the provisions of the Local Industry and Aboriginal Participation Plan (LIAPP), Asia Pacific Transport is undertaking an Economic Development Study in the Alice Springs region. A consultant has been appointed to undertake this task and draft copies have been submitted with the final of the study scheduled to be completed six months prior to the end of construction.

Operation of the Railway

Once the railway is complete, Alice Springs can expect to see one freight train per day in each direction through the town. Each train will be 1.6km long and is likely to arrive in Alice Springs between 8 and 10pm. In addition to the FreightLink service, The Ghan will extend its services to Darwin, with a significant boost to tourism expected. The Ghan has seen a significant increase in passenger numbers since being taken over by private operators; Great Southern Railways and travel packages will offer side trips in regional centres.

For further information see fact sheets on Passenger Services, Completion and Inaugural Train Services or visit our website for updated information

AustralAsia Railway Fact Sheet

TENNANT CREEK

Updated 8 July 2003

Sleeper Factory

The Tennant Creek Sleeper Factory operated by Austrak is Australia's largest sleeper manufacturing plant. It employs 60 people at the plant and associated activities. More than 1.1 million sleepers will roll out of the Tennant Creek Factory before railway construction is complete, with more than 975,000 produced to date. Sleeper production is expected to be complete in September 03. Passenger and freight terminals will be located close to the existing sleeper factory.

Rail Welding & Tracklaying

Rail is loaded on to trains at OneSteel's Whyalla plant in South Australia for the trip to Roe Creek, about 20km south of Alice Springs. From there, it is loaded on to specially designed road trains operated by Katherine-based Sling Shot Haulage for the road trip north to both Tennant Creek and Katherine. Once in Tennant Creek, the 27.5 metre lengths are welded into 357.5m lengths and stockpiled ready for tracklaying. The Flash Butt welding process involves fusing the ends of the rail together by heating electrically to over 1,500 degrees centigrade.

Once in track, each of these lengths is then welded together using the aluminothermic process. When complete there will essentially be a continuous rail from Alice Springs through to Darwin. Tracklaying initially headed north of Tennant Creek and met up with the rail coming south from Katherine on 13 December 2002. Tracklaying by the southern crew has now been laid 323 km north and 319 km south of Tennant Creek. Tracklaying south towards Alice Springs recommenced in January 2003 with 156 km still to be laid to reach Alice Springs.

Ballast Requirements

About 1.55 million tonnes of rock was crushed at the Tennant Creek quarry to supply ballast for the railway. Production of ballast was completed in March 2003. More than 50 ballast wagons were delivered to Tennant Creek to carry the rock out along the line for each day of tracklaying. During each shift, more than 3000 tonnes of ballast are needed.

Regional Development

FreightLink will operate the AustralAsia Railway and has undertaken considerable work on structuring its service to help facilitate and promote regional development, international trade and tourism. A number of opportunities have been identified particularly large mineral projects that are set to generate economic development in and around the central railway corridor. The existence of the line will be a key factor in unlocking the development potential of the Northern Territory's largely untapped mineral reserves and FreightLink expects that a number of mining developments along the central corridor will be viable as a result.

Operation of the Railway

Once the railway is complete, Tennant Creek can expect to see one freight train per day in each direction through the town. In addition to the FreightLink service, The Ghan will extend its services to Darwin, with a significant boost to tourism expected. The Ghan has seen a significant increase in passenger numbers since being taken over by private operators; Great Southern Railways and travel packages will offer side trips in regional centres.

AustralAsia Railway Fact Sheet

KATHERINE

Updated 18 December 2003

Sleeper Factory

The Katherine Sleeper Factory operated by Austrak employs 40 people at the plant and associated activities. More than 883,000 sleepers will roll out of the Katherine Factory before railway construction is complete. More than 872,000 have been produced to date. Sleeper production is expected to be complete in September 03. Passenger and freight terminals will be located close to the existing sleeper factory.

Rail Welding & Tracklaying

Rail is loaded on to trains at OneSteel's Whyalla plant in South Australia for the trip to Roe Creek, about 20km south of Alice Springs. From there, it is loaded on to specially designed road trains operated by Katherine-based Sling Shot Haulage for the road trip north to both Tennant Creek and Katherine. Once in Katherine, the 27.5 metre lengths are welded into 357.5m lengths and stockpiled ready for tracklaying. The Flash Butt welding process involves fusing the ends of the rail together by heating electrically to over 1,500 degrees centigrade.

Once in track, each of these lengths is then welded together using the aluminothermic process. When complete there will essentially be a continuous rail from Alice Springs through to Darwin. Tracklaying initially headed south of Katherine, meeting up with the rail coming north from Tennant Creek on 13 December 2002, this completed the entire section between Katherine and Tennant Creek (633 km). In September 2002 the tracklayer temporarily headed north to lay 28 km of track to the ballast quarry to enable supplies to be taken to the Katherine Depot by train. In April tracklaying recommenced north from the ballast quarry towards Darwin, with 139 km track still to be laid.

Ballast Requirements

About 1.3 million tonnes of rock was crushed at the Katherine quarry to supply ballast for the railway. Ballast Production was completed in March 2003. More than 50 ballast wagons will be used to carry the rock out along the line for each day of tracklaying. During each shift, about 3000 tonnes of ballast is required.

Regional Development

FreightLink will operate the AustralAsia Railway and has undertaken considerable work on structuring its service to help facilitate and promote regional development, international trade and tourism. A number of opportunities have been identified particularly large mineral projects that are set to generate economic development in and around the central railway corridor. The existence of the line will be a key factor in unlocking the development potential of the Northern Territory's largely untapped mineral reserves and FreightLink expects that a number of mining developments along the central corridor will be viable as a result.

Operation of the Railway

Once the railway is complete, Katherine can expect to see one freight train per day in each direction through the town. In addition to the FreightLink service, The Ghan will extend its services to Darwin, with a significant boost to tourism expected. The Ghan has seen a significant increase in passenger numbers since being taken over by private operators; Great Southern Railways and travel packages will offer side trips in regional centres.

AustralAsia Railway Fact Sheet

DARWIN REGION

Updated 8 July 2003

Preparation for Tracklaying

Work began with clearing of the main corridor, followed by the building of culverts and bridges, earthworks and capping.

Clearing and earthworks are substantially complete in most areas in the Darwin region including Berrimah, Palmerston, Elizabeth River and Crater Lake, near Batchelor. In addition, a major cutting and road underpass are complete at Crater Lake to make way for the railway.

Structural works on all major bridges have been completed, including the 510m long railway bridge at Elizabeth River, which was completed in December 2002. The completion of this bridge was a significant achievement, as construction was commenced in May 2002 and was not due to be completed until mid-2003.

Due to the wet weather in the north, most construction work in the Darwin region was postponed and recommenced in April 2003, with the completion of earthworks and tracklaying heading north from Katherine. There is currently 139 km of track to be laid on the section between Katherine and Darwin.

East Arm Wharf and Business Park at the Port of Darwin

To provide an integrated transport system, the Northern Territory Government is undertaking a major expansion of East Arm Wharf. This involves construction of a 2.2km railway embankment and an intermodal container terminal. The work will be complete by early 2004 to allow the new railway to integrate with the Port facilities. This will provide a seamless transport system between the south east of Australia and the Asia region.

The Territory Government will spend $9 million on the development of the first stage of a new Business Park directly adjacent to the domestic marshalling yards in Berrimah. The NT Chief Minister made the announcement on Thursday 5 December 02, saying that the money would go towards developing the 33 ha first stage of the new park, that will host a range of complementary industries to the rail/port project. Construction work commenced on Stage A of the Business Park in April and is due for completion before the end of 2003.

Negotiations are currently being held between the major domestic freight forwarders serving the Territory and the Office of Territory Development, with a view to some of these companies establishing new road/rail distribution facilities in the Park by day one of rail operations. The Darwin Business Park is ideally located to host value-adding activities such as cold storage, pre-retail processing and light assembly and manufacturing operations.

Business Opportunities

Across the Territory $660 million in contracts have been awarded to Territory businesses to the end of May 03. Contracts range from large items such as supply of fuel and heavy machinery through to consumables such as safety boots, hammers, telephones and work lunches.

Employment

Across the Territory there are presently 634 people are employed directly by APT and ADrail/Macmahon while many more are employed by subcontractors in a variety of roles.

AustralAsia Railway Fact Sheet

SOUTH AUSTRALIA

Updated 16 December 2003

How is South Australia Involved?

The South Australian Government joined with the Federal and Northern Territory Governments in committing financially to the railway project. The NT and SA Governments jointly fund the AustralAsia Railway Corporation, which is managing the supervision of the project on behalf of the governments.

The Governments' financial commitment to the railway was based on the long-term benefits to SA and the NT, but shorter-term benefits are also guaranteed through the Local Industry and Aboriginal Participation Plan, which requires 75 per cent of the project cost to be spent in SA and the NT. A total of $346 million worth of contracts were awarded to SA companies during the construction phase.

Whilst a new section of line constructed between Alice Springs and Darwin, Asia Pacific Transport's contract includes the upgrading and maintenance of the existing Tarcoola to Alice Springs rail link. Asia Pacific Transport, through FreightLink, will operate a rail service from Adelaide to Darwin, connecting to the Port of Darwin.

The AustralAsia Railway Project is a BOOT scheme, i.e. Build, Own, Operate and Transfer back ownership of the rail line to the people of Australia after 50 years operation.

Whyalla

Whyalla-based One-Steel produced 146,000 tonnes of steel rail for the new line.

Port Augusta

EDI Rail has signed a contract with Asia Pacific Transport to provide a package of rollingstock solutions including the supply of locomotives and wagons and the provision of maintenance services. The value of the contract is approximately A$60 million.

A proposed rail/road intermodal hub will position the city at the crossroads of the national rail network and support the new Central Trade Corridor from southeast Australia via Adelaide to the Port of Darwin and markets in Asia and beyond. Port Augusta will also be the centre for future rolling stock maintenance.

AustralAsia Railway Fact Sheet

BENEFITS OF THE RAILWAY

Updated 8 July 2003

WHAT ARE THE BENEFITS?

The project over three years has provided substantial benefits to Australian and in particular NT and SA firms. During the construction phase:

- employment and training opportunities were boosted, with 1500 direct jobs (at peak) created during construction and many more in a flow-on effects to service and supply areas;
- more than $1. billion worth of contracts have been let to Northern Territory and South Australian companies, with the consortium committed to spending 75% of the project's cost in the NT and SA. This has been more than achieved to date,
- stronger relationships have been built with local indigenous peoples, and
- major environmental works and preservation have been carried out.

Combined with the new East Arm Wharf at the Port of Darwin, once operations commence, the railway will:

- Create a new AustralAsia Trade Route between the 500 million people to our north and the economic heartlands of South Eastern Australia;
- Provide cheaper freight and competitive freight options for the growing industrial base in the Territory and provide another option for cattle movements;
- Boost regional development and support the growing agribusiness developments in the Territory and SA food and wine exports;
- Support mineral exploration along the corridor by providing cheaper transport options for high bulk freight (which reduces the cut off rate for mining). This could include the Carpentaria Basin, the Tanami area around Tennant Creek, the Wonarah fertiliser plant on the Barkly, and the SA Steel and Energy province;
- Support Defence needs, by providing a means of moving troops and equipment (this would have been invaluable during the East Timor response and will, in future, allow for large defence movements to training grounds in the Territory).

In June 1999, Access Economics conducted an independent assessment of the economic impact of the railway. Based on a conservative estimate, with a low land bridge scenario, Access Economics forecast that during the operational phase from 2003/4 to 2024/5 National GDP will increase by $4.5 billion, SA GSP will increase by about $3 billion and NT GSP will increase by about $3 billion. These forecasts highlight a shift in economic activity towards the regions of Northern Australia from the eastern seaboard. The estimates do not include multiplier effects.

In October 1999 Booz Allen & Hamilton reported that the benefit/cost ratio for the railway project was 1.88.

Economists suggest the creation of an efficient rail link will provide the impetus for increased regional investment and economic growth. The railway is a visionary infrastructure project of strategic national significance that has the potential to bring immense benefits to Australian businesses both at home and overseas.

The Northern Territory Government has paid $8.4 million to Aboriginal clans whose land is crossed by the railway corridor and has worked closely with the Northern and Central Land Councils and Aboriginal Areas Protection Authority to identify and protect sites of significance to Aboriginal people.

Asia Pacific Transport and ADrail have worked closely with Aboriginal communities affected by construction. The contractor sponsor members have provided $5million in equity to Aboriginal people to ensure ongoing involvement in the project and financial benefit for the life of the railway. A Local Industry and Aboriginal Participation Plan (LIAPP) included commitments to provide jobs and contracts to Aboriginal people in the communities along the railway corridor. Skills development should provide a legacy of skills that can be used on other projects when construction is complete.

AustralAsia Railway Fact Sheet

ECONOMIC FACTS

Updated 18 December 2003

How much will the Railway Cost?

The railway has often been described as the "Steel Snowy", both because of its "nation-building" qualities as well as the sheer size of the project. The cost is $1.3 billion, which includes rolling stock.

Is it really economically viable?

Considerable research has been done by Governments and the private sector in determining the economic viability of the line. The 1984 Hill report found there would be a benefit/cost ratio of between 0.28 and 0.31 (at 7%).

The Wran Report, commissioned by the Commonwealth Government in 1994, found the cost benefit ratio for the Alice Springs to Darwin Railway to be .78 (8% discount rate) and 1.09 (6% real discount rate). The Wran Committee said the project should be economically viable by 2005 and was a matter of "not if but when".

The Wran Committee's independent consultant revised these figures in 1995 when provided with new Australian Bureau of Statistics data, finding the cost benefit ratio was 1:27. In 1999, Booz-Allen and Hamilton found the cost-benefit ratio was 1.88 (which means that every dollar invested should return $1.88).

The strongest endorsement came from the market in 1997, with 30 tenders received from 60 national and international companies submitting expressions of interest to build, own, operate and transfer back the railway.

At the time of the Commonwealth Agreement on Government funding, in October 1999, both the Asia Pacific Transport Consortium's banker (Macquarie) and the AustralAsia Railway Corporation's banker (Deutsche Bank) agreed the project was "bankable".

Asia Pacific Transport has done its own freight studies based on domestic freight and has interviewed prospective customers. The base case - or existing domestic freight - is the basis on which bankers consider supporting such a project and its bankers were satisfied with the viability of the project.

Their estimates do not include likely new freight, such as that generated by mining and 'landbridge' freight (i.e. freight transhipped from ships at East Arm Port to the railway).

AustralAsia Railway Fact Sheet

PASSENGER SERVICES

Updated 8 July 2003

Great Southern Railway (GSR), operators of The Ghan, expects passenger numbers on its world-famous service to double once the line is extended to Darwin.

The Ghan will initially offer one weekly return service between Adelaide and Darwin and two weekly return services between Adelaide and Alice Springs.

The weekly Darwin service will leave Adelaide on Sunday afternoons, arriving in Alice Springs at lunchtime on Monday and Darwin on Tuesday afternoon. On the return journey, The Ghan will depart Darwin on Wednesday mornings, arriving in Alice Springs on Thursday mornings and Adelaide on Friday mornings.

GSR recently announced The Ghan will leave Adelaide on its inaugural journey to Darwin on Sunday 1 February 2004. Regular services will begin the following week on Sunday 8 February.

For bookings and further information contact Great Southern Railway on Tel: 13 21 47 or visit their Website: http://www.trainways.com.au

Also see our fact sheets at http://www.aarc.com.au on:

- Completion of the AustralAsia Railway Project and
- Inaugural Train Services

AustralAsia Railway Fact Sheet

ENVIRONMENT & HERITAGE

Updated 18 December 2003

While the AustralAsia Railway Corporation coordinated the tender process and negotiations, the Northern Territory Government had primary responsibility for negotiating with Aboriginal Land Councils and pastoralists regarding acquisition of the corridor (with compensation payments of $22 million), environmental and heritage issues and fencing the corridor where required.

A draft Environmental Impact Statement was released in 1983 and updated with a new Environmental Management Plan in 1997. In 1997, the project received environmental approval from the Northern Territory Government under the *Environmental Assessment Act (NT)* and the Commonwealth under the *Environmental Protection (Impact of Proposals) Act*.

The Northern Territory obtained Sacred Sites avoidance certificates in accordance with the *Northern Territory Aboriginal Sacred Sites Act* for an area 200 metres either side of the railway centre line and for identified ballast sites outside the corridor. Various reports were commissioned to determine the likely impact of the railway on sites of archaeological and historical significance.

The Aboriginal Areas Protection Authority has pegged all Aboriginal sites of significance and a good working relationship between the Authority, ADrail and Aboriginal organisations is ensuring close co-operation throughout the project.

A significant milestone has recently been achieved with the completion of the cataloguing of stone artefacts collected from 27 archaeological sites within the railway corridor. A detailed database has been compiled of the collection. This data represents a significant contribution to archaeological knowledge of Aboriginal settlement patterns, subsistence economies and the prehistory of the Northern Territory.

The area of the Gouldian Finch Wet Season Feeding Habitat affected by construction of the railway has been re-established. Using plants from a nursery set up prior to construction, ADrail, with assistance from Greening Australia and the Kybrook Farm Community at Pine Creek, have completed the rehabilitation on the site at Yinberrie Hills, about 50 km north of Katherine.

The railway will not impact on the heritage values of any declared heritage site. However, certificates have been obtained where the railway passes close to three declared heritage sites on the route of the old North Australian Railway line.

See also news item on Heritage

AustralAsia Railway Fact Sheet

FUNDING & CONTRACTS

Updated 18 December 2003

The AustralAsia Railway is strongly supported by the Governments of the Northern Territory, South Australia and the Commonwealth of Australia.

FUNDING

The key principles of the governments' support for this project is to provide an up front payment to ensure the railway is commercially viable (recognising the broader social and economic benefits which transcend commercial profits), then pass the construction and operating risks to the private sector.

The AustralAsia Railway Corporation was established in 1997 by the South Australian and Northern Territory Governments after several failed attempts to have the railway fully funded by the Commonwealth Government or a private company. Once government support had been affirmed, the Corporation took the project to the market.

In 1999, the Asia Pacific Transport Consortium was selected as the preferred tenderer and negotiations began on contractual details. In October 1999, government funding was finalised, with the Northern Territory providing $165 million, the South Australian Government $150 million and the Commonwealth $165 million from its Federation Fund.

In January 2001, another $79 million in stand-by funding was provided by the three governments on commercial terms.

CONTRACTUAL STRUCTURE

The project is one of the most complex infrastructure projects undertaken in Australia, with more than 300 documents and dozens of separate signatories. The project documents fall into six main categories:

- **Government project documents** comprise all documents to which the corporation and governments are parties. They include the Concession Deed and each of the various lease documents for the corridor. The Government Works Agreement and $50 million Loan Agreement are the project documents that facilitate the government financial contributions to the project.
- **Equity and joint venture documents** regulate the private sector investment in the project. The consortium members have formed an unincorporated joint venture in accordance with the terms of the Unincorporated Joint Venture Agreement and their equity contributions are made in accordance with the Equity Subscription Agreement.
- **Design and construction documents** provide for the construction of the railway by the Design and Construction joint ventures for the company and the Government Works contractor.
- **Operation and maintenance documents** deal with the operation and maintenance of the railway.
- **Debt financing documents** comprise the contractual arrangements under which the senior debt providers and mezzanine debt providers will lend money for the project. They include loan arrangements, charges over company assets and intercreditor arrangements to regulate relationships between the various lenders.
- **Inter-governmental agreements** set out the various agreements between the three governments - the Commonwealth, South Australia and Northern Territory.

AustralAsia Railway Fact Sheet

YAM CREEK TRAMWAY ABUTMENTS

Updated 31 March 2003

- Yam Creek is in the Grove Hill vicinity. The original North Australia Railway (NAR) line goes through the area and sections are currently being upgraded to accommodate the Alice Springs to Darwin Railway.
- The existing cutting on the NAR in this vicinity is to be lowered to accommodate the grade line for the new railway.
- The Yam Creek Abutments are not a declared heritage site under the NT Heritage Conservation Act, nor has it been nominated to the NT Heritage Register.
- The Heritage Act specifically provides an opportunity for the community to act on concerns in relation to heritage issues.
- In August 2002 the Office of Environment and Heritage staff along with ADrail archaeologist undertook inspection of the site.
- The site was delineated as a restricted area in ADrail's Heritage Management Manual.
- ADrail's archaeologist undertook detailed photographic documentation of the site earlier this year as part of the larger mitigative site documentation and fencing program.
- ADrail have advised that after extensive geo-technical investigation of the abutments, the data provided has led them to conclude that the widening of the cut required to facilitate the lowering of the cutting would undermine the abutments.
- Following extensive consideration of the options for preservation of the brick abutments and the requirement for a safe operating environment for the new railway, ADrail attempted the removal of the abutments in a fashion that would enable future restoration.
- One of the abutments was moved in three complete sections whilst the other separated into 5 or 6 pieces.
- During December 2002 the Yam Creek Tramway abutments were reassembled in accordance with agreement reached with the complainant and the Heritage Services Branch of the Department of Infrastructure, Planning and Environment.

Prepared by AustralAsia Railway Corporation

AustralAsia Railway Fact Sheet

AUSTRALASIA RAILWAY CORPORATION

Updated 8 July 03

The AustralAsia Railway Corporation is a statutory body established under the *AustralAsia Railway Corporation Act 1996* and supported by South Australia through complementary legislation.

The Corporation was established in 1997 by the Northern Territory and South Australian Governments to manage the awarding of a Build, Own, Operate and Transfer back (BOOT) concession and to enter into contractual arrangements with the successful consortium.

The governments jointly guarantee the corporation's obligations, which are specified in contractual arrangements covered by the project documents. An Inter- Governmental Agreement regulates the respective rights and obligations of the two governments and the project.

The Corporation has negotiated a detailed Concession Deed, which seeks to deal with all risks identified as having the potential to arise during the project and balance those risks by apportioning appropriate responsibility for them.

The Corporation is based in Darwin. Chairman Rick Allert is a prominent South Australian businessman. The Chief Executive Officer is Paul Tyrrell, Chief Executive of the Northern Territory Department of the Chief Minister.

In the transition from the negotiation to the construction period, the corporation's role changed substantially. Two critical functions are:

- to receive and invest government financial contributions and provide progress payments against certified completion of construction;
- to manage the Corporation's contractual obligations under the project documents. Construction works are divided into Government Works and Company Works. The Government Works Program covers elements with long life low depreciation, such as embankments and bridges.

Other functions of the Australasia Railway Corporation during construction include:

- ensuring compliance with the Design Brief in conjunction with the Asia Pacific Transport company and coordinating the work of an Auditor and Independent Certifier;
- monitoring and reporting on the progress of the project;
- facilitating the resolution of any issues between the Asia Pacific Transport company and government agencies, to ensure unobstructed construction and ensuring the Northern Territory Government carries out it's obligations regarding environmental monitoring and fencing;
- participating in a range of committees stipulated in contractual documents, covering matters such as design, community issues, environmental monitoring, Aboriginal issues, industry participation, and port development;
- monitoring the obligations of the consortium under the Local Industry and Aboriginal Participation Plan, under which the Asia Pacific Transport company has committed to spend at least 75 per cent of construction expenditure on South Australian and Northern Territory goods, services and labour;

During the operational phase, the Corporations role will again change to:

- contract and lease administration; and
- protecting the interests of the three governments and ensuring the consortium is meeting its obligations under the project documents, including those covering operations and maintenance of the existing Tarcoola to Alice Springs railway.

AustralAsia Railway Fact Sheet

ADELAIDE RIVER RAILWAY HERITAGE PRECINCT

Updated 12 September 2002

1. The alignment through Adelaide River was finalised in 1984. Part of the route follows the old North Australian Railway (NAR) and makes use of the existing embankments across extensive floodplains south of the Railway Station.
2. In 1996, an Environmental Management Plan was prepared which updated an earlier (Environmental Impact Study (EIS) prepared in 1984. It was subject to a public review and submission process. As part of the risk allocation for the project, the NT warranted clear title to the corridor and provided sacred sites and heritage certificates applicable to the corridor.
3. The Railway Station, platforms and other railway infrastructure remnants of the NAR are not directly impacted on by the construction of the new railway.
4. During the Community consultation period from 1996 to November 2000, the alignment of the new railway was discussed with community representatives through the auspices of the Coomalie Council and the Northern Land Council, no concerns were raised in relation to the route of the railway.
5. The Minister for Heritage issued a permit for the construction of the new railway in October 2000, after the matter was considered by the Heritage Council.
6. The professional advice of the Heritage Branch of the Department of Infrastructure, Planning and Environment is that the Railway Station will not be affected by the passage of trains on the new railway.
7. The remnant sections of NAR track which remain in the heritage precinct were continuously upgraded throughout the operating life of the railway with the last known upgrade occurring around 1967 – steel sleepers in the section bear the 1967 date stamp. Construction of the railway is contractually required to comply with a Design Brief which specifies amongst other things the design speed, gradient, minimum radius of curves and the flood immunity of bridges and culverts to ensure the railway will be fit for its intended purpose throughout the operational period of the 50 year concession period and beyond, when it is returned to Government ownership.
8. In November 2001, the Friends of the Adelaide River Railway Heritage Precinct emerged for the first time raising concerns with ADrail in relation to the impact of the railway embankment height on the visual amenity of the Station Building. Following consideration of all the design issues, AustralAsia Railway Corporation (AARC) agreed to a relaxation of the Design Brief in respect of the Adelaide River Bridge design level. Consequently, the height of the embankment was able to be lowered and the visual amenity maintained.
9. The Friends Groups subsequently informed ADrail and AARC of their aspirations to develop a tourist railway between Adelaide River and Snake Creek via the abandoned Railway Bridge and embankment and requested a 22-metre shift to the design alignment. ADrail were instructed by APT to investigate options to avoid the remnant sections of track in the vicinity of the Railway Station. Within the constraints of the other heritage features, the location of the level crossing at Dorat Road to facilitate traffic storage for road train turning movements off the Stuart Highway, the corridor title constraints and the topography of the flood plains south of the station, an option for a

6 metre shift emerged as the only viable option. This option preserved 2 tracks immediately in front of the Railway Station and transferred the new line onto the alignment of a third siding track.

10. APT were concerned about the impacts any shift would have on the operations of the railway but considered this as a compromise so as not to preclude the possibility of a future heritage tourist train from being able to operate to/from the Station, should the project proceed.
11. When the estimated cost of this option, involving the reconstruction of approximately 1km of embankment, was determined at $450,000, ADrail were not able to absorb it within their fixed price contract and neither APT nor the NT Government were able to assist. A revised alignment was designed to achieve the 6-metre shift at the station over the shortest possible transition distance without having to reconstruct embankments across the black soil plains to the south. This resulted in a design, which at an estimated extra cost of $200,000, ADrail was prepared to bear. APT offered this solution to the Friends Group at a meeting conducted at the AARC offices on 23 May 2002 as the only option it was prepared to consider.
12. APT committed to amend the alignment so that the offset was developed via a transitional spiral curve, which achieved the 6m offset at a point immediately opposite the station building.
13. The Friends Group reluctantly accepted this compromise and subsequently undertook to remove fishplates securing the track sections so that the sections of track affected by this arrangement could be removed by ADrail and stored for future use by the Friends Group.
14. The extent of the impact on existing tracks in order to develop the spiral may not have been fully understood by the Friends Group. The length of the spiral required to transition to the 6m offset is approximately 350m and by necessity returns to the pegged centreline before the commencement of the embankment across the black soil plains to the south.
15. The Friends Group have now accused ADrail of not complying with the spirit of the offer that was put by APT and have sought to preserve a greater length of track.
16. The Friends Group also sought to have the alignment north of the Adelaide River and outside of the heritage precinct altered to enable the abandoned NAR embankment to be re-used in their future plans for a heritage tourist railway to Snake Creek.
17. The geometry of the new railway north of the Adelaide River is controlled by title, traffic and sacred sites constraints. APT indicated this alignment could not be compromised and the Friends suggestion for the new railway and any future heritage railway to co-exist within the same corridor would need to comply with the safe working requirements and the insurance requirements of the new railway.
18. The availability of a corridor between Adelaide River Station and Snake Creek through land owned by other parties is a major impediment to the aspirations of the Friends Group, as is the emerging issue of Public Liability insurance coverage for the risks such an operation poses.
19. The Heritage Branch of the Department of Infrastructure, Planning and Environment continues to monitor the activities of ADrail in the heritage precinct for compliance with the permit conditions.
20. The construction of a railway through the Railway Heritage precinct is considered by the Heritage Branch of the Department of Infrastructure, Planning and Environment to be totally consistent with the conservation principles embodied in the Burra Charter, which is the national and internationally recognised standard for heritage conservation.

Prepared by AustralAsia Railway Corporation in conjunction with:

- Asia Pacific Transport (APT)
- ADrail
- Department of Infrastructure, Planning and Environment

AustralAsia Railway Fact Sheet

CONTINUOUS RAIL WELDING

Updated 12 March 2003

WHAT ARE THE WELDING PROCESSES USED ON THIS PROJECT?

There are two welding processes used;

- Flash Butt Welding – this method is used to weld 13 short welded rail sections (27.5 metres) together into long welded rail sections (LWR) of 357.5 metres, which are then used in the tracklaying process; and
- Aluminothermic (Thermit) Welding – this method is used on site to weld LWR sections together.

WHAT IS FLASH BUTT WELDING?

Flash Butt Welding aligns the rail, charges rails electrically and hydraulically forges the ends together. The welderhead automatically shears upset metal to within 1/8" of the rail profile. A base grinder removes the 1/8" flashing material from the rail, which leaves a smooth base and greatly reduces the likelihood of stress risers, which shorten the life of the rail. The sides and head of the rail are also ground to the profile of the parent rail. As a final step in the welding process, a mag particle test is performed. These quality checks, plus two separate checks with a straightedge and taper gauge, contribute to the complete job that makes a quality weld.

WHAT IS ALUMINOTHERMIC (THERMIT) WELDING?

Thermit welding is a welding process, which produces coalescence of metals by heating them with superheated liquid metal from a chemical reaction between metal oxide and aluminium with or without the application of pressure.

Filler metal is obtained from an exothermic reaction between iron oxide and aluminium. The temperature resulting from this reaction is approximately 2500° C. The superheated steel is contained in a crucible located immediately above the weld joint. The superheated steel runs into a mould, which is built around the parts to be welded. Since it is almost twice as hot as the melting temperature of the base metal, melting occurs at the edges of the joint and alloys with the molten steel from the crucible. Normal heat losses cause the mass of molten metal to solidify, coalescence occurs, and the weld is completed.

WHY IS THE ALICE SPRINGS TO DARWIN RAILWAY CONSTRUCTED WITH CONTINUOUS WELD LINE?

To provide a low maintenance cost railway. The development of Continuously Welded rail was undertaken in Europe during the 1950's and 1960's and has been progressively introduced into Australia since that time until now it is the standard practice. Most of the rail tracks in Australia are constructed using this technique.

WHY IS CONTINUOUS WELD LINE LOW MAINTENANCE?

There are no joints to be maintained. In the early history of railways the rails were joined by mechanical joints, which were designed to allow the rail to expand and contract as the temperature rose and fell. These joints were a significant source of maintenance as the bolts and plates that joined the rails often broke, the rails were damaged by the bolts and plates and could crack, the track was harder to keep level and the sleepers would be damaged.

HOW STRONG ARE THE WELDS?

When the rail is trying to contract, the rails are trying to pull themselves apart. The point where this is most likely to occur is at the welds. The strength and the quality of the welds are sufficient to prevent this happening. An ongoing program of ultrasonic rail flaw inspections will be carried out to check the integrity of both the welds and the rails.

OLDER GENERATION RAILWAY WORKERS ARE ADAMANT THAT YOU MUST HAVE EXPANSION JOINTS OTHERWISE THE RAIL WILL BUCKLE. HOW DOES THE CONTINUOUS RAIL OVERCOME THERMAL EXPANSION AND CONTRACTION IN THE TEMPERATURES BETWEEN DARWIN AND ALICE SPRINGS?

In order to balance the forces between those which want to buckle the track during high temperatures and those which want to pull the rails apart during cold temperatures the rail is laid at what is called the neutral temperature of 40 degrees Celsius. The range of rail temperature expected throughout the course of the year is approximately -10°C to +65°C.

On a railway the length of the Alice Springs to Darwin railway (1420km) this movement would be 16.3 metres for every degree of temperature change. It has been calculated that the rails are subjected to a temperature range of 45 degrees in Darwin and 74 degrees in Alice Springs. This would mean that the rails would expand and contract up to 1.2 km between the coldest night and hottest day during the year.

If the rail were free to move when heated or cooled it would expand or contract like all other steel. A small amount of the stress developed along the rail can be taken up with expansion across the rail. Its height and width expand due to their own dimension as well as some distributed stress from the longer length. The rail bulges slightly. As long as the column is prevented from moving sideways along its length it is very stable.

HOW IS THE RAIL CONSTRAINED?

The rails are held to the sleepers by strong spring clips and prevent the rail moving along the track. The sleepers are very heavy concrete. Their weight and the friction of the ballast stop any movement. There are 2 clips for each rail at each sleeper. Each clip exerts a load of about 2 tonnes onto the foot of the rail.

When the rail is constrained from moving along the track the only potential expansion the rail experiences at any single point, is the expansion that could occur between two sleepers. Over 700mm, between the sleepers, the rail will try to expand 0.0077mm, about 8 thousandths of one mm.