

Newsletter of the Australian Society for History of Engineering and Technology

ASHET News

This is the second issue of the new format *ASHET News* that we plan to publish four times a year.

In its new format, *ASHET NEWS* is published in electronic form as a pdf document, designed for reading on a computer screen or printing on a home computer desktop printer in either black and white or colour. *ASHET News* will be sent as an email attachment to all ASHET members and to non-members on our email list. *ASHET News* is also on the ASHET website www.ashet.org.au.

Contributions, including letters and articles for publication, as well as comments and suggestions, are invited. Send them to Ian Arthur, secretary ASHET sec@ashet.org.au, acting editor of *ASHET News*.

Hoping to publish?

One of ASHET's objectives is to encourage research and writing on the history of engineering and technology in Australia. But ASHET has no plans at present for a journal of its own in which members and others can publish peer-reviewed papers.

Professor Anthony Baker has suggested ASHET members consider publishing in the Journal of the Royal Society of NSW, a long-established scientific society, which from time to time publishes articles on the history of science that are generally well received.

Tony Baker is Professor of Chemistry and Chair, Academic Board, University of Technology Sydney. His email address is tony.baker@uts.edu.au.

ASHET annual general meeting

ASHET's annual general meeting will be held at History House, 133 Macquarie Street, Sydney, on Tuesday 22 April at 6 p.m. Light refreshments will be served at 5.30 p.m. before the meeting. The meeting, expected to be brief, will be immediately followed by a joint meeting of ASHET and the Royal Australian Historical Society, with a talk by Gregor Blaxell.

Each member is entitled to appoint another member as proxy by notice given to ASHET's public officer no later than 24 hours before the time of the meeting. The notice is to be in the form set out in the attachment. ASHET's public officer is the secretary, Ian Arthur. Proxies may be sent by mail, fax or email to him at the address on the form.

The following business will be conducted at the annual general meeting:

- Confirm the minutes of the last preceding annual general meeting, held in 2007;
- Receive committee report on activities during 2006;
- Receive and consider financial statement;
- Elect office bearers and ordinary committee members.

In accordance with ASHET's constitution no other business may be conducted at the annual general meeting.

Copies of the committee's report and the financial statement that will be presented to the meeting are included in this issue of *ASHET News*

Election of office bearers and committee members

At the close of the ASHET annual general meeting on Tuesday 22 April, all the present office bearers and committee members retire. Office bearers and committee members for the coming year will be elected at the annual general meeting.

Nominations are called for election to the following positions:

- president,
- senior vice-president,
- vice president,
- secretary,
- treasurer,
- three ordinary committee members.

Nominations must be in writing, signed by two members of ASHET and accompanied by the written consent of the candidate. They must reach the secretary by Tuesday 15 April, seven days before the date of the meeting on 22 April. Nominations may be submitted using the form attached.

Broken Hill tour

ASHET and the RAHS are considering organising a tour in late August 2008 to Broken Hill and district by tourist coach from Dubbo via Nyngan, Cobar and Wilcannia. The tour will include three days in Broken Hill, and will look at historic, architectural, industrial and scenic aspects of all the towns visited.

To gauge possible numbers, we invite expressions of interest. The tour would be of seven days and six nights in comfortable accommodation.

Travel to Dubbo and return from Broken Hill will be flexible. We expect that most participants will travel together by train (XPT from Sydney to Dubbo and from Broken Hill to Sydney via Ivanhoe by the Broken Hill Explorer). This will be at your own expense to take advantage of special fares such as the Pensioner Travel Voucher, Seniors discount, etc., as appropriate. We may be able to negotiate a group rate with CountryLink. Others may wish to fly, or spend a few extra days in Dubbo or Broken Hill or even go on to Adelaide from there.

Estimated cost per person twin share including bed and breakfast, coach travel and admissions, but not lunches, dinners or train travel, is estimated to not exceed \$850.

If you are interested in the tour but without committing yourself, please phone the Royal Australian Historical Society on 9247 8001 or email executive@rahs.org.au, and leave your contact details.

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Committee annual report 2007

ASHET membership

At the end of 2007, ASHET had 92 members, a net increase of four over the year. In addition there were 24 registered members of families. Of the members at the end of 2004, 72 lived in the Sydney area, 10 elsewhere in NSW and 10 in other states and territories of Australia.

Meetings and other activities

ASHET held a series of meetings during 2007 at History House in Sydney jointly with RAHS, and conducted visits to places of interest. The events were as follows:

Thursday 15 February:	Talk by Don Fraser, <i>Engineering Basics of the Sydney Harbour Bridge.</i>
Thursday 1 March	Tour of Garden Island
Thursday 19 April	Talk by Bob Taaffe, <i>Railway Signalling on the NSW Railways.</i>
Thursday 3 May	ASHET Annual General Meeting and Talk by Robert Lee, <i>The Sydney Harbour Railway Bridge</i>
Tuesday 29 May	Talk by Barry Anderson, <i>Capturing BMC/Leyland History.</i>
Thursday 28 June	Talk by Tony Woods, <i>The Nuclear Reactor HIFAR and Australian Society.</i>
Tuesday 31 July	Talk by Brian Pearson, <i>Engineering Timber Truss Bridges.</i>
Tuesday 21 August	Talk by Sam Everingham, <i>Cobb and Co. – The facts behind the legend.</i>
Sunday 26 August	Guided tour of two historic observatories
Weekend 8–9 September	Weekend visit to Goulburn
Tuesday 18 September	Talk by Charles Picket, <i>The World of Wunderlich.</i>
Saturday 13 October	Guided tour of the Nursing and Medical Museum, Little Bay
Wednesday 28 November	Talk by Lesley Muir, <i>Changes in Library Technology.</i>

ASHET committee

At the annual general meeting held on 3 May, 2007, the committee elected in March 2006 retired and the following office-bearers and committee members were elected, to serve until the close of the following annual general meeting to be held in 2008

President	Ian Jack
Senior vice-president	Julian Holland
Vice-president	Mari Metzke
Secretary	Ian Arthur
Treasurer	John Roberts
Ordinary committee member	Felicity Barry Glenn Rigden Bob Taaffe

The committee met five times during 2007.

At the first committee meeting after the annual general meeting, the new committee invited retiring office bearers in the previous committee, Jon Breen and David Craddock, to participate in meetings of the new committee, but without a vote. Both Jon and David accepted the invitation. The committee accepted the offer of committee member Bob Taaffe to serve as minute secretary and appointed him to perform those duties.

Journal contents project

Early in 2007 we completed the pilot project to put the tables of contents of all issues of the Ashfield and District Historical Society Journal on the ASHET website where it can easily searched by anyone with access to the internet. The pilot project demonstrated that this is an economical and efficient way of enabling the tables of contents of journals to be available in an easily readable and searchable form..

During the year ASHET received a Heritage Grant from the Heritage Office, NSW Department of Planning, to assist in putting the tables of contents of all the issues of two historic Australian engineering journals on its website, and this work is proceeding, with completion expected early in 2008.

In addition ASHET received a donation from member Don Fraser and a grant from the Sydney Mechanics School of Arts to assist in digitising the complete contents of these two journals, a total of nearly 10,000 pages. This work is being undertaken by the library of the University of Sydney, which is itself making a substantial contribution to the project. When this work is completed early in 2008, the complete journal texts will be posted on the university website, where they will be freely available for reading and searching on line.

Income and expenditure statement for the year ended 31 December 2007

INCOME	2007	2006
Members' subscriptions	1,810	1,570
Donations	6,910	1,366
Income from meetings & activities (net of expenses)	337	648
Bank interest	<u>289</u>	<u>118</u>
	<u>9,346</u>	<u>3,702</u>
Less: EXPENDITURE		
Insurance	418	468
Telephone & internet	5	227
Affiliation fees	102	102
Postage	25	40
Stationery & office supplies	89	89
Filing fees	43	42
Bank fees	0	2
Other expenses	40	0
Table of contents project	<u>200</u>	<u>0</u>
	<u>922</u>	<u>970</u>

SURPLUS for year

Balance brought forward	6,486	3,754
Surplus	<u>8,424</u>	<u>2,732</u>
Balance carried forward	<u>14,910</u>	<u>6,486</u>

Represented by:

Cash at bank	9,672	1,446
Cash at bank – on deposit	5,358	5,090
Less Subscriptions received in advance	<u>-120</u>	<u>-50</u>
	<u>14,910</u>	<u>6,486</u>

ASHET Events

Tuesday 22 April, 2008

ASHET Annual General Meeting

Talk by Gregory Blaxell

Halvorsen Boatbuilders

In 1903 Lars Halvorsen built his first boat in Norway and during WWI employed 35 staff building boats up to 409 metres. In 1925 Lars and his family moved to Sydney, attracted by its beautiful natural harbour, and before long Lars had established himself as the number one boat builder in Sydney, with his five sons working at his side.

From 1925 to 1980 the family designed and built nearly 1,300 craft, including 237 vessels for the Australian, US and Dutch forces during WWII, which earned Lars' eldest son Harold the Order of Australia Medal. After the war, the Halvorsens ran a fleet of their own boats as a charter business in the waters around Sydney.

In 1975 a joint venture company was formed in Hong Kong to design, build and market a new range of pleasure boats. It currently manufactures in China for a worldwide market.

Gregory Blaxell has researched the history of the family and its boatbuilding business. His talk, to a joint meeting of ASHET and Royal Australian Historical Society (RAHS), will immediately follow the brief ASHET Annual General Meeting.

Venue: History House, 133 Macquarie Street, Sydney

Time: 5.30 for 6 pm

Cost: \$7.00 Includes light refreshments on arrival

Bookings: phone RAHS on (02) 9247 8001 or email admin@rahs.org.au.

Tuesday 27 May, 2008

Talk by Tim Smith

Gallipoli Sub AE2: Managing Australia's significant WWI Dardanelles relic

During World War I, the AE2 sailed through the Dardanelles on a mission to disrupt Turkish shipping in the Sea of Marmora.

The first submarine to breach the Turkish defences, the AE2 remained at large for five more days before sustaining irreparable damage while under heavy fire. The submarine sank and the crew surrendered, spending the rest of the war in Turkish captivity.

Marine archaeologist Tim Smith spends much of his time investigating shipwrecks and maritime archaeology in Australian waters but he is also involved in the project to preserve the remains of Australian submarine AE2.

In his talk, Tim will speak of the challenges and issues associated with such ventures.

This is a joint activity of ASHET and the Royal Australian Historical Society (RAHS).

Time: 5.30 for 6 pm

Cost: \$7.00 Includes light refreshments on arrival

Bookings: phone RAHS on (02) 9247 8001 or email admin@rahs.org.au.

Tuesday 17 June, 2008

Talk by Warwick Abadee

The golden years of the magnificent flying boats

In this talk, maritime historian Warwick Abadee will trace the history of flying boats from their earliest period, through war and peace to its peak in the 1930s and 1940s, and their virtual demise in the mid 1970s. Some of the material presented in this talk is quite rare.

Warwick Abadee has a life-long fascination with, and love of, the sea. He is now retired after a career in shipping spanning 30 years as a manager and director of shipping lines serving Australia. During his retirement he has hosted many guided tours of the collections of the Australian Maritime Museum, and has lectured and written extensively on maritime topics.

This is a joint activity of ASHET and the Royal Australian Historical Society (RAHS).

Time: 5.30 for 6 pm

Cost: \$7.00 Includes light refreshments on arrival

Bookings: phone RAHS on (02) 9247 8001 or email admin@rahs.org.au.



Tony Griffiths

Tony Griffiths is author of the article commencing on the next page. It is based on a talk that he presented at an ASHET/RAHS meeting on 21 February 2008.

Tony is an electronic engineer whose retirement has been taken over by researching and writing the history of the Lithgow Factory – partly because of family connections to the Factory and the district and partly because it's a fascinating subject well worth exploring.

He published the first volume of his history of Lithgow and the Small Arms Factory in 2003, and plans to publish a second volume this year.

Tony is a foundation member of ASHET.

Lithgow's Small Arms Factory, An Overview – 1907 to 1997: Building for War – Surviving the Peace

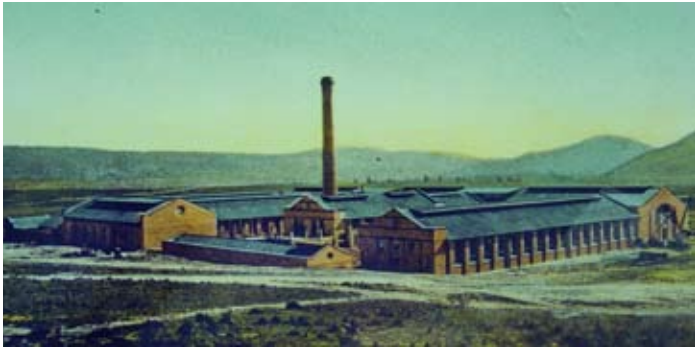
Tony Griffiths

March 2007 marked a century since the Federal Government took the first step towards establishing a factory to manufacture basic military weapons – their obvious choice in 1907 was the British-designed Short, Magazine, Lee-Enfield rifle in .303-inch calibre, with its 1907-pattern bayonet, bayonet scabbard and other 'accoutrements.'

April 2008 will mark a century since the Government bought 122 acres of land at Lithgow, NSW, upon which to build this Factory.

Lithgow seemed a logical site: it had good road and rail links to Sydney and Melbourne; was far enough inland to be safe from enemy naval bombardment; and had well-established coal and steel industries.

However, events soon revealed some unexpected drawbacks to the choice:



Lithgow Small Arms Factory, 1912

It couldn't have been foreseen that arms manufacture in Australia would be intermittent rather than a continuous flow.

Lithgow was, perhaps, too small for the Factory. It had no reservoir of either workers or housing sufficient to meet the Factory's peak demands and, at that time, no similar industries to absorb the excess labour in off-peak times.

These factors, especially the housing shortage, became major problems for the Town and Factory during most of the twentieth century.

World War I

The Factory began production in 1912 but hadn't even reached its nominal output level when WWI commenced in August 1914. The patriotic urge for Lithgow to 'Do Something' towards the war effort became a call for a second shift at the Factory. This was impossible to implement immediately – a second shift required a second Workforce and this took time to recruit and train. So, until mid-1915, the existing workforce suffered a punishing 68-hour week.

Men coming from elsewhere easily found work at the Factory but struggled to find housing for their families – and this was an era of large families, six or more children was not uncommon. Many men left after only a few weeks, or even days. Those who stayed crowded into shared houses, built humpies or put up tents wherever they could – two families even shared an abandoned brick kiln. Lithgow's lack of housing for its iconic Arms Factory became a national scandal.

Lithgow's pre-war population of 8200 increased to at least 14,000 during the war; the Factory's Workforce increased from 370 pre-war to peak at 1531 in January 1918.

Governments did nothing – Lithgow Council by ignoring the unhygienic living conditions. Eventually,

the Federal Government had to act because of the disruptive effect on production caused by the high turnover of Factory labour, and the considerable scandal.

The Government decided to build a 'model village' for its Factory Workforce in the style of British and European establishments such as Cadburys and Krupps. After meetings in Sydney, Melbourne and Lithgow, and after consultation with town-planning experts, it designed the suburb called Littleton, based loosely on Sydney's Daceyville.

But the war ended in November 1918, weapons were no longer required and there were no products to replace them in the Factory; people were retrenched and left town.

Littleton was completed in 1921 – 100 houses, but far too little and far too late. Although the houses were very well built, the Government and Council seem to have lost interest towards the end, and so Littleton struggled on for several years without sealed streets, storm-water drains, street lights, gas or electricity. This lack, also, became a scandal.

Between the Wars

During and after the war, ex-servicemen received priority for employment at the Factory; it seemed logical at the time that men just back from using weapons, perhaps being wounded by them, should make even more. But as weapons' production tapered off, Government policy – stated firmly and applied more or less rigidly over all of its life – required that the Factory be kept always ready to manufacture arms should Australia need them, nothing was to impede this. This policy was to dominate for virtually the whole of the Factory's life – give or take a bit, here and there.

Commercial work, so-called 'outside work', was permitted only if it didn't compete with local manufacturers and if it had Departmental costing approval. The Department was in Melbourne, had virtually no commercial experience and delayed permission so long that many potential customers went elsewhere. Many small things were made, particularly for other Government Departments, but there were very few of the large projects for which this Factory was best suited. Manufacture of toasting forks and bottle openers for local shops indicated more desperation than versatility.

In 1922, the Factory began making replacement barrels for the Army's British-made Vickers machine guns – barrels being the first part to wear out. Production of other parts followed until in 1928 the Factory could produce complete guns. Token quantities were made until full production began in 1939.

Finally, in 1922, after all attempts to find suitable work had failed, 500 men were retrenched out of the Workforce of 800. This was a devastating blow for the men, their families and Lithgow.

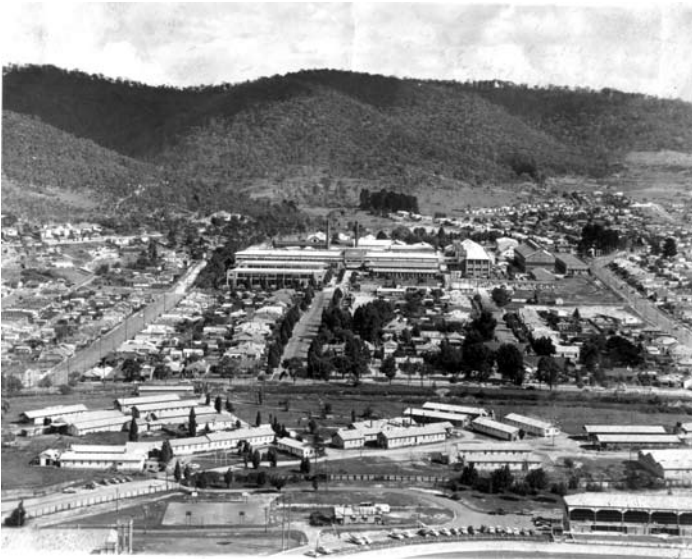
Things got worse: rifle production ceased entirely in 1929, the whole Wages Workforce was retrenched; only the most skilled were re-hired and at lower wages than previously.

Ironically, after the Factory Manager had been pressured to resign – he annoyed the Government by pleading too often for his Workforce – two significant commercial contracts were received.

The first was for parts for a system sold by the American Western Electric Company for adapting silent movie projectors to show the new 'talkies'. This was sufficiently important to interrupt Vickers gun



Lee-Enfield .303 rifle, bayonet and scabbard. This one, made by Pratt and Whitney in America, and on display at the Lithgow Small Arms Museum, was to demonstrate the capability of the equipment supplied to the Lithgow Factory.



The Factory in 1943

manufacture but lasted only two years.

The second was from the Australian Government, ordering the Factory to copy parts of imported sheep-shearing equipment and undercut the prices of British and American equipment whose cost was one factor causing the price of Australian wool to inhibit its sale overseas. The Factory parts were sold as 'duplicates' and the effort was successful in having overseas companies eventually set up local manufacture. This work continued until 1939.

Rifle production restarted in 1933 – not because the Army needed more rifles but because the Factory was losing the skills needed to make them. The mid 1930s saw preparations begin for WW2; preparation to make the Bren gun – the iconic light machine gun of WW2 – began in 1936. The first Brens were delivered in 1941.

World War II

WWII began in September 1939, at which time Lithgow's population was about 15,000 and the Factory's Workforce was 536. The population rose to about 25,000 during the war and the Workforce peaked at 5731 in November 1942. The WW1 housing problem was being repeated but on a larger scale.

This time the Government did act, albeit slowly. Worker's hostels were built, trains and buses brought workers from the Blue Mountains, Factory workers got priority for vacant houses (much to the annoyance of mining and railway workers), petrol was supplied to those with cars, rents were controlled. 'Duration Houses' were built at South Littleton – simply-constructed houses designed to last for the duration of the war and then be demolished (many survive today).

Despite all this effort, houses were still scarce. Many families shared houses, others built humpies or set up tents in the bush. Many sheds became dormitories for men, with 'hot-bedding' the norm. Lithgow Showground became a suburb of elaborate humpies – 'Bag Town' – for which the Council built an amenities block. Living conditions for many were appalling, especially in Lithgow's winters. Factory efficiency suffered from the labour turnover and absenteeism, just as it had in WW1 – only more so.

In 1942 the Government decided to move men from factories into the Armed Forces and replace them where possible with women. This was a social revolution, especially in macho Lithgow: in 1939 there had been four women at the Factory, in June 1943 there were almost 2000. Local women had homes already – of one sort or another – but of the many coming from elsewhere, some were housed in a new women's hostel but most lived in guest houses at Blackheath, Mount Victoria or Katoomba and were brought to work each day by train or bus. Special female supervisors – *Monatresses* – were employed to monitor women in places where male supervisors couldn't go. The best became mother-

figures to women away from home for the first time and were highly valued and respected.

Social conditions in Lithgow deteriorated even further. Wages were good, gambling and drinking were rampant; there was little of substance to buy and little incentive to save. Children's lives were disrupted by cramped living among strangers and by parents on shift work. Local schools, already stretched, provided 200 pre-school child-minding places – something not previously needed in Lithgow.

The Factory worked around the clock except on Sundays. Men worked a 56-hour week over a two-shift cycle; women worked a 40/44/48-hour week over a three-shift cycle. Women hated night work.

Then, in August 1945, this war stopped and weapon production ceased, virtually overnight. Unions and the RSL battled for jobs for their members at the Factory; the Government wanted the Workforce reduced to only 1000; the Management wanted to retain only the best. The only thing all agreed upon was that women would be put off first – which they were.

However, many ex-servicemen didn't stay. Some found factory work oppressive after wartime freedom but most left because of the housing shortage. The worst humpies had gone but trains still came from the Blue Mountains until well into the sixties.

Older employees look back fondly to the 1945-56 decade. Not because of military production – that was uninspiring work exclusively refurbishing old weapons and making spare parts – but because this was



Washing, 1940

the golden age of commercial work. Parts for EMMCO refrigerators and washing machines, for Sunbeam 'Mixmasters', for railway engines, for golf clubs, for movie projectors and more. They made heavy barrels for target rifles, sporting rifles of several designs, small batches of experimental weapons of several sorts. It was a busy time, but had all virtually ended by 1955.

The Korean War (1950-53) and Malayan Emergency (1955-60) boosted weapons refurbishment work. From WW2 until 1956, the Factory reconditioned 175,000 SMLE rifles, 10,000 Thompson machine-carbines, 14,000 Smith & Wesson pistols and many, many other imported weapons.

Surviving after World War II

In 1954, the Government selected a replacement for the ageing SMLE rifle in a co-operative program with Britain and Canada: it was the Belgian-designed 7.62-mm calibre FN, SLR, L1A1 or 7.62 (as it was variously called) using NATO-standard ammunition.

Consequently, the Army didn't need any more old weapons reconditioned and couldn't afford to pay for it while the Factory was being prepared for the L1A1. But there was little other significant work to be had. Something had to change in the interim.

Change came with a new Manager appointed in June 1956. Between July and October, 400 people – about one-third of the Factory Workforce



Lithgow F88, 1988

– were retrenched, an enormous shock to Lithgow.

Ironically, while production workers were laid off, more engineers and tradesmen were needed to prepare the Factory for the L1A1 but were difficult to recruit because of the housing shortage. The Factory built 21 pre-fabricated cottages to attract these skilled people but it was still a problem.

The new manager had been appointed to implement production of the L1A1. Millions were spent on new machine tools and re-organisation of the facilities, but the Manager had also to repair the poisonous atmosphere between Management and some employees. This required a major confrontation with the Factory's most influential Union leader – a man given to provocation just to see its effect and a leader in a disruptive culture of hoax notices, memos and phone calls.

The man was dismissed for misbehaviour, triggering an aggressive Union campaign for his reinstatement. In the face of a rock-solid Government position and waning Union support, the man blinked first and backed down. He was allowed to resign and collect long-service leave.

This firm action re-established Management authority and wrought an immediate improvement in Workforce morale. The hoaxes and a culture of dangerous practical jokes in some sections ended. Management offered courses in the modern techniques of Methods Engineering and introduced productivity bonuses. The entire Factory ethos and production facility was transformed.

After the first L1A1 was delivered in 1959, Workforce numbers gradually climbed to 2500 or so and stayed there for several years. An automatic version, the L2A1, was also produced, although in smaller quantities.

Capacity was for 25,000 L1A1s per year; some 270,000 were ultimately made, half of which were exported, mainly to ex-colonies of Britain. The L1A1 and L2A1 were the standard Australian infantry weapons in the almost-forgotten confrontation with Indonesia (1964-65) and the war in Vietnam (1962-72).

Until the mid-sixties there was a lively sports culture in the Factory. The Rifle Club and Annual Picnic were the first. Rugby League, cricket, men and women's hockey, darts, netball and baseball all had their day. Only the Rifle Club survives.

In 1962, the Factory and City celebrated the Factory's 50th Anniversary with style never before seen in Lithgow. Held in conjunction with the Festival of the Valley and opening of the new Olympic Pool, the celebration saw Factory open days, a ball, illuminations, an Army live-firing demonstration, a visit by Prime Minister Menzies, and finished with the Annual Christmas Picnic.

By 1969, L1A1 production was down to 10,000 per year and still



falling. Another weapon, the F1 – replacement for the WW II Owen gun – was also in production but also near the end of its run. So the Factory sought other military products to fill the gap: refurbishing weapons back from Vietnam of course, many parts of artillery fuses, 81-mm mortar shell cases, armoured personnel carrier track shoes, and others. A sales trip by the Manager in 1976 brought in some welcome orders for L1A1s and spare parts. Even in these uncertain times, the Government ensured that the Factory machinery was kept up-to-date. In the late 1970s, for example, \$1.2 million was spent on a new barrel-forging machine.

In the mid-1980s, the Government decided to replace the now-ageing L1A1 and L2A1. The choice was between the American M16A2 and the Austrian Steyr AUG, both of 5.56-mm calibre.

This was just in time, for by June 1984, the Government was subsidising the Factory with about \$11 million per year. This couldn't continue indefinitely.

The Steyr was finally selected and was named the F88; production commenced in 1988. A light machine gun, the F89, went into production soon after.

In 1988, in an effort to curb the high operating costs of its munitions factories, the Government established a company, Australian Defence Industries (ADI) – in which it held all shares – to operate its factories as commercial enterprises. This was Corporatisation – freedom from Public Service constraint but now denied annual subsidies.

Australian Defence Industries

ADI's future looked promising: there were orders for the F88 from Australia and New Zealand and the prospect of substantial exports. Unfortunately, the Government disallowed the most promising exports for fear they would destabilise the regions involved: Thailand, Pakistan and Indonesia, for example.

The F88 got off to a bad start when initial batches of the Austrian cold-weather rifle proved incompatible with Australian-designed tropical-weather ammunition. It was sorted out, but not without a certain amount of acrimony and blaming.

The export ban proved the downfall of corporatised ADI. From 1989 to 1996, as local orders were filled and nothing replaced them, the Factory Workforce numbers steadily declined to about 100, much to the disgust and anxiety of Lithgow folk although, in reality, the Factory was no longer a major prop for Lithgow's economy. The anger was heartfelt but largely sentimental.

There are many families in Lithgow who have had three, or even four, generations work in the Factory. They saw it, despite the evidence of eighty years' fluctuation, as a permanent source of work. It seems likely that the City became unrealistically mentally dependant upon the Factory as the sole source of Lithgow's prosperity. In part this might have been due to the presence on Lithgow's Council, over many years, of prominent Factory employees – at one time four men, including the Mayor, and for many years a particularly outspoken Union organiser.

This presence might well have given Factory affairs undue prominence in Council meetings and thus inhibited Aldermen's ability to look for alternative economic resources while blinding them to the essentially episodic nature of weapons production in Australia.

Ultimately, the Government retired from weapons production by selling the Lithgow Factory and some others to a consortium of Transfield and a French company, Thales. In late 2006, Thales bought Transfield's share and operates the Factory as a successful part of its world-wide munitions supply business.

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