

**JULY
2012**

information

Newsletter of the Cape Western
Railway Society.
(Branch of the Railway Society of
Southern Africa)

Notice Board by Mavis Ridgard

Just a reminder to all members that the Branch Meeting of the Society is held on the first Tuesday of the month at Live Steamers Clubhouse at 19:30. We urge members to attend, as we cannot arrange speakers at meetings if there is a poor turn out. Lets hope that we will get a better attendance when the cold winter months are over.

The next run to Simons's Town with Atlantic Rail is on the 15th July, which is fully booked. So if you wish to take advantage of the special concession for members, book now for the next trip, which will be on the 19th August.

Lastly, I want to thank all those members who have renewed their membership, especially Hans Herrmann who included a generous donation with his subscription.

Malcolm's' This And That . :

Ever since the invention of the steam engine and thus railways, there have been train disasters, both big and small with tragic loss of life. It still continues today, in spite of "fool proof safety systems", but it was the day of infancy of railways that accidents were so prolific. There were even days of comic relief when there was no loss of life.

A driver of an engine was shunting eight empty wagons, when he saw the crew of an approaching engine jump from the cab. The train was a heavy goods. He bravely jumped out of his cab to stop the oncoming engine. Unfortunately his fireman misconstrued his intention and also jumped out of the cab without closing the regulator, the engine now without any crew and with its eight wagons proceeded down the main line gathering speed all the time.

Fortunately, it was possible to keep the line clear for the runaways. A few minutes later they roared through the first station. What an alarming sight for the signalman, but not to be compared with his colleague at the next station, for the double line becomes a single one at this point. Here the runaway train ran amok at the points. Seven wagons derailed knocking down telegram poles and the and the signalman's cabin collapsed under his feet as one of the wagons demolished its masonry base! Six wagons shot over an embankment and for a distance of 300m the line was littered with debris, but the drama was not yet over. Having successfully shaken off most of its load, No. 7620 continued at unabated speed, pushing before it, like a handcraft, the remnants of her one remaining wagon.

It continued through the next station and a tunnel, but her undoing was at an overbridge where and end door of the wagon fell off and derailed her. Fortunately there was no loss of life. There you have it.

What exiting times in railway history.

The Bonnievale Incident : The now notorious Bonnievale incident where a beautiful and completely intact station was summary flattened into rubble has caused great ripples. An SIA member, Keith Johnstone, who lives in Bonnievale, did a magnificent job of kicking up a fuss to the point where he

NEXT BRANCH MEETING : TUESDAY 7 AUGUST 2012

Opinions expressed or information supplied, are given as accurately as possible and producers and subscribers of this newsletter do not hold themselves responsible for any misinformation or errors whatsoever.

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managed to get a copy of the reversal order. This almost indicated that they now feel that should rebuild the station. Once again we urge members to be very protective of quality railway station buildings. We need photographs and we need members to write to their local municipalities, to their local provincial MEC for Tourism, and to the South African Resources Agency pointing out that this building is special and should not be destroyed. Always stress the economic benefits of it being used properly, i.e. job creation, tourism etc.

We will supply contact details upon request.

We believe that we may have reached the stage where it will be very risky for any official to authorise the destruction of any building because of the amount of opposition that this will immediately spark. This will represent where our focus will remain for the foreseeable future. We would appreciate feedback and like Keith at Bonnievale...don't stay silent.



R1.3bn Bridge City Rail Link On Track For 2013 Completion : Construction work on the R1.3-billion, 3.5 km new dual Bridge City rail link (BCRL), north of Durban, was on schedule, and should be completed by the end of March 2013, said Passenger Rail Agency of South Africa (Prasa) group CEO Lucky Montana on Thursday.

The new passenger link would connect the mixed-land use Bridge City development, which encompasses the communities of Inanda, Ntuzuma and KwaMashu (INK), with existing rail infrastructure, through an underground station at the new development.

The rail link would tie in with the existing multi-use rail line at Duffs Road station. New train turnaround facilities will also be constructed at Dalbridge, south of Durban, to ensure operational integration with the north-south rail corridor, said Montana.

The north-south corridor was also earmarked for infrastructure modernisation, in preparation of the anticipated new rolling stock to be deployed in the passenger rail system by 2015, he added. The new Bridge City station would also include a bus and taxi interchange.

The new rail link is the largest rail infrastructure development project in the Durban area, said Montana. The project was largely funded by Prasa, with some contributions by the City of eThekweni and private developers.

Design of the BCRL was completed in July 2010, with construction kicking off in July 2011. Completion is expected at the end of March next year. The contract to design the infrastructure was awarded to a consortium led by Crowie Projects as lead project implementing agent. The consortium partners include LDM Quantity Surveyors, Focus Project Managers and Arcus Gibb Consulting Engineers.

Construction and civil works were awarded to Grinaker-LTA as the lead contractor, with Tshireletso Business Engineering responsible for all electrical works, Actom for signalling and SIMS Perway for the rail infrastructure.

The BCRL project includes the construction of three viaducts, three aqueducts and one road crossing. One viaduct is being constructed in situ and the remaining two will be manufactured in a precast yard about 2 km off site. The entire project would require about 8 000 m³ of in situ concrete and 1 000 t of steel for railway track construction and concrete reinforcing, says Montana.

Earthworks would include removing about 250 000 m³ of redundant soil, which includes sandstone, clay and shale, as well as importing about 300 000 m³ of the required grade of soil for filling and formation.

Prasa would oversee an environmental rehabilitation process to ensure the integration of the railway infrastructure with the surroundings, said Montana. He said the agency had also made provision in the project for ten students from the INK area to further their studies in the engineering field. All these students have been placed at universities, technical colleges and universities of technology, and will be assigned to different specialist areas in the rail construction environment upon completion of their studies.



From : Engineering News

Cycleway Proposal For Choo-Tjoe Route : The following item was on the www.railwaysafrica.com weekly news roundup recently but attracted no comment. Someone may want to get steamed up.

According to the Knysna-Plett Herald: "The Garden Route Cycleway Association (GRCA) is now more convinced than ever that the old Outeniqua Choo-Tjoe railway infrastructure can be converted into a scenic cycleway and a major tourist attraction that would create sustainable jobs along the way. The Association was recently heartened by talks with decision-makers who received their ideas with great positivity. Chairman John Stegmann said there had been a lot of developments on that front. He indicated that a decision by Transnet on the future usage of the old railway line between George and Knysna is therefore long overdue. At the same time, the GRCA was disappointed by the last minute cancellation of a meeting which was scheduled to be held in March this year with Transnet executives. GRCA was interested to know what factors Transnet was taking into account to decide on the future of the 67km George to Knysna corridor."

EMD To Develop Natural Gas Locomotive : An agreement to develop natural gas-powered locomotives has been signed by gas specialist Westport Innovations and Caterpillar, which will fund the programme.

The locomotive technology is to be developed by Caterpillar's Electro-Motive Diesel business, using Westport's high-pressure direct injection technology. In December 2011 the companies had announced plans to use a Canadian National locomotive as a demonstrator. Commercial production is expected in around five years.

'This is a significant opportunity that has the potential to transform important segments of the global off

-road equipment industries', said Westport CEO David Demers on June 5. 'The substantial price difference between natural gas and diesel fuel is resulting in a strong financial incentive to enable off-road applications to take advantage of low natural gas energy costs without sacrificing operational performance. There is also a clear environmental incentive because of the reduced carbon emissions.'

New Venture To Make Diesel Locomotives In SA For Local, African Markets : The production of Electro-Motive Diesel (EMD) railway locomotives in South Africa is set to recommence following the announcement on Monday of a joint venture (JV) between US railway products and services company Progress Rail Services and EMD (part of the Caterpillar group) and Barloworld. The programme will involve a "significant" but undisclosed investment in South Africa by the US company.

The timescale for the re-establishment of an assembly plant in South Africa has also not been divulged. Various options are being evaluated. "We could move pretty quick" said Progress Rail Services and EMD CEO Billy Ainsworth at Barloworld corporate offices in Sandton, north of Johannesburg.

Although some components will be imported, localisation will be a key part of the programme. "Our goal is to do as much as we can in South Africa." He cited Brazil as an example, where the first locomotives off the new Sete Lagoas assembly plant (in the state of Minas Gerais) have a local content approaching 50% – the aim is to increase this to at least 60%.



The company plans to benefit from the fact that a number of South African companies already form part of the supply chains of other Caterpillar group companies. "We'll be able to leverage the Caterpillar supplier network in South Africa," he affirmed.

Although Barloworld is a well-established partner of Caterpillar, Ainsworth made a point of stating that the South African company had not been selected because of this relationship. Rather, it was because of the infrastructure, knowledge and skills that Barloworld could bring to the JV.

"We're not just a locomotive company and we're not coming to South Africa just as a locomotive company," he stated. "We have a very broad net. Customers can come to us for one-stop shopping." The company is divided into two divisions – locomotive and railcar services and engineering and track services (the latter including signalling).

Nor is South Africa the only target market. "It's really going to serve sub-Saharan Africa," explained Ainsworth. "We like Africa. We look at Africa and see lots of opportunities. Interest rates are low. Inflation is under control. It's an area that makes sense to invest in, over a long time."

Earlier in the twentieth century EMD, then part of the General Motors group, produced locomotives in South Africa, but withdrew from the country as a result of anti-apartheid sanctions. Some 800 EMD locomotives were supplied to South African operators. Many are still in operation.

Meanwhile, Sibani Mngomezulu has been appointed as CEO of Electro-Motive Diesel Africa. "We have every confidence that under Sibani's leadership the Electro-Motive Diesel Africa team will realise their vision of becoming the rail solutions provider of choice in South Africa and the region," commented Barloworld CEO Clive Thomson.

From : Engineering News

DMUs To Test Regenerative Braking : UK: Artemis Intelligent Power, Ricardo and Bombardier Transportation are collaborating on a research project aimed at providing a regenerative braking system for diesel multiple-units.

The mechanical energy storage system combines the Artemis digital displacement hydraulic pump/motor with Ricardo's Kinergy flywheel energy storage system. Bombardier will be responsible for systems integration.

The Digital Displacement Rail Transmission with Flywheel Energy Storage project is a partnership between the three companies, with co-funding from the UK government via the Technology Strategy Board's Accelerating Innovation in Rail programme. The project is to start in the second half of this year.

Most DMUs have hydro-mechanical transmissions. Unlike electric traction, where current from regenerative braking can usually be returned to the overhead line or third rail, a DMU is self-contained. As a result, regenerative braking systems for DMUs require some form of onboard energy storage. In this case, energy storage is provided by the Ricardo flywheel. This technology has been in use for some time in motor racing where cars are fitted with Kinetic Energy Recovery Systems. The KERS flywheel or battery is charged during braking and the stored energy can then be used to give the car a brief power boost.

Experience with regenerative braking on electric trains has shown energy savings of between 15% and 20% depending on the duty. Inner-suburban EMUs with frequent stops have recorded over 20%, but more typical is the 17% being achieved on Virgin West Coast's Class 390 Pendolino fleet.

Ricardo is forecasting savings of between 10% and 20% from the mechanical system which is conceived as a cost-effective solution that could be retrofitted to existing DMUs. The development programme will couple the system to a wheelset supplied by Bombardier which will be tested on a dynamometer rig by Artemis. A follow-on project could see a pre-series installation tested on an operational DMU.

Ricardo points to a range of operating strategies for the technology. It could be used to modulate the power demand on the engine so that this operates closer to its optimum specific fuel consumption to save fuel and reduce emissions. Alternatively, it could be configured to augment maximum engine power to increase acceleration. This could increase the operational flexibility of lower-powered older rolling stock.

Ricardo is currently evaluating the Kinergy unit in a commercial bus application. While a number of flywheel systems have been developed, a key feature of Kinergy is the use of a magnetic coupling to connect the flywheel to the output shaft. This avoids the need to seal a shaft entering the housing where the flywheel runs in a vacuum at up to 60000 rev/min.

The Artemis hydraulic pump/motor is also innovative. In place of the usual swash plate, it uses solenoid-actuated valves running under digital control to regulate the flow of fluid in and out of the cylinders of a radial pump/motor.

From : Engineering News

SA Aims To Develop Second, Standard-Gauge Inter-City Network – Prasa CEO :

Developing a high-speed rail system would not be a priority for South Africa over the next three to five years, said Passenger Rail Agency of South Africa (Prasa) group CEO Lucky Montana on Wednesday. However, over the next 10 to 20 years the country would have to develop a second, high-speed rail network, adding to the existing, slower intercity Metrorail commuter network.

The Metrorail network was currently the subject of a multibillion-rand rolling stock and infrastructure upgrade programme.

Speaking at Africa Rail 2012, held in Johannesburg, Montana noted that Prasa would stick to the narrow Cape gauge network in renewing its existing passenger rail fleet to the tune of some R123-billion. "There is no point in running the commuter network at 160 km/h. The stations are too close together."

Any new network being developed, however, would be standard gauge, and would be able to accommodate high-speed trains travelling at around 220 km/h, said Montana. "We can have the two networks exist next to each other," he insisted.

Montana then also confirmed Prasa's commitment to some long-standing high-speed rail projects, such as the development of the Moloto rail corridor. Several reviews of this project had indicated that standard-gauge technology would save costs compared with Cape gauge technology. Montana noted that this 120 km standard-gauge project would enable 45 000 passenger trips during peak periods.

"There has been a lot of debate about whether this is a priority. From where government stands this is a key requirement of our time."

Montana said the development was about more than building a rail link, with stimulating economic development in the area also a key motivation.

He added that Prasa had not given up on building airport links in Durban and Cape Town either. "These are part of our projects. We are looking at them in our planning."

From : Engineering News

Joseph Stalin's Deadly Railway To Nowhere : In the Russian Arctic lies buried an unfinished railway built by prisoners of Stalin's gulags. For decades no-one talked about it. But one woman is now telling the story of the thousands who suffered there - and there is talk of bringing back to life the abandoned railway itself.

The snowdrifts come up to our waists and the wind stings my face, but Lyudmila Lipatova, a sturdy woman in her 70s, does not seem to notice and hands me a shovel. "This is the place", she says. "Now let's start digging!"

After a bit, my spade hit something metallic. We scrape away the snow and examine the rusty rails. Along the side of one piece of track I notice some writing: the acronym ZIS followed by Zavod Imeni Stalina, Factory - named after Joseph Stalin. We are in a nondescript neighbourhood on the outskirts of Salekhard, the capital of the Yamal Nenets Autonomous Region.

Founded in 1595 as a Cossack and missionary outpost, the city is one of the oldest in the Russian Far North. Apart from Rovaniemi in Finland, it is the only city in the world to straddle the Arctic Circle. The city museum boasts a 10,000-year-old baby woolly mammoth, nicknamed Lyuba. She made headlines around

the world when she was discovered in 2007 by a nomadic reindeer herder.

But Salekhard is notorious for another reason - its Gulag past.

Lyudmila and I had uncovered a tiny section of one of Joseph Stalin's cruellest and most ambitious projects - the Trans-Polar Mainline. It was his attempt to conquer the Arctic - part of what he called his Great Plan for the Transformation of Nature.

The scheme was supposed to link the eastern and western

parts of Siberia with a 1,000-mile (1,609km) railway stretching from the city of Inta, in Komi Autonomous Republic, through Salekhard to Igarka, on the Yenisei River. Work on the western part started in the early



1940s but in Salekhard construction began after the end of World War II.

The labour force was almost entirely made up of "enemies of the people" - prisoners convicted of "political" offences. Gulags 501 and 503 were created specially for the railway and every 6-8 miles (10-12km) along the track there were camps. Prisoners built their own wooden barracks but the unlucky ones in the front units had to take shelter in canvas tents.

"You think it's cold now but it's spring," says Lyudmila. "In winter the temperature can go down to -50 Celsius. Just imagine working in that. And in the summer the terrible heat, the mosquitoes."

Some guards used the insects to inflict merciless punishments. "They'd undress the prisoner and tie him up for the mosquitoes and that was worse than any torture instrument."

Lyudmila added that one young man, enslaved on the railway because of his politically incorrect poetry, was stripped naked and tormented in this way after he refused to give the names of some prisoners who had escaped. A 16-year-old girl, whose mother had died and whose father returned wounded from the front, was desperate to feed her four younger siblings. When she was caught stealing half a sack of beetroots she too was sent off to build the railway.

"She got 10 years hard labour for that supposedly political crime," explains Lyudmila, "but what did it have to do with politics

Lyudmila has many such stories. At the Salekhard museum where she used to be the director and now a retired senior researcher, she shows me a picture of a young woman with dimpled cheeks and curly brown hair. Nadezhda Kukushina was a book-keeper at a state enterprise in Ukraine. When rats got into the safe and chewed up some banknotes, she was accused of embezzlement and sent to work on the railway.

Other prisoners had already endured German prisoner-of-war camps. When they eventually returned home to the Soviet Union, the authorities branded them traitors and sent them to the Arctic. According to some estimates 300,000 prisoners were enslaved on the project and nearly a third of them perished in the process.

But Lyudmila says that the real death toll and exact number of camps and prisoners are not known since no accurate records were kept.

By the time Stalin died in 1953, over 370 miles (600km) had been built but it was never completed. Cold War Soviet leader Nikita Khrushchev transferred responsibility for the construction from the Interior Ministry to the Ministry of Transport, which lacked money and workers to continue the project.

The tracks sank back into the tundra. The railway to nowhere, with its huge cost in human lives, became known as the Dead Road. For decades nobody talked much about the ghostly barracks or the rusting rolling stock and rails.

Lyudmila once helped to unearth another baby mammoth preserved in the permafrost, but after the collapse of the Soviet Union, she began to dig up the area's more recent history. With the help of some other local historians and volunteers, she began collecting letters, photographs and oral testimonies from survivors of the railway.



Not far from the modernist sculpture marking the 66th latitude, there is another monument - a steam engine mounted on a plinth. A plaque underneath says the tracks were put down ruthlessly, at the edge of the earth, between 1947 and 1953. It also says the victims will never be forgotten. Salekhard is still home to people who were connected with the camps - either as administrators or guards, as well as prisoners.

Lyudmila says that some of the guards were young conscripts who had no more choice about where they were sent to work than the prisoners. "Of course there were always the sadists, but there were normal decent guards too," she says. "Some would allow prisoners time off in summer to pick berries and mushrooms to make sure they had some vitamins in the winter months."

Lyudmila sighs and wipes her glasses. "Of course it was wrong to build the railway with slave labour. But once they'd started it and there were so many victims, I think abandoning the project was also criminal." "I lead excursions and tell people about what happened. One man, a former prisoner, made a special trip up here and he just started crying when he saw rusty engines and old tracks," she adds.



"Many of the prisoners believed they were fulfilling a useful and necessary deed, and all of that was just destroyed. It's heartbreaking." I had to catch a plane from Salekhard to Noviy Urengoi, my next destination further east, because there is no other way to get there.

But now that Russia's energy frontier has moved north, the development of the Arctic is high on the Kremlin's list of priorities. Today there are plans to rebuild the railway and work has already started on a parallel road to connect Salekhard with the cities of Nadym and Noviy Urengoi, and from there to the rest of Russia.

Almost 60 years after work ground to a halt, the Railway of Bones may finally be getting a new lease of life.

Information provided by : Ray Hattingh [ray@saarp.co.za]

First Bank-Branch On A South African Station : On 15 June, a branch of Nedbank offering full banking services was opened in the concourse of Cape Town's main station. It is the first of many planned for other stations nationally and represents a new partnership agreement between the bank and Prasa, the Passenger Rail Agency of South Africa.

Cape Town station has been extensively upgraded at a cost of R480 million to facilitate passenger flow and encourage tourism through state-of-the-art infrastructure.

From : Railways Africa

This Months Chuckle : The wife has been missing a week now. Police came by this morning and told me to prepare for the worst.

So I went down to our local charity shop to get all her clothes back.