



Photos: Marcelo Benoit

# Rehabilitation makes slow progress

A series of contracts has been awarded in recent years for refurbishment of key rail corridors in Uruguay, paving the way for a mix of operators to run freight and passenger services. However, the lack of a clear long-term policy is limiting the use of the network, reports **Marcelo Benoit**.

**W**ithin the next few weeks, Uruguay's national railway company AFE is expected to announce the winning bidder for a PPP concession to rehabilitate the Algorta – Fray Bentos line in the west of the country. This is the latest project to be approved as part of a multi-faceted programme to refurbish extensive sections of the national rail network.

Serving the River Uruguay port at Fray Bentos, and an important UPM cellulose plant, the 141 km line has been out of use since 2010, when services were suspended due to the poor condition of the track and one small bridge.

AFE invited bids for the PPP in January, and announced on August 26 that three bids had been received: from Saceem Construcciones, the Vías del Litoral consortium of Ciemsas, Icafal Inversiones and Mota-Engil México, and Grupo Alfravia which brings together NGE Concessions, TSO, Berkes, Labraid, Iderty and Guimul.

The reconstruction of this line is expected to include the use of concrete

sleepers, which would be a first for Uruguay apart from a few experimental sections laid in the 1960s, most of which have since been replaced by wood.

According to AFE President Wilfredo Rodríguez, the government has set a target of refurbishing all of the 1 600 route-km network which is nominally open for revenue service. The aim is to permit freight trains with an axle-load of 18 to 20 tonnes to operate at speeds between 40 and 50 km/h.

### North-south upgrading

The biggest single rehabilitation scheme covers 422 km of the main north-south route linking Montevideo with the Brazilian border at Frontera Rivera. This is being undertaken by Corporación Ferroviaria del Uruguay, a state-owned company set up to relay the railway between Pintado and the border, together with the connecting line from Chamberlain to Tres Arboles on the route towards Algorta, Salto and the northwest.

The first phase of work started on September 22 2009 and was largely completed by June 2011. This

covered the relaying of plain track on the Chamberlain – Frontera Rivera section, excluding turnouts and most station tracks, along with 26 km of the Chamberlain – Tres Arboles link. The line has been relaid using Russian rails that had been delivered in 1998-99 but were then stored unused at various locations across the network. As well as the re-railing, wooden sleepers were changed on the section between Pintado and Paso de los Toros, where some drainage works were also undertaken.

**Above:** Track renewals, resleeping and rebalasting are underway on several routes.

**Below:** Contracts were signed on June 1 for Comsa to refurbish the 326.5 km Piedra Sola, Tres Arboles, Algorta, Paysandú and Salto Grande route over two years at an estimated cost of US\$127.3m.



# LATIN AMERICA Uruguay



Under the terms of the contract between CFU and AFE, the state railway provided project management and technical staff for the work. Total investment was put at US\$25m, excluding the value of the unused rails. It is worth noting that in some places the line was still equipped with the original rails dating from its construction in 1890-91. Some sections had been relaid with second-hand rail recovered from other parts of the network, but all were in very bad shape. This phase was completed in June 2011.

The second phase was put out to tender by the Ministry of Transport in 2012, and the government awarded the work to CFU on September 3 the following year. The Mercosur Infrastructure Fund (FOCEM) is contributing US\$50.1m to help fund this phase, along with a further US\$24.7m from the government.

Phase 2 includes rail replacement south of Chamberlain, along with more sleeper renewals, reballasting and realignment along the whole route. Other works include clearing the trackbed of vegetation, drainage improvements and the reconstruction of culverts. The passing tracks at 12 stations will be lengthened to 800 m to allow the operation of longer trains.

On December 23 last year, CFU took delivery of 7630 tonnes of 50 kg/m rail, in 25 m lengths. Being supplied by

Baotou Steel Union Co of China, this will be used for relaying on the Pintado – Chamberlain line as well as the loop extensions.

One of the objectives of this programme is to facilitate the introduction of mechanised track maintenance in the future, helping to reduce costs. In November 2014 CFU took delivery of 10 second-hand ballast wagons from Loko Trans, followed by two more in 2015, and a second-hand CKD-built T448 diesel locomotive in May of that year. The loco is being used on rail transport trains, using a batch of modified wagons

acquired from Italy which are being leased from AFE.

The company is currently looking to purchase a ballast regulator and tamper, so that it can return to AFE machines which it has been hiring since the start of the project.

A good prospect for more traffic on the Pintado – Paso de los Toros route is a new UPM cellulose plant on the bank of the Río Negro, which plans to send its products to Montevideo by rail. AFE and CFU are in discussions with the transport ministry about the infrastructure requirements for this traffic and how they should be funded.

## East-west renewals

Another major track renewal programme being funded by FOCEM covers the east-west route linking Piedra Sola, Tres Arboles, Algorta, Paysandú and Salto Grande.

Tenders were called by the transport ministry in May 2014 for a package covering the reconstruction of 326.5 route-km, but following a long delay — including a change of government — it was not until earlier this year that the contract was awarded to Comsa. The deal was formally signed on June 1, and work is expected to get underway shortly.

Once again, the line between Piedra Sola and Salto is laid with a mixture of rails dating from the opening of the route and second-hand materials recovered from other lines. Only the 13 km branch from Salto to Salto Grande, which opened in 1982 to provide a connection with Argentina's rail network, is in relatively good condition. The contract envisages that the axleload will be increased from the current 14 tonnes to 18 tonnes, while the bridges are to be reinforced to accommodate a future enhancement to 20 tonnes.

Total cost of the 24-month project is



Spot resleeping on the Pintado – Paso de los Toros line was undertaken by CFU in 2011 as part of the first phase of works on the north-south route.

# Uruguay **LATIN AMERICA**

put at US\$127.3m, of which US\$83.5m is coming from the FOCEM II credit; the remainder will be met by the state.

### In-house projects

As well as these major rehabilitation projects, AFE is directly responsible for track renewals on several other routes, where the work is being undertaken in conjunction with regular maintenance. Work on the Montevideo – Pintado, Sayago – Minas and Toledo – Río Branco lines is being done either by AFE using its own in-house staff or by private firms under contract to the national railway.

In 2014-15 AFE put several smaller track projects out to tender, such as drainage improvement works, sleeper renewals and ballast replacement. One such package covered 1 km of double track between Sayago Junction and the Cementos Artigas siding at Km 7. Similar work has been undertaken on four sections of the Río Branco line, with more in prospect. Another package covered the relaying of the station tracks at Juanicó station, including rail replacement. Several heavily-used turnouts south of Lorenzo Carnelli station on the approach to Montevideo were replaced using Voestalpine turnouts with 100 kg/m rail, which had been supplied to AFE between 1981 and 1983 but never installed.

The outer end of the line between Vergara and Río Branco was reopened at the end of July 2015; services had been suspended in April 2013 because of the poor condition of the long bridge carrying the line over the Tacuarí river near Plácido Rosas.

As part of its mechanisation strategy, AFE took delivery in August 2015 of two road-rail vehicles and two rotary vegetation cutters from Spain to help with track maintenance (RG 9.15 p18).

### Train control replacement

Another important investment project to help revitalise the national network is the introduction of a satellite-based train control system, which is due to be rolled out across all 1600 route-km over the next four years.

The technology is being supplied by Alta Rail Technology of Brazil under a contract signed by AFE in December (RG 2.16 p45). Based in Curitiba, ART is a spin-off from freight operator ALL which specialises in cost-effective train control technology. Its Alta Enhanced Train Control uses satellite, radio or GPRS to transmit digital movement authorities, making the system ideal for lines with little or no fixed telecommunications infrastructure.

According to Minister of Transport & Public Works Victor Rossi, the '19th



century concept' of fixed block working between stations will be replaced by a centralised traffic control issuing movement authorities based on satellite train location. This will permit more flexible operation, allowing more trains to operate over the network at the same time. The control centre will also be able to co-ordinate engineering and maintenance possessions.

The first equipment is currently being delivered, and AFE has started fitting out the future control centre, which will be located in disused offices on the upper floor of the Montevideo New Passenger Terminal.

### Operations transformed

While AFE remains responsible for the management and maintenance of the national rail network, the government's intention is that the operation of both freight and passenger trains should be opened up to open access competition.

Access to the network is supposed to be regulated by the Dirección General de Transporte Ferroviario, which was established at the end of 2011, but this body is still not fully operational. New regulations and requirements for licensed operators were issued by the government in August 2013, but so far only a handful of pre-existing operators have been registered. These include AFE itself, state-owned freight operator Servicios Logísticos Ferroviarios and the Uruguayan Railfan Association which runs tourist and charter trains in the Montevideo area, mainly for cruise ship passengers.

After four years of talks with AFE and DGTF, a putative new operator, Co-operativa TDU, applied in March 2015 for a licence to run passenger, parcels and tourist trains, but this has still not been issued. Among the unresolved issues to be addressed by DGTF are the



requirements for crew training by new operators and putting in place an agreed structure for track access charges.

### Freight transfer

SELF was created in 2013 to take over the operation of freight trains from AFE, but once again the start-up has been chequered. The transfer of locomotives and rolling stock from the national operator has been very slow, compounded by a lack of operating personnel, leading to a reduction in train services and a consequent fall in traffic.

SELF took over the AFE commercial department in charge of freight operations with effect from July 1 2015, and in September started operating the diesel locomotive workshop at Peñarol. At present the company is trying to return as many locomotives as possible to working order, including four GE C18-7is and various Alsthom locos out of service due to deferred maintenance. At present there are not enough serviceable units to expand its freight operations.

The new operator is also suffering from a shortage of crews, as most AFE staff declined to transfer because they would lose their status as state employees. SELF is therefore starting to train its own crews, and gradually taking over freight operations from AFE. However, under the railway reform law staff that do not transfer to SELF cannot be retained by AFE, and must therefore be found work at other state-owned companies. The same applies to surplus

**New operator SELF has taken over existing freight flows from AFE, including rolling stock movements to and from Piedra Alta workshops (top). Limestone from Cantera Queguay to the Ancap cement plant at Nuevo Paysandú is currently the only traffic using the Chamberlain – Salto Grande line.**

# 25 US\$m

TOTAL INVESTMENT FOR PHASE 1 OF THE REHABILITATION OF THE MAIN NORTH-SOUTH ROUTE BETWEEN MONTEVIDEO AND FRONTERA RIVERA

Photos: Marcelo Benoit

## LATIN AMERICA Uruguay



Photos: Marcelo Benoit

**Above:** Five Fiat Y1 railcars procured from Sweden operate the bulk of passenger services from Montevideo to Las Piedras and Progreso.

**Right:** Opened in 2013, the new stop at Agraciada, 5 km from the capital, is proving popular with passengers; this loco-hauled train is heading for 25 de Agosto.

workers made redundant from AFE's infrastructure and passenger activities.

Despite these problems, AFE's principal former customers are still being served. SELF is moving fuel, cement and limestone for ANCAP, clinker for Cementos Artigas and processed wood for Weyerhaeuser, along with rice for several companies. However, the operator cannot start to attract more customers until it has enough locomotives available and track conditions are improved. SELF is also leasing locomotives to CFU to haul infrastructure works trains, as the contractor's own locomotive is currently out of service for repairs.

As a result of all these problems, freight traffic using the network fell from 1.3 million tonnes in 2009 to just 822 000 tonnes in 2015. In terms of tonne-km, the figure has fallen from a recent best of 330.9 million in 2005 to 139.6 million last year.

### Passengers up and down

Pending the licensing of any new operators, AFE remains responsible for the handful of timetabled passenger services still operating on the national network. It has not been a happy story.

After the disappearance of all passenger trains in 1988, a limited suburban

service between Montevideo and 25 de Agosto was restored in 1993, with four trains a day running into the capital in the morning and back in the afternoon. This pattern continued up to 1997,

when AFE added a fifth round-trip in the afternoon. But a poorly designed fare structure saw passenger numbers fall year on year. From July 2002, the trains to 25 de Agosto were reduced to three each way per day, while several short workings were added, running as far as Progreso in the northern suburbs of the capital. This led to a welcome leap in ridership from 19 000 passengers in January 2002 to 60 000 in the same month a year later.

However, the boom did not last long. Montevideo Central station was abandoned on March 1 2003 to pave the way for a failed property development project, which was derailed by a judicial review. It was replaced by the so-called New Passenger Terminal, 500 m further north, but this was less convenient and resulted in the loss of 10 000 passengers a month.

In December 2005, passenger services were restored as far as Sudriers, 44 km from Montevideo on the line to Minas, and in January 2007 one of the remaining 25 de Agosto trains was extended to San José, 96 km to the west. This required the reopening of a 33 km section of the long-disused direct line to Mercedes. A year later, another train was extended from 25 de Agosto to Florida, km 109 on the Rivera line. Around the same time, the short workings to Progreso were replaced by two more round trips to 25 de Agosto in the morning and afternoon.

Over the next few years, passenger numbers remained more or less stable, with AFE moving 594 000 passengers in 2010 and a similar number the following year.

Following problems with rolling stock maintenance, passenger services to Sudriers, San José and Florida were withdrawn from June 2012, and the 25 de Agosto trains reduced from five to two round trips per day. AFE added two more daily round trips to Progreso, but passenger numbers halved from 40 200 to just 18 000 per month.

After this debacle, AFE purchased five Y1 railcars from Sweden, which the then President Setelich promised would



be used on services to 25 de Agosto, Florida and Sudriers. However, when they entered traffic in September 2013 the railcars only ran as far as Las Piedras, 20 km from Montevideo. In that year AFE recorded total ridership of just 273 000 passengers.

From October 1 2014 AFE extended the railcar service back to Progreso, but the frequency was reduced, and much of the Saturday service cut out. Only three of the five cars are in use each day, and one has been cannibalised as a source of spare parts. There are technical differences between two of the railcars and the other three, which complicates maintenance, and their fuel consumption is high.

Two of the Y1s are now being used in multiple to replace one of the loco-hauled trains to 25 de Agosto, but the number of services beyond Progreso has remained at minimal levels since 2012. Total ridership in 2015 was 334 000 passengers.

AFE has now expressed interest in reopening Montevideo Central station, which it believes would encourage a significant increase in passenger numbers, as well as improving freight access to the capital's port. It is currently preparing a formal proposal to the government. The operator is also looking to buy four or five more second-hand railcars, with which to restore the service to Sudriers and increase the number of trains on the line to 25 de Agosto. ■

AFE is now looking to reopen Montevideo Central station, which was closed in 2003 as part of an abortive property redevelopment scheme.

