

NEWS RELEASE.

RIO TURBIO RAILWAY, PROVINCE OF SANTA CRUZ, ARGENTINA.

PROJECT TO DEVELOP A TRANSOCEANIC 750 mm GAUGE RAILWAY USING THE EXISTING RFIRT AS A BASIS FOR SUCH WORK – PUERTO PUNTO LOYOLA (RIO GALLEGOS, ARGENTINA) TO PUERTO BORRIES (PUERTO NATALES, CHILE).

For many years trans Patagonic and trans oceanic railways have been discussed at great length in the countries of **Argentina** and neighbouring **Chile**. There have been, and are, several schemes put forward to the governments of both countries, however to date have not yet yielded the desired results. This has been for a number of varied reasons, all of which are too lengthy and complex in their nature to explain in this article. One railway project that does stand a very good chance of being successful is the current example being worked upon that would see the Argentine coastal town of Rio Gallegos being linked to the Chilean coastal town of Puerto Natales using the existing **Ramal Ferroviario Industrial Rio Turbio (RFIRT)** via the coal mining town of **Rio Turbio**. In fact the project itself is based in Rio Turbio rather than Rio Gallegos and is in the hands of the **Municipality authorities of Rio Turbio** under the direction of **Don. Horacio Matias Mazú** who is in his second four year session as town Mayor. There is also major involvement from the existing railway in the form of a Rio Turbio based **RFIRT workers cooperative led by Hector Alvarado - Kroeger**; the cooperative includes drivers, fitters, welders, machinists and train controllers with many years of cumulative experience of the railway. The project is effectively being guided, and managed to some extent, by S.T. McMahon who has been contracted by the local government authorities with special responsibility for locomotive rehabilitation along with further development of the Santa Fe class in order to provide rugged 21st century reciprocating steam traction for third world conditions, likewise rolling stock, overseeing the introduction of commercial and tourist passenger traffic to the railway and consultancy to the respective authorities on the building of an extension that will link the existing railway from Rio Turbio to **Puerto Borries** and **Puerto Natales**; some **43 km** in length. He is also involved in some aspects of other engineering projects in the Rio Turbio area that relate to the rational use of energy and a general review of the upgrading requirements of the existing RFIRT (YCF).

As many readers will know, the RFIRT was privatised back in the 1990's, the Santa Fe steamers were replaced in service by diesel electric locomotives and the railway in general was run down in all areas so as to reduce (eliminate!) operating and maintenance costs to the private operator. During 2003 the coal mines and corresponding railway changed hands once again back to the state authorities and thus the national coal board of Argentina; **YCF**. Plans to complete the international rail link were accelerated during 2003 as it was realised that the number of visitors to the Province of Santa Cruz was increasing dramatically - especially the areas surrounding Rio Turbio and El Calefate. Tourist railways have proved to be very successful in other parts of Argentina, for example Tren a las Nubes in the Province of Salta and La Trochita at Esquel. Bariloche nowadays boasts its own steam operated service and there are plans underway to develop a steam hauled railway dedicated to tourist passenger traffic at Puerto Madryn. The Ferroclub in Buenos Aires offers a very interesting variety of steam hauled services whilst on the island province of Tierra del Fuego, Ferrocarril Austral Fueguino continues to operate an all year round steam hauled passenger service into the National Park of Tierra del Fuego, a similar service is operated in the Iguacu Falls area though such is not steam hauled.

During June 2004 the existing 11 members of the RFIRT steam locomotive fleet that are based at Rio Turbio (the other remaining 9 members of the fleet are in storage at Rio Gallegos, No. 117 has been restored to static steamable display condition) were officially signed over to the Municipality of Rio Turbio authorities by the **Argentine National President, Don. Nestor Kirchner** along with a number of other items of railway stock that would allow the rehabilitation of a passenger carrying train possible *over at least the route of the existing RFIRT*, an initial step similar to that operated by Tren a las Nubes in Salta whereby the privately owned and operated train runs over Ramal C – 14 from Salta to La Polvorilla on certain days of the week. On Monday June 14th of this year, the coal mines (mine 5) at Rio Turbio suffered their worst accident in history with a loss of 14 miner's lives and several injuries to other mine workers. As a result of this accident, the mine operation at Rio Turbio is at present closed to production in order to continue the investigation into the cause of the accident along with requisite repair, renewal and improvements to the installations and infrastructure at the mine 5 site. The RFIRT operates a skeleton service for local and remote shunting operations using the only working member of the diesel locomotive fleet, which in itself is in need of costly repairs so as to bring it up to normal mainline running standards. A total upgrade of the existing RFIRT is being planned for the immediate future which will include the detailed review of such matters as permanent way, locomotives, rolling stock, infrastructure, operating methods and personnel. The results of this upgrade will become manifest during the next 12 months and no doubt such shall have a positive effect of the Santa Cruz Province as a whole.

Projects that are closely allied with the coal mines and railway are the planned upgrading of the existing 21 MW coal fired power plant at Rio Turbio so as to put back into regular service all 4 of the steam producing boilers. The design of the new 200 MW power plant is well under way and construction work is due to begin during 2005, the site for this new plant has yet to be finally decided, however it is possible that it will be located mid way between Rio Turbio and the neighbouring town of 28 de Noviembre. For environmental reasons the lowest possible toxic gas emissions are to be aimed at in both these cases therefore the combustion side of matters is strongly allied to the local university laboratories, Instituto Nacional de Tecnología Industrial (INTI), YCF laboratories and current advancement of the Santa Fe locomotive fleet.

The extension of the RFIRT over the border into Chile (the border being only a few kilometres from Rio Turbio itself) will involve some imaginative civil engineering work in order to follow the low level Andes range down to the fiord Pacific coast at Puerto Bories. In order to keep train lengths to a potential maximum for prospective tourist & commercial passenger, general freight and coal traffic it is proposed to follow South African narrow gauge practice of using balloon loops where necessary so as to follow the contours of the hillside in the decent/ascent to and from Puerto Bories, such being possible with the 750 mm gauge of the RFIRT. A border post station has to be designed and built so as to allow international traffic to flow efficiently from country to country. The development of Puerto Natales as a tourist town (this particular location has many similarities to the tourist industry based city of Ushuaia – the most southerly city in the World – located on the Argentine southerly coastline of the island of Tierra del Fuego) is underway by the Chilean government and private investors, development plans are in hand for the local port which is likely to see the arrival of many more international cruise liners in the not to distant future along with the restoration of the 4,5 km long metre gauge railway that once linked Puerto Bories to the neighbouring town of Puerto Natales. The Puerto Natales Railway project is planned to begin the restoration of the old line (much will have to be built afresh as the seafront development scheme at Natales has occupied the former trackbed of this metre gauge line) in the immediate future and steam power will be the mode of traction. Plans are already underway to carry out the locomotive rebuilding programme for the Chilean railway at the workshops of the Transoceanic Railway (TOR)/RFIRT in Rio Turbio due to technological and economic benefits available in that location. A full inspection of the both the Avonside built 0 – 6 – 0 T work No. 1861 locomotive which is situated in the town square at Natales along with the O & K built 0 – 4 – 0 WT which is based at the museum in the same town has been carried by the railway engineering team of Rio Turbio in preparation for work specification and allied

cost purposes. The proposed rebuilding of the 2 locomotives would involve a “light” modification programme which includes the conversion to the gas producer combustion system (GPCS) in order to efficiently burn locally available Rio Turbio coal without producing environmentally harmful smoke and spark emissions. Returning to Argentina, the previously mentioned tourist expansion of Calefate includes development work for a railway system, a current plan at the time of writing is to extend the RFIRT from Rio Turbio to El Calefate with provision for entrance into the national park area. Whilst the TOR/RFIRT Santa Fe steamers are perfectly adequate to deal with the traffic between Rio Turbio and Calefate the new section of railway near to the glacier at the latter location provides a set of different obstacles to overcome. For example, diesel traction is nowadays known to be pollutant to the atmosphere and noisy, such will not be taken favourably by the very strict National Park Authorities in Argentina. Likewise low frequency shock waves from the diesel motors can accelerate the decay of the said glacier. Whilst the Santa Fe steam locomotives are environmentally friendly in modified and advanced conditions, the shock waves produced from the exhaust (even at low exhaust pressures such as are inherent to the **Kylpor** and **Lempor** designs of exhaust systems) could set up a dislodging effect upon the nearby glacier walls. Full electrification of the section of line near to the glacier would seem to be the answer however National Park Authorities will not take kindly to the catenary system or rail electrification necessary for transmission of power to the electric locomotives traction motors. One possible effective answer to this potential problem is the use of steam/electric locomotives, these being designed (with further refined combustion systems) to burn efficiently and cleanly the locally available Rio Turbio coal.

As readers may have suspected whilst reading this article, the Mitsubishi manufactured Santa Fe steam locomotives are going to play an important role in the overall success of the project in hand. As mentioned, the 11 Rio Turbio based steamers are now the property of the Rio Turbio Municipality and are therefore effectively part of the town’s assets. 116 (107) was restored to working order in de modified condition during 2003 and ran a demonstrator passenger service from Rio Turbio to 28 de Noviembre. This particular locomotive has seen further trial running following additional repairs during September 2004 and is available for traffic. Locomotive 119 (second series) is due to enter shops during the early part of 2005 for repair and general overhaul which will include re modifying to delivery condition of the early 1960’s.

As the majority of readers will appreciate, steam development has not stood still since L.D. Porta carried out his legendary transformation of some examples of the first series, along with the second series further improved, RFIRT Santa Fe locomotives. This programme of work drastically altered the 2 – 10 – 2’s from 520 kW output, mediocre machines to highly efficient “mainline racehorses” giving a maximum sustained drawbar horsepower of 900 kW. Many advancements have taken place in the steam locomotive engineering world since the Santa Fe’s reached their maximum performance peak during the 1970’s and much of the work itself during these intervening years being developed by Porta himself. It is therefore the intention at this point in time not to stand still and let the World pass us by, but to further modify the Santa Fe locomotives of the TOR/RFIRT by incorporating all possible further modifications made to the steam locomotive during the past 30 years along with a few items that have yet to be successfully cast into the hardware of such. It is planned at a later date to publish a description and specification of the work intended for the prototype locomotive, designated **Advanced Santa Fe (AFS)**. The use of the word “advanced” in this particular context being derived form Porta’s continual use of the phrase *advancing steam* right up until hid death during June 2003. Due to mechanical condition and the fact that it is a member of the second series of locomotives thus fitted with an improved boiler with increased superheat and a decreased number of smoke tubes, locomotive 120 has been selected as the prototype for the new designation of TOR/RFIRT 2 - 10 -2 locomotive. Apart from hauling tourist and commercial freight trains, it is intended that the AFS locomotive will be able to substitute on mainline coal trains with the minimum of operational considerations. Once successful testing of 120 has been completed further AFS locomotives will be produced from the other 10 locomotives at Rio Turbio (inclusive of 116 (107) & 119 or component parts thereof).

As an aside from the railway, a project that will run in parallel with the TOR scheme is the restoration of the YCF Sentinel steam wagon to working order. This example is one of the very few (another is believed to be in storage at Rio Gallegos) remaining fleet members of the batch exported to Argentina in order to transport coal from the mines at Rio Turbio to Rio Gallegos in pre railway days. Some combustion modification work will need to be carried out to this road vehicle so as not to violently pollute the town's atmosphere!

It should be remembered by all readers that the economic and political state of affairs in Argentina is not always as stable as are many parts of the developed World. Matters concerning the TOR/RFIRT project could alter at short notice (as has been the case many times during Latin American transport history) therefore one should not become all that concerned if timescales and work priorities vary from the original train of thought during the next few years. Coal production at mine 5 is due to begin again during March 2005 when it is expected to have all corresponding improvements in place with respect to the mining operations along with the completion of vacation season for YCF staff members. Rio Turbio is a relatively young and small mining town, the local community (and that of 28 de Noviembre) relying on coal production for their livelihood. A general development programme is in place for locally based new industries and at the time of writing such include a mushroom plant and an advanced technology brick production plant; it is interesting to note that in both these cases "state of the art" steam technology and combustion techniques are being put to good use in order to reap maximum efficiency rates allied with environmental balance in order to maintain high output levels of production.

The memoirs of Alexis Boichetta, former General Manager of RFIRT are due to be published in the not to distant future and should make interesting reading for those interested in the history of the railway. L.D. Porta's (himself formerly General Manager and later Technical Consultant to RFIRT) first published book is due to be on sale during 2005 and a section of this includes technical information on the development of the Santa Fe steam locomotives of the RFIRT during the 1950's and 1960's.

Department of Production & Environment
Municipality of Rio Turbio
(9407) Santa Cruz
Argentina
October 2004.