

Doing good, in spite of the odds

In just four years, Peru's Ferrocarril Central Andino (FCCA) has nearly doubled both its billing and tonnage.

IN SPITE OF THE world economic slowdown, ruthless highway competition and the slump affecting the mining industry, the Central Railway's gross revenues have soared from approximately USD 9 million in 2000 to around 14 million in 2003. The extremely mining dependant railway has managed to stay in the black and even thrive, thanks in no small measure to efficient operating practices, a very aggressive commercial drive and a very tight purse policy. During the past four years, the privatized railway's management has nearly doubled net tonnage, which has grown from 1 million in 1999 to close to 2 million in 2003. "We are now hauling an average 150 thousand tons a month. Back in May 2003 we hauled a record breaking 180 thousand tons,"

Jaime Blanco, Ferrocarril Central Andino's (FCCA) Commercial Manager, told Latin Tracks.

Today, a large percentage of the railway's traffic is still dependant on the mining industry, especially zinc concentrates moving from Cerro de Pasco and La Oroya down to the Cajamarquilla Refinery at Santa Clara, and the Port of Callao. This zinc concentrate traffic is responsible for nearly 50 per cent of the railway's tonnage.

In 2002, zinc concentrates traffic slumped by nearly 20 per cent when Minera Volcan, one of the railway's major customers, shut down its facilities at Mahr Tunel (Ticlio) and cut down production at 3 of its 5 other sites in response to plummeting zinc prices. The price of zinc metal had tumbled from USD 1450 to USD 735 per ton.

In spite of this setback, the railway's ton-

> Two of the FCCA's recently acquired GE 3000 HP C30M-3's move out of La Oroya's loco running shed. Gabriel Echandía, the railway's Operations Manager, says that the new locos have totally changed their lives.

Dos de las recientemente adquiridas GE C30M-3 de 3000 HP abandonan la remesa de La Oroya. Gabriel Echandía, gerente de operaciones del Ferrocarril Central Andino (FCCA), dice que las nuevas locomotoras les han cambiado totalmente la vida.

nage in 2002 grew by nearly 5 per cent, due to an increase in shipments by other customers like Minera El Brocal (concentrates) and Cemento Andino (cement), which more than compensated for the loss of the Volcan zinc concentrates traffic.

"In 1999, when we took over the railway, we had scarcely four customers and they were all state owned companies. Today, the railway has diversified its customer base and currently has around 25 clients. The majority are privately owned companies. Before, when the railway was administrated by the government, these privately owned companies would not use the railway because of its inefficiencies," explained Jaime Blanco. Since 2002 cement traffic has been steadily

Buenos resultados, a pesar de todo

En apenas cuatro años, el Ferrocarril Central Andino de Perú ha casi duplicado tanto sus ingresos como el tonelaje transportado.



increasing. By the end of 2003, cement traffic had skyrocketed from 80 thousand tons in 2002 to nearly 200 thousand tons. This encouraged the FCCA to acquire 86 second hand 80 ton capacity flatcars in the USA. Today, the railway's backshop at Guadalupe is working round the clock reinforcing the car's frames, to boost their payload back to the original 100 ton design capacity, and fitting them with second hand 40 foot ocean going containers equipped with wide side doors, to serve as "quickie" box cars to cope

with the rising cement traffic. Back in May 2001, the FCCA drew-up a long-term transportation contract with Cemento Andino SA, one of Peru's largest cement manufacturers and also one of the railway's six equal share partners, whereby the railway committed itself to building a 14 kilometer long branch line linking the railway's main line at Caripa with Cemento Andino's new manufacturing facility at Condorcocha, on the other side of the Continental Divide. Even though the transportation contract had

> The railway's Guadalupe backshop is busily converting second hand US built flat cars into "quickie" boxcars to handle rising cement traffic flowing between Condorcocha and Lima and Huancayo. The homemade boxcars reputedly cost USD 10 thousand each, all told. Standard versions would have cost around USD 30/40 thousand each.

Los talleres del Ferrocarril se encuentran activamente convirtiendo plataformas de segunda mano adquiridas en los EEUU en vagones cubiertos para poder atender el creciente flujo de cemento entre Condorcocha y Lima y Huancayo. Los vagones cubiertos "caseros" costaron alrededor de USD 10 mil todo incluido. Versiones más convencionales le hubiesen costado al ferrocarril alrededor de USD 30/40 mil por unidad.

not yet been endorsed, the railway began requesting government authorization to build the new branch in 1999; just after the privatization process was wrapped-up. As usual, Latin American government bureaucracy delayed authorization for building the new line, which was only granted in January of 2003. Nearly four years later!

"The transportation contract with Cemento Andino had been drawn-up in 2001. In the meantime, market conditions changed and we had to renegotiate the contract. We have only recently reached a new agreement and have now launched full scale construction of the new branch, which we expect to complete by March 2004," said Jaime Blanco. The new branch will comprise 14 km of main line and 2 km of industrial trackage. FCCA will use second hand rail laid on concrete ties manufactured by Union de Concreteras (Unicon) a Cemento Andino affiliate.

"Once the cement factory is connected to the rest of the railway network, it will also provide us with a four times weekly freight flow to Huancayo. This core traffic will then allow us to expand into other markets," continued Mr. Blanco, who also explained that the railway's current once weekly service was not frequent enough to lure shippers into opting for rail borne transportation.

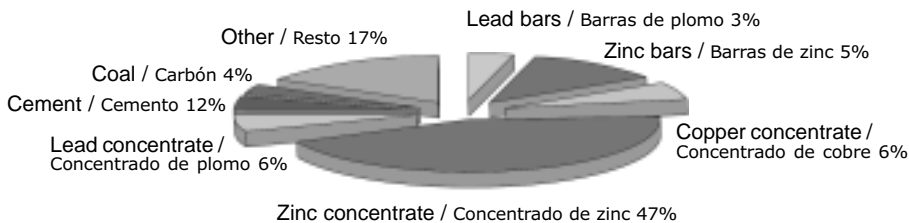
Since privatization, the railway company has acquired a total of 140 additional freight cars: 40 bottom dumping hoppers, 86 flats for the cement traffic and 14 tanks for sulfuric acid. Since April of 2003, the railway is moving an average of 170 thousand tons of sulfuric

> Tight purse policy. Good quality complete second hand wheel sets acquired in the USA cost "peanuts" and save a lot of money. Money saving measures such as these insure that the railway remains competitive even though it operates in a very deregulated and ruthless transportation market.

Una estricta política de control de costos. Pares montados completos y de muy buena calidad adquiridos en los EEUU cuestan "centavos" y ahorran mucho dinero. Medidas de control de costos tales como estas le aseguran al ferrocarril una gran cuota de competitividad, aun cuando el ferrocarril opere dentro de un mercado de transporte extremadamente desregulado.

FCCA Freight Structure - Third quarter 2003

FCCA Estructura de Carga Trimestre III 2003



Source: Ositran



> *Patio Central (Central Yard), just a stone's throw from the Port of Callao, is final destination for most of the railway's traffic. From here, mineral products are distributed to different customers.*

Patio Central, a pocos pasos del Puerto de Callao, es el destino final para gran parte del tráfico del Ferrocarril. Desde aquí, los productos mineros son distribuidos a los depósitos de los clientes.

acid a year from the Cajamarquilla zinc metal refinery down to the DQM acid terminal at El Callao. The terminal is located right next door to the railway's Guadalupe backshop. The Cajamarquilla facility, owned by Teck Cominco and Marubeni, is one of the most efficient and cost effective zinc refineries in the world. "Cajamarquilla has plans to boost production from today's 170 thousand tons to 350 thousand. Unfortunately, the refinery's expansion plans have been shelved for the time being, once again due to the low price of zinc metal," explains the FCCA's Commercial Manager, who nevertheless is very optimistic regarding this type of traffic as the price of minerals has now begun to recover. Mr. Blanco says that by 2006 the huge Doe Run refinery at La Oroya will have to do the same, as part of an environmental cleanup plan. Doe Run will have to ship around 500 thousand tons of sulfuric acid per year, almost certainly all this additional tonnage will move by rail.

To be able to use the new acid tank cars at full 95 net ton capacity between Cajamarquilla and Callao, the railway is currently relaying the Santa Clara to Callao section with brand new 115-pound rail on concrete ties. On another front, FCCA and major Peruvian freight agents Neptunia and Lixia are now jointly developing new non-mining related traffic flows, and have begun shuttling containers between the privately owned container terminals and the Port of El Callao. This mostly short haul traffic has now reached 2800 containers a month and promises to con-

Ferrocarril Central Andino S.A.

Background

In July 1999, the government of Peru awarded the privatization of Ferrocarril del Centro to a consortium led by RDC for 30 years. The highest railway in the world, it reaches the station of La Cima at 4818 meters above sea level and links the Pacific Ocean port of Callao and the capital city of Lima with Huancayo and Cerro de Pasco, on the other side of the Continental Divide.

Other members of the Ferrocarril Central Andino ("FCCA") consortium include Peruvian companies Juan Olaechea & Cia., Minas Buenaventura and Cemento Andino. International shareholders include Japan's Mitsui Co. and the United Kingdom's Commonwealth Development Corporation. The consortium began operations on September 21, 1999.



tinue expanding. To cope with this rising container traffic, the railway has completely overhauled a 400 Series 900 HP MLW DL-5B. This will probably be the last major overhaul this kind of loco will receive. "Spares for these locomotives (ALCO/MLW's) are getting very scarce and hence, they are becoming very expensive. The ALCO's six year scheduled overhaul cost the railway around USD 400 thousand," explained FCCA Engineering Manager, Roger Malqui. As an added bonus, both Neptunia and Lixia are now busily at work convincing their customers to opt for rail. The railway will simply provide the point-to-point rail haulage from El Callao to Huancayo and other destinations, and the freight agents will be responsible for the rest of the logistics involved in the operation. This type of business arrangement is ideally suited to the FCCA's profile. The railway does not want to be over-extended and loose focus on its core traffic.

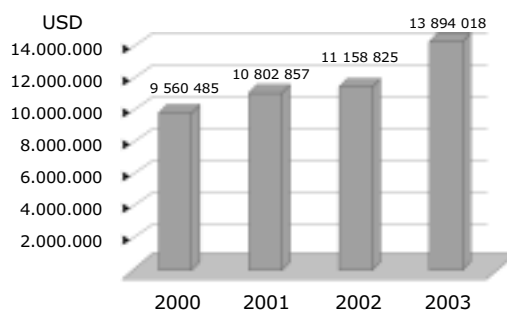
"At this moment, we are very

> *Transfer terminal for bagged cement at Santa Clara. From here, the cement company distributes the product to different customers.*

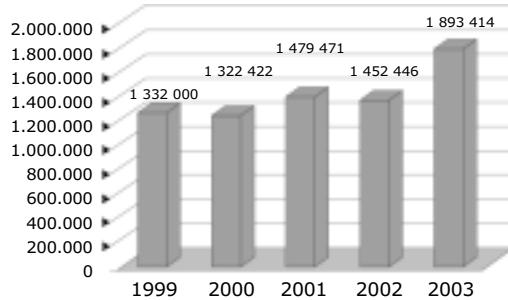
Terminal de transferencia para cemento embolsado en Santa Clara. Desde aquí, el cemento es distribuido a los diferentes clientes por la empresa cementera.



Billing 2000-2003 (Facturación)



Tonnage (Toneladas)



Source: FCCA



pleased with what we have and will continue to grow with cement and mining products. Basically, that is our specialty. This railway specializes in that type of traffic,” summed-up Jaime Blanco.

Operations

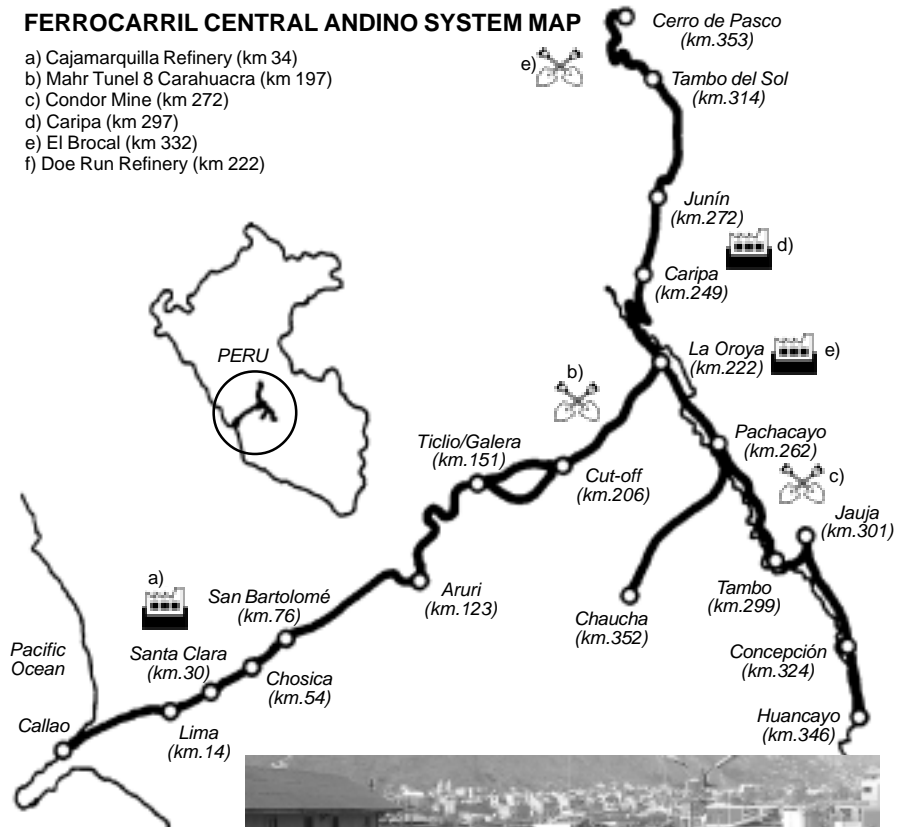
“The new GE locos have totally changed our lives! This is the only way to move ahead and grow. We needed new blood. Today, these locos are performing remarkably well and form the core of our motive power fleet,” highlights a very pleased Gabriel Echandía, the FCCA’s Operations Manager. “These new locos have allowed us to streamline our operations. Now, we work straight through from Chosica to La Oroya,” added Echandía. Be-

> *The railway’s sulfuric acid loadout terminal is sandwiched between the Guadalupe backshop and the DQM facility, just a stone’s throw from the Port of El Callao. The terminal handles an average 900 tons of acid a day.*

La terminal de descarga de ácido sulfúrico del ferrocarril se encuentra “ensandwichada” entre el edificio del taller de Guadalupe y las instalaciones de DQM, a solamente un paso del puerto de El Callao. La terminal maneja un promedio de 900 toneladas de ácido por día.

FERROCARRIL CENTRAL ANDINO SYSTEM MAP

- a) Cajamarquilla Refinery (km 34)
- b) Mahr Tunnel 8 Carahuacra (km 197)
- c) Condor Mine (km 272)
- d) Caripa (km 297)
- e) El Brocal (km 332)
- f) Doe Run Refinery (km 222)



> *Chosica is today the Central Railway’s major division point. Generally, two 1200 ton consists arriving from La Oroya get reassembled into one 3000 ton drag for the rest of the journey down the relatively easy section to the Port of Callao.*

Hoy, Chosica es el punto divisorio más importante del ferrocarril del Centro. Generalmente, dos formaciones de 1200 toneladas, procedentes de La Oroya, son reensambladas en una sola de 3000. Esta es luego redespachada por la sección mucho más llana hacia el puerto de El Callao.



> One of the last three ALCO DL-560D's still in active service switches the yard at Chosica. The other similar units are in "stored serviceable" status. Notice the FCCA slogan cast in concrete along the wall, which reads "My Pride and Passion is to be a Railroader from the Sea to the Andes."

Una de las últimas tres ALCO DL-560D aun en servicio activo realiza tareas de patio en Chosica. Las demás unidades similares se encuentran en estado de "almacenadas en servicio". Nótese el slogan del FCCA que reza: "Mi Orgullo y Pasión es ser Ferroviario desde el Mar hasta los Andes."

fore arrival of the new motive power, the main line was worked in three sections, with Chosica and Galera acting as division points. Today, trains work right through and Galera has become just another station along the line. Chosica still remains an important division point. Here, the 18 car 1200-ton consists coming downgrade from La Oroya are reassembled into 3000 ton trains, which then move down the much more lightly graded line towards Patio Central and Callao for further distribution. Motive power on this less demanding section usually consists of ALCO 2400 HP DL-560D's, GM-Villares 3000 HP JT26CW's or the railway's two GM 1310 HP GR12's.

Besides being obsolete and very fuel inefficient, Echandia says that the old ALCO and GM-Villares locos are now very worn out and don't perform as well as the railway would like, over one of the world's most demanding mountain routes. Eventually, the railway would like to replace all of its superannuated motive power with newer, more powerful and much more fuel-efficient equipment.

Today, most of the gas guzzling JT 26's and DL560D's have been stored and the new GE's do the brunt of the work.

On the PW front and since the start of the concession, the railway has been progressively increasing axle loads on certain sections of the line, such as the section between Santa Clara and Callao, which is currently getting new rail. "Our objective is to move up to 100 tons gross weight per car. We are doing this progressively. To be able to reach our objective, we are improving track and reinforcing bridges. As we improve the line we add more tons," explained Echandía. During the past

Key Facts 2003 - Datos

Length (Longitud) in Km: 591
 Annual Tonnage
 (Toneladas Anuales): 1.9 million
 Locomotives (Locomotoras): 29
 Freight cars (Vagones de Carga): 988
 Major Traffic Flows: Minerals, Fuels, Cement & Food Products.

Principales Flujos de Tráfico:
 Minerales, Combustibles, Cemento & Productos Alimenticios.



> FVCA's GM GR12 No. 533 rolls into Chaclacayo. The railway has two GR12's: No. 533 and recently acquired ex-Centromin No. 37. A third unit, ex-Centromin No. 35 is stored out of service at Guadalupe shops.

La GM GR12 No. 533 en Chaclacayo. El ferrocarril posee dos de estas locomotoras, la No. 533 y la recientemente incorporada ex-Centromin No. 37. Una tercer unidad, la ex - Centromin No. 35 se encuentra radiada en los talleres de Guadalupe.



> Different viewpoint of GE No. 1001 "Puerto Nuevo" as it rolls under the footbridge spanning the yard at Chosica. The new loco's livery reflects FCCA ownership. The inherited fleet, owned by the Peruvian State, is painted in the infrastructure administrator's (FVCA) livery.

Una vista diferente de la GE No. 1001 "Puerto Nuevo" rodando por debajo del puente peatonal que cruza el Patio de Chosica. El esquema de pintura refleja que son propiedad del FCCA. La flota heredada y aun perteneciente al estado se encuentra decorada con el esquema de la empresa administradora de la infraestructura, la FVCA.

four years, the railway completely relayed 5 kilometers of track between Cerro de Paso and La Oroya, 17 kilometers between Galera and Yauli and 16 kilometers between Chosica and Santa Clara.

Improved track and operating practices have also increased freight car turnaround. "In 1999 it took 8 days to move a car from Cerro de Pasco to Callao. Today, a car leaves Cerro de Pasco and arrives at El Callao in 22 hours," said Echandía.

Another project currently being actively pursued envisages switching from diesel fuel to CNG. "We have already run several tests and are proposing to use a CNG fueled loco plus a slug. The slug, probably an old ALCO DL506-D, will carry the gas tank. The mother unit will be equipped to burn either diesel fuel or CNG, on a dual system. On some sections, when working upgrade we may have to switch back over to diesel, but on the downgrade it will be CNG all the way!



> Operations safety is of paramount importance on the steeply graded line. The lineside landscape bears reminders of correct operating procedures and safety related messages for the crews.

La seguridad en las operaciones es de primordial importancia en este ferrocarril de fuertes pendientes, y el costado de la vía se encuentra sembrado con carteles enfatizando las prácticas correctas y mensajes relacionados con la seguridad como recordatorio para las tripulaciones.

Useful Information

(Información Útil)

Infrastructure Administrator

(Administrador de Infraestructura):

Ferrovías Central Andino S.A. (FVCA)

Mirror Image Train Operating Company

(Empresa Operadora):

Ferrocarril Central Andino S.A. (FCCA)

Address (Dirección):

Jr. Brasil s/n

Estación del Ferrocarril

Chosica-Lima

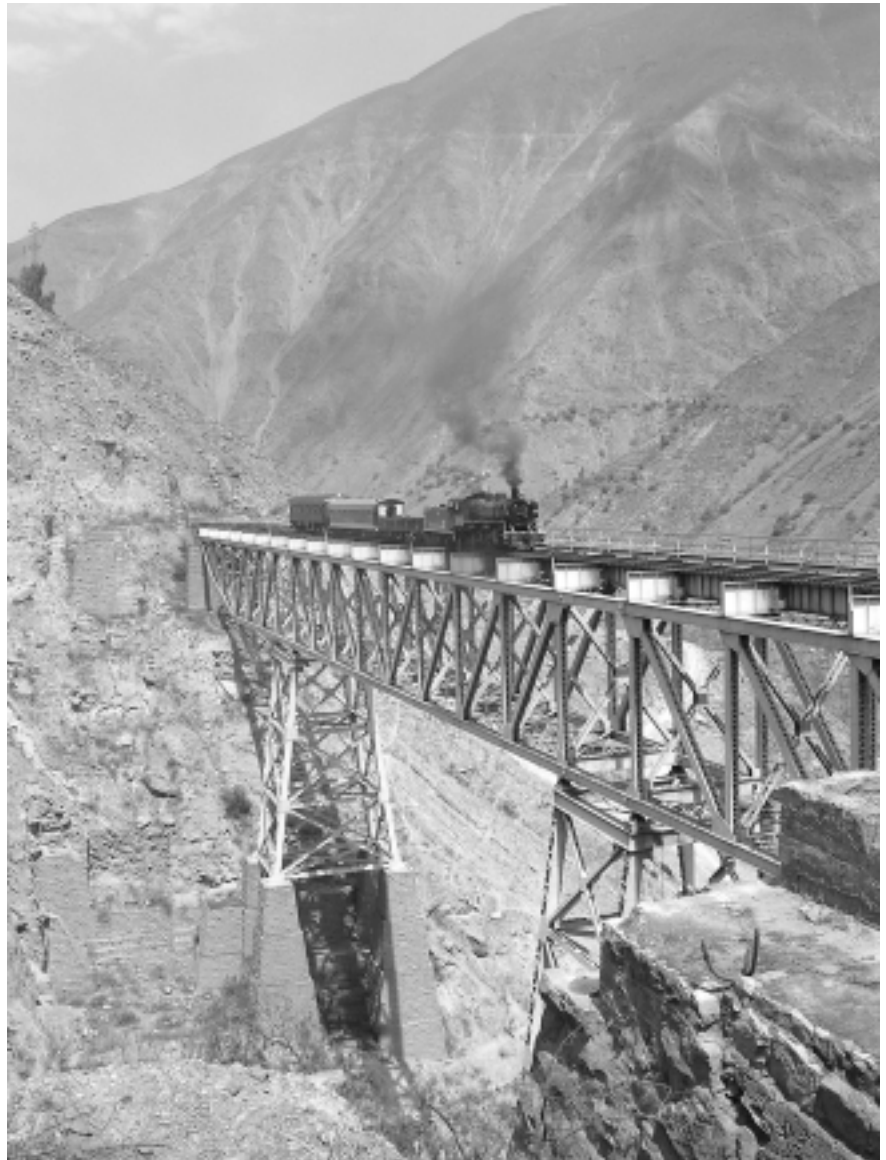
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> Steam hauled special, chartered by the UK's Ffestiniog Travel, rolls across the spectacular Carrión Bridge. Although the railway is primarily a freight carrier, the company operates several passenger train services aimed mainly at the tourist market. Over the last few years the FCCA has developed a "package" of four different train services, which are aimed at tapping both the local and the international markets.

Un tren charter especial a vapor, contratado por Ffestiniog Travel del Reino Unido, cruza el espectacular Puente Carrión.



> At Chosica, GE C30M-3 No. 1004 and GR12 No. 533 hide away inside the railway's tidy three track running shed.

En Chosica, la GE C30M-2 No. 1004 y la GM GR12 No. 533 se esconden dentro de la prolija remesa de tres vías.