

By Richard F. Tolmach

Soon, the European rail network will become even more seamless, the end result of French TGV trains testing on Germany's high-speed Neubaustrecken and German ICE sets running to the Côte d'Azur on the LGV Méditerranée line. Reciprocal service agreements, technical studies, and an exchange of international test runs are making it possible for French National Railways (SNCF) and German Rail (DB) to break down the last of the barriers.

It wasn't always this way. For much of a decade, German and French technology had a standoff on the familiar contested territory of Belgium. Thalys service using French TGV technology was allowed to reach Cologne in Germany, but no further. German ICE sets were technically able to reach Paris, but in practice were not allowed to proceed further than Brussels, and that far only under severe restrictions.

Instead of sharing the passenger-rich market with frequent trains, the two systems battled each other and hardly offered through service between German and French cities to the public.

The end of sparring by technical staffs is an indication that managers on both sides realize they have to cooperate with the former enemy to avoid financial disaster. The new TGV-Est line serving the relatively light Paris-Strasbourg corridor will only succeed if it incorporates a significant amount of German and Swiss traffic.

Starting in 2007, planned Paris-Frankfurt service will run at 200 miles per hour on the segment from Vaires-sur-Marne in the Parisian eastern suburbs to Baudrecourt, just beyond Metz, where conventional lines branch to Strasbourg and Saarbrücken. The point of higher speeds than first generation high-speed rail is specifically to attract long-haul international traffic using direct services linking Paris with Mannheim, Frankfurt, Basel, and Zürich.

Projected running times include:

- Paris-Frankfurt 4 hours
- Paris-Basel 3.5 hours
- Paris-Zürich 4.5 hours

It took several years to get to the stage of active tests of running trains through. In 2002, the European Union published Technical Specifications for Interoperability, (TSI) which set forward standards for cross-border train operations.

### German ICE à la Français

Germany's international ICE 3M—“M” stands for multi-system—is already in use on trains which link Germany with Belgium, the Netherlands, and Switzerland.

The sets, which lack a locomotive, use switching technology specifically designed to address the myriad of voltages faced by international train. Germany, Austria, and Switzerland all have national 15 kV networks, but the lowland countries and France are now split between conventional routes with low voltage DC and high-speed lines with high voltage AC: 1.5 kV and 25 kV in the Netherlands and France, 3 kV and 25 kV in Belgium.

The ICE 3M has run 100,000 kilometers of test service in France over the past four years. The testing began on Strasbourg-Mulhouse conventional track and proceeded to a high speed line used by Eurostar between Paris's airport station at Roissy-Charles de Gaulle, Lille and Calais.

More recently, ICE 3M sets have been tested at speeds of up to 220 mph in the Rhône Valley between Lyon and Aix-en-Provence to prove its suitability for 200 mph revenue service. The focus of these trials

was to resolve pantograph issues. Catenary and pantograph issues have proven to have remarkable complexity. The ICE 3M actually has six pantographs on the roof, to cope with various systems.

According to German sources, costs to retrofit an ICE 3M to meet French technical requirements will total nearly \$10 million per set. A retrofitted German ICE 3M successfully completed testing in France and was certified in September 2005.

Problems addressed included the ICE 3M's innovative eddy-current braking, the separation points in the overhead line for the pantograph, train door control systems, aerodynamic adjustment of the underfloor area to and provision of skirting to prevent ballast flurry and accompanying damage to underfloor components, and French requirements for train protection.

### French TGV nach Deutschland

German Rail acceptance of French TGVs is expected by mid-2006, following an extensive tour and testing program that started in December 2005.

TGVs began testing near Munich and on Augsburg-Ulm and Karlsruhe-Freiburg lines at speeds of up to 140 km/h. Brake systems, pantographs, train protection systems and electromagnetic compatibility were assessed.

In mid-December, runs with progressively increasing speeds up to 250 km/h began near Würzburg on the high-speed Neubaustrecken.

The test runs use TGV POS international sets destined for Strasbourg service consisting of two new power cars and eight modified first generation trailer coaches. **[ED NOTE: The German explanation of “POS” is Paris - Ostfrankreich - Süddeutschland. I haven't been able to find a French reference to the term.]** Tests are being conducted by DB engineering specialists with support of engineers from the French railway and the manufacturer Alstom. SNCF is underwriting the work.

### At the End, Paperwork in 2 Languages

At the end of the ICE 3M project, technical staff complains, “the railway engineers will then have to tackle the paperwork. The final documentation will be prepared in German and French and the files resulting from five years of work handed over to SNCF, which will then inform the French supervisory authority, a sub-directorate of the Ministry of Transport, which then officially announces homologation.”

The same ordeal then faces the TGV POS a few months later. “SNCF commissioned DB Technik with performance of this homologation programme, which will be supported by the engineering experts of Deutsche Bahn, primarily from DB Systemtechnik. The programme is scheduled for completion by summer 2006. DB will then apply to the Federal Railway Office (EBA), the German rail supervisory authority, on behalf of SNCF to have the authorisation for use certificate issued for the TGV POS on German lines.”

Engineering staff on the project are confident that the technical documentation will be completed in time for start of passenger service between Paris and Frankfurt in 2007.

### Why Collaboration Makes Sense Here

California's rail network is even more balkanized than that of Europe, and suffers from service gaps and station disconnects in each major metropolis. The same battling technical staff mentality is visible among Union Pacific, BART, Caltrain, ACE and Caltrans in Northern California.

However, it is only by fashioning a usable rail network with frequent through service that California's auto-dependent public can be encouraged to try an alternative. Let's hope the spectacle of French-German cooperation can give our systems a clue.

Improvement Team, but these meetings have not yet accomplished their intended goal of better reliability. The Chair of the Capitol Corridor Board, Roger Dickinson of Sacramento (and a Sacramento County Supervisor), went to Omaha and raised the issue of poor on time performance face-to-face with Mr. Dennis Duffy, Executive Vice President of Operation of UPRR. Mr. Dickinson conveyed his concern and displeasure with the UPRR's performance of our trains, based on his own experiences in using Capitol Corridor trains. Mr. Duffy explained the complex problems UPRR is facing in the growth of its freight business, but he did state that UPRR will make a concerted effort to deliver Capitol Corridor trains more reliably, and that this objective would be more likely to be achieved once the current track renewal work south of Oakland is completed. As I said earlier, this track work is slated to be complete by February 14.

Additionally, the crescendo of complaints has now reached officials far above my office. Many of these officials deal with issues involving freight service across the state and across the nation. Many participants in formulating state policy now actually ride the Capitol Corridor trains to/from Sacramento, and their personal experiences are coloring the public perception of UPRR among major California public funding agencies, agencies whose jurisdiction includes consideration of major capital funding programs that will also benefit freight railroads and goods movement. We have worked hard to establish a real partnership with Union Pacific, and we remain hopeful that Union Pacific will be able to deliver on its share of that partnership, as it was delivering a year ago.

So what's next? Following February 14, we expect to make an announcement that regular riders, who have endured day-after-day of less-than-expected reliability, will be offered a substantial discount on monthly and 10-trip tickets for an upcoming month—most likely April. We recognize that it will do us no good to reduce the price of a ticket if the service doesn't get any better. We will monitor closely UPRR performance for a few weeks after February 14 before we say to you “come on down” and buy a ticket.

The last thing we want is to have lots more folks coming back to our trains with bargain-priced tickets and then getting continued unreliable service. When you pay to ride our trains, you should get what you are entitled to: a train that runs on its published schedule, at least 90% of the time—maybe more, but certainly not less.

We will continue to work for you until you have the level of on-time service you deserve, and it is sustained. You have my personal commitment to this goal.

Again, this has been a very difficult message for me to write, both because the news is not as good as it could be and because this situation has strained our good working relationship with Union Pacific. I would not normally talk about this in public. However, the current circumstances are not normal, and the conditions of Capitol Corridor train unreliability have become painfully public by themselves.

I do believe we will get through this difficult time by March or April, and that your service will once again be restored to the level of reliability you deserve.

As always, please feel free to contact me, or offer a suggestion at our customer telephone line (510.464.6995) or e-mail me at [eskorop@bart.gov](mailto: eskorop@bart.gov)

**Mr. Skoropowski is Managing Director of the Capitol Corridor Joint Powers Authority. His article is reprinted here by permission of the CCJPA.**