

## TVE: Proving A Track Record

By Kevin C. Coates

The TVE, the Emsland Test Facility, Transrapid Versuchsanlage Emsland or the German Maglev Track, it is still the Transrapid test facility only by other names. And, after more than 25 years of bringing German maglev technology to its present level of maturity, it is on the budgetary chopping block.

With the cancelling of the Munich maglev project last spring, the preventable human errors that led to the unfortunate fatal maglev crash of September 2006, the global economic downturn, and all the anti-maglev forces in the German government and rail industry, it is easy to see how past events are driving the momentum towards ending German maglev development.

However, if one has any vision whatsoever (or reads the American press these days), it is obvious that the ever-unfolding and -evolving worldwide energy demand crisis will finally turn the tide for maglev, at least in the United States – the biggest potential export market for German high-speed maglev technology. The desire for the fastest high-speed, electric-powered, intercity ground transportation system will make itself quite obvious and highly desirable in a world whiplashed by oil price volatility. Make no mistake about it: once the world economic recovery begins, no amount of infrastructure development for oil transport, refinery, exploration or recovery will be able to keep up with exponential worldwide demand.

U.S. President Obama evidently understands the energy/transportation transformation imperative that lies before him. He personally requested that US\$8 billion (€6.4 billion) be added to the stimulus bill at the eleventh hour (after it had been removed by Congress earlier) to build high-speed intercity rail (maglev) in the United States. For the first time in history, significant money is now available for high-speed maglev construction in America – finally, after eight lost years.

Given the new reality in America for recognizing that its transportation infrastructure needs upgrading and conversion to environmentally compatible electric power, it seems the epitome of myopia for the Germans to consider shutting down the TVE.

Consider the viewpoint of the American customer: why would they buy a cutting edge product that is not supported by on-going R&D and the rigorous testing that accompanies further product development? One of the main allegations made against deploying maglev in the U.S. has been that the technology is “unproven.” Closing the TVE now that the technology is proven through the success of the Shanghai line will only invite the new allegation that the technology is not continually evaluated and improved. Why give maglev opponents fresh ammunition?

Indeed, in one of my conversations last year with some Transrapid engineers, I was told that if some big projects were begun, development of the next generation maglev could proceed beginning with a top-to-bottom vehicle redesign based upon all the lessons learned over the last 20 years, translating into greater efficiency, lower cost and even better ride comfort for passengers. Without a TVE, where is this next generation of maglev going to be developed?

More to the point, the half-dozen active high-speed maglev projects in the U.S. are all committed to using Transrapid technology. Do Germans think that these projects will find the necessary continued political support for construction if there is no TVE? There simply must be a facility to conduct problem resolution and to test system modifications.

According to Dr. John Harding, former chief scientist for maglev in the U.S. government, “while the present Transrapid design has certainly proven itself to be reliable and efficient, it seems to me that closing down the TVE is a very foolish thing considering that this is still a nascent transport technology that continues to evolve.”

Take the matter of the latest Max Bögl guideway design. Bögl has developed an all-concrete beam that costs fully 30% less than their previous so-called hybrid (concrete/steel) beam used for the Shanghai maglev project in 2001, which itself represented a 25% cost reduction from prior all-steel beams. Without a TVE, where would these new guideway innovations be tested and confirmed for commercial utility? Certainly not on the mainline of an active system.

Finally, there is the issue of the standing TVE personnel and their years of experience testing and developing maglev technology. If the TVE closes down, then all these talented and bright people will seek employment elsewhere. Getting them back at a later date if the government changes its mind surely would be problematic.

Germany made a commitment years ago to develop the finest high-speed ground transportation system in the world. Quitting the TVE just when the technology is gaining acceptance in its prime market would, in my humble opinion, be shortsighted and downright wrong.