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A TSUNAMI AND THE SBB

Der Beobachter

The tidal wave of the Japanese tsunami reached Switzerland last May when Andreas Meyer, SBB's CEO, declared "Our aim is to run without nuclear generated power". Since the disaster at Fukushima the issue of nuclear power has become a headline theme in Switzerland, whilst the Federal Council has scheduled the phasing out of the last Swiss nuclear generating station by 2034, a move approved by both houses of the Swiss Parliament on the 28th September.

Railway electrification has been impressively recalled in *Swiss Express* through the excellent articles of Paul Russenberger. A century ago the SBB had several reasons to electrify: the foreseeable insufficiency of steam on heavy routes, the Gotthard in particular; foreign coal supplies were vulnerable, and in WW I many lines had come almost to a standstill by 1919; and that technology was offering a solution. The BLS (along with German and Scandinavian railways) all adopted at this time 15kV, 16 2/3 Hz, single phase a.c. power supplies. The SBB was close behind. Their technology gamble paid off. Home-grown power, "white coal", clean and strong - the alpine water reserves - would move the trains. Switzerland was to be a hydro-electric powerhouse, and the earliest high alpine reservoirs and plant were built by the SBB. They are still there and still with scope for development. Today, with new lines, high speeds and heavy traffic, annual consumption by the SBB (including supplying BLS and others) is around 2,300 gWh. Railways are the biggest single users of electric power in Switzerland.

Today, about 25% of this is not from "white coal" at all, but contractually assured by nuclear power suppliers. Now, says Meyer, it is the intention to end the use of nuclear-generated electricity, as events at Fukushima have shown that nuclear power is not necessarily a safe source, although he admits that the change process cannot at present

be planned in all detail. However, the same thought is making itself felt throughout Switzerland, where the four, already elderly, nuclear power stations will shortly be due for renewal. The nation has seen a rapid and dramatic sea-change in public opinion and in political orientation away from nuclear power, when just six months ago its future seemed assured.

Meyer made clear to the Swiss press in May that this process has already started and savings of some 119gWh were achieved last year, similar to the demands of 30,000 private homes - a small town. Saving 15% of electric power consumed is the target to 2015. Much of this will come not by running less trains or going slowly, but by streaming the flow, using intelligent signaling and planning to avoid unnecessary braking and accelerating - optimizing the use of power under the driver's hand. More water generating capacity is possible, partly where cost-shifts have now justified projects earlier thought too expensive, but even here the reality of climate change is that in the long-term water supplies in the Alps are both less, due to less snow (hence less melt water), and more difficult to harness. At present saving electricity is better, and easier, than making more, although pump-storage technology projects, re-using water recovered in off-peak times as in the project to enlarge the Ritom works in Ticino, are promising. He also looks for political support. For example in better charging of carbon emissions in highway traffic, so that investment can be encouraged where it does most good.

New lines like the Gotthard Base Tunnel should make a difference as they are more efficient than existing routes, saving power through avoiding climbing mountains with the use of assisting traction and light engine running (a snag is compression and warming in the tunnel single bores). Congestion is, as on the highway, a major cause of waste, so investment in layouts and signaling can pay off unexpectedly in the energy account. All this will be needed in a power-hungry society when the nuclear generators are finally switched-off as the last waves from the 2011 tsunami finally leave their mark. 

Swiss Tip *Some good ideas and information about Switzerland from travellers.*

Visiting Northeast Switzerland? Why not stay in Konstanz on the Bodensee? Yes it is in Germany, but the advantage of that is it is in the EuroZone resulting in lower prices for accommodation, food, drinks, and most other things. The towns of Konstanz and Kreuzlingen (Switzerland) are contiguous, with the station in the German part being just metres from the border. Switzerland is now in the Schengen Zone so border formalities are normally non-existent for individuals. SBB operates frequent trains to Konstanz; there is an hourly service from Zürich Flughafen (taking around an hour); Swiss Passes and other Swiss tickets are valid; SBB also operates the German local services serving the town - an Ostwind Tageskarte covers these as well as many other services in areas around the lake. 

Swiss Tip

Want better beer? There was great sadness in Luzern when the local brewery was taken over by one of the multi-national brewing chains and the product on offer became as bland as all the other mass market beers. Then up stepped Tavolago, the catering arm of the SGV who operate the ships on the Vierwaldstättersee, who developed their own locally craft-brewed beer "Urbräu". First just available on SGV's ships and at Tavolago's catering outlets around the lake it can now be enjoyed more widely through a distribution arrangement with the Swiss Coop organisation. 