

# IT'S SNOW JOKE FOR THE SHINKANSEN

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Getting trains to operate in the snow can be a major problem. So one can imagine how this problem would intensify if you were wanting to operate high speed trains which are expected to arrive on time, all the time. This is the case with the shinkansen. So how is it done? This was one of the things I tried to discover during a trip to Japan in January 2004.

There is no single answer to the question. In part, the areas worst affected by snow also, logically, have many tunnels, which themselves are the best countermeasure to the snow problem, although they remove the enjoyment of those wanting to look at the picturesque scenery. Where necessary snow sheds and the like can also be built. However, there are undoubtedly always going to be areas that will be exposed and a means of dealing with the snow in these areas – if the above level of service is to be maintained – is needed.

In this regard, a crucial point is that there *are* different types of snow. British Rail did not make this excuse up out of thin air! In Japan, the differences tend to be regional. The Tōhoku Shinkansen tends to run through areas where the snow comes from the Pacific Coast, while the Jōestu Shinkansen tends to run through areas where the snow comes from the Japan Sea Coast. The former tends to be drier and lighter in nature than the latter. Therefore, while for much of the Tōhoku Shinkansen the force of the air and pressure wave at the front of the shinkansen can be relied upon to blow most of the snow out of the way, for the latter a more drastic approach is needed. The result is sprinklers.

Now when one mentions sprinklers, the image one conjures up may be the type seen sprinkling a bit of water on cricket pitches or golf courses to keep them green. However, a visit to Echigo-Yuzawa in the Winter reveals the true scale of the shinkansen sprinklers. Sprinklers throw out 0.7 litres of water per m<sup>2</sup> per minute. To put it in more easy-to-understand terms – it is about equivalent to 42mm rain falling in an hour. Bare in mind that the total average rainfall in London for the *whole* of April is around 55mm! The sound of these sprinklers in action is quite remarkable – and looking down the track towards Urasa, the route looks more like a river than a railway. That such measures are needed at Echigo-Yuzawa are obvious when one considers that the average daily snowfall there can be 122cm and accumulation over 4 metres!

It is in expensive business, but an important one. For, there is another reason why such measures are needed – snow is big business for JR East. Gala-Yuzawa station, which is only open during the Winter, has an in-built ski-lift to take people off to the slopes, as well as an onsen to help them recover afterwards. The result... JR East's marketing campaign when I visited was 'JR East – We Want Snow'... not words I could imagine many European railway companies rushing to proclaim!

(Further details to appear in my book, *Shinkansen – From Bullet Train to Symbol of Modern Japan*, due out in Summer 2005)

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