Australian signalling engineer warns of further rail disasters

Terry Cook, Barry Jobson
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The *World Socialist Web Site* spoke to Vince Neary, a retired signalling engineer, about the recent rail disaster in the Blue Mountains, west of Sydney, that claimed seven lives and left many more injured. A crowded local passenger train travelling from Lithgow to Sydney ploughed into the back of the Indian Pacific express outside the town of Glenbrook on December 2. A major contributing factor was faulty signalling.

Since that collision, at least five train derailments in New South Wales could have resulted in a further loss of life or serious injury. The most recent incident was on January 11, when a passenger train was derailed at about 6pm near Hornsby Station on Sydney's busy northern line.

On December 18, a goods train carrying iron ore derailed near the rural town of Nyngan in northwestern NSW. As many as 12 wagons were badly damaged and one caught fire. Two days later, an early morning passenger train was derailed after running through a red light south of Waverton, near Sydney, on the lower North Shore line. The incident happened only minutes after the last passengers had alighted at North Sydney station.

On December 23, a Melbourne-bound National Rail freight train was derailed when part of its load struck a signal tower at Junee in southern NSW causing several flat-top carriages to jump the rails and dumping a heavy container onto the station's platform. The train was reportedly carrying “low grade” dangerous goods. On the same day, an empty passenger train left the tracks as it pulled out of a holding yard at Hornsby.

These incidents underscore the significance of what Neary had to say about the rundown of the NSW State Rail system. Neary joined NSW State Rail in 1974 and later became the manager in charge of signalling construction projects throughout the state. Prior to settling in Australia he had worked as a signalling engineer for British Rail for 10 years. He left State Rail in March 1993.

Neary, who has been critical of State Rail's safety standards, said the Blue Mountains collision did not come as a surprise to him. "For years I have warned that the poor condition of the signalling system, of the track and a range of other problems, could combine to produce a major accident. My only surprise is that it did not happen sooner.

“In 1990, after the complaints I made were ignored by State Rail, I wrote to the NSW Ombudsman warning that the rail system was operating on the slimmest of safety margins and that public safety was at risk. Even though the chief executive of State Rail at the time attacked my credibility, the Ombudsman decided to hold an inquiry and I was asked to do a report.

“I was given only three days by State Rail to write a report, which they knew was not possible. I took my time and produced a concise report. It was sent to England and was examined by Brian Hesketh, a retired British Rail signalling design engineer. He confirmed that it identified sufficient deficiencies to consider that there was a very real risk to rail safety in NSW.

“Hesketh pointed out that many of the deficiencies I identified were similar to those that produced a signalling malfunction at Clapham Junction in London in 1988 that caused a collision between two trains and pushed them into the path of a third one. This cost the lives of 35 people and injured a large number of others.

"However, the State Rail's response was to claim that all the problems I had raised in my report had already been attended to. This was not true. There still exist hundreds of faults in the current signalling system in NSW.

“For example, at Lithgow there was a train crash in a siding in 1992. This had been caused by design deficiencies that had been present for years, as well as a broken track bond [a detection device linked to the signalling system]. This combined to allow a train to enter the siding and collide with one already there. A driver lost both his legs.

"There is no doubt that spending cuts by consecutive governments and severe staff reductions have played a major role in all the derailments and contributed to the collision in the Blue Mountains. Spending on maintenance has been halved in the last 10 years.”

Neary explained that much of the signalling system in the Sydney metropolitan area and on regional lines was installed in the 1970s, was maintenance intensive and depended on regular inspection. In the country areas, like Junee, much of the signalling system is 100 years old. The very poor state of the track in many areas in the State also contributes to derailments.

“The track in Australia is not deeply bedded on a firm base

and much of it lacks proper drainage. In some areas, the movement of the train over the track tends to pump up sludge that interferes with signalling points and equipment. This causes intermittent signalling problems, signals showing red when they should not and clearing when they shouldn't.

"The problem was not critical in the past because there were once hundreds of men available to maintain the system and rectify faults quickly. But after years of downsizing there are hardly any left. Previously track maintenance gangs were responsible for an entire section of line and would do a 'track walk' closely inspecting every inch. The 'track walk' was stopped in about 1989 and now the tracks are inspected from a moving train.

"Crews of signalling technicians were also assigned to sections of the line and carried out continuous preventive maintenance. Signalling equipment with moving parts was inspected weekly and the rest monthly. Now inspections are intermittent and signal maintenance is done on demand. That is, when it breaks down."

Neary also pointed to the impact of the loss of skills and experience caused by closures, layoffs and outsourcing. "The signal repair workshop in Chullora was closed down some years ago and so was the apprentice training school that turned out specialist technicians who were highly skilled in signalling maintenance. Now the work is done by contractors who are asked to keep ageing systems running and have little expertise.

"For years after I left State Rail I received regular phone calls from rail employees in operations—including train drivers and signals staff—who told me that near-collisions occurred frequently because of signalling failures. Of course, unless this leads to a collision or derailment they go unreported in the press. But any one of these could have resulted in major injuries.

"Over the years there have been regular intermittent signalling failures on all the main lines, including the Blue Mountains, Newcastle and Picton. These have been so frequent that it tends to lower concern and vigilance. A procedure has developed to ensure that the rail system keeps on moving and delays are avoided. When a signal is not cleared drivers report it and are simply told 'it is just playing up again' and are directed to go through it.

"This was just one of the factors that contributed to the Blue Mountains tragedy. As you know, the Indian Pacific was told to proceed through a red light and phone the Penrith signal box controlling that portion of track if the next signal was also showing red. He could not make phone contact and it was assumed that the signal was green and that the Indian Pacific had cleared that section of track. Therefore the passenger train behind was told to proceed through the first red light."

Neary said the Indian Pacific driver could not contact the Penrith signal box on his own radio system because it operated on a different frequency. Unsuccessful attempts by the driver to use a trackside phone and then his own mobile phone delayed the train for over 10 minutes. The driver of the passenger train would not have known that the Indian Pacific was in the area.

"Given the availability of modern communications there is no reason why interstate trains like the Indian Pacific could not change frequency when they pass over a state line enabling them to be in contact with signal boxes and controllers in the region, as well as their home base. The authorities need simply to install a communications beacon to achieve this.

"Another vital factor in producing the disaster was the lack of a visual tracking system covering the section of the track after Glenbrook. Even though Penrith is in charge of this section of line, those in the signal box have no visual confirmation about what is moving on it. This is something like an air traffic controller at Sydney airport being asked to supervise the movement of planes in his sector without radar.

"There are no technical reasons why rail lines could not be monitored clean across the state and all the way to Perth if need be. This is entirely feasible except for budgetary and other financial restraints, as well as the misdirection of funds, under various governments.

"Given the state of the signalling system, the only reason that there have not been more serious collisions is that the services here are less frequent in comparison to overseas systems. Trains here are run only 10 minutes or so apart, whereas in London they run approximately every two minutes.

"Attempts to increase the frequency of the services without seriously upgrading the system and equipment, such as for the Olympics next year, could well result in major collisions and certainly in massive delays."

In the wake of the Blue Mountains disaster, the NSW Transport Minister Carl Scully announced in late December that the government had commissioned safety management consultants Richard Oliver International to carry out an examination of the rail system. It will also employ the services of British consultant Halgrow Rail to review the selection, training and supervision of key operating staff, including train drivers, signallers and train controllers.

Neary responded by saying: "I have no faith in recent inquiries ordered by the State government. In the past they have employed experts from both Britain and the US who always find that there is nothing or little wrong with the system. This is because State Rail and the Transport Department set the terms of reference for such inquiries and control them. The experts are not likely to expose their shortcomings. Instead they normally blame the drivers or human error when this is not the case."