

Annual Report 2012

Accident Investigation Board, Norway Railway Department

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Introduction

The Accident Investigation Board Norway (AIBN) is a multimodal organisation covering four transport modes. It was established in 1989 to investigate air accidents and incidents. The first railway accident investigation started 1 July 2002. Today, the AIBN is a multi-modal body investigating accidents and incidents in aviation, railways (including trams and metros), road transport and the marine sector. The different transport modes are organised in different departments within the AIBN reporting to the Director General. The multi-modal concept has been very successful in relation to stimulating cooperation, how to approach an investigation, methodology, sharing relevant safety issues and learning from the other transport sectors. In 2002 the AIBN's mandate was expanded to cover railway accidents, in 2005 road accidents and in 2008 marine accident investigations were included in our mandate.

Rail accident investigation in Norway is subject to the Directive for the Accident Investigation Board Norway, laid down by the Ministry of Transport and Communications on 12 June 2002. The AIBN itself decides the scale of the investigations to be conducted, including an assessment of the investigation's expected safety benefits with regard to resources required.

The AIBN is independent and focus entirely on safety and not apportion blame or liability, nor do we enforce law or carry out prosecutions. The most important elements in the railway safety investigations are to improve the safety of railways, learning from experience and preventing accidents from recurring. Over the years, the investigations have increasingly addressed the human element, focusing on the system of interaction between human factors, technology and organisational factors.

Index

Regulation	4
Accident Investigation Board Norway (AIBN) - Organisation.....	4
Notifications of accidents and incidents – key numbers	6
Other activities	7
Investigation reports	7
Safety recommendations	8
Appendix A - Published reports 2012	9
Appendix B - Safety recommendations 2012	10

Regulation

Railway accident investigation in Norway is regulated in detail by the Norwegian Act of June 3rd 2005, No.34, relating to notification, reporting and investigation of railway accidents and railway incidents, and regulations stipulated pursuant to the Act.

EUs safety directive for railway was adopted and made official March 1st 2006 as Regulation 2006-03-31 nr 378. *Regulation for official investigation of railway accidents and serious incidents etc.* (“The Railway Investigation regulation”).

Accident Investigation Board Norway (AIBN) - Organisation

The AIBN organisation as of 31st December 2012:

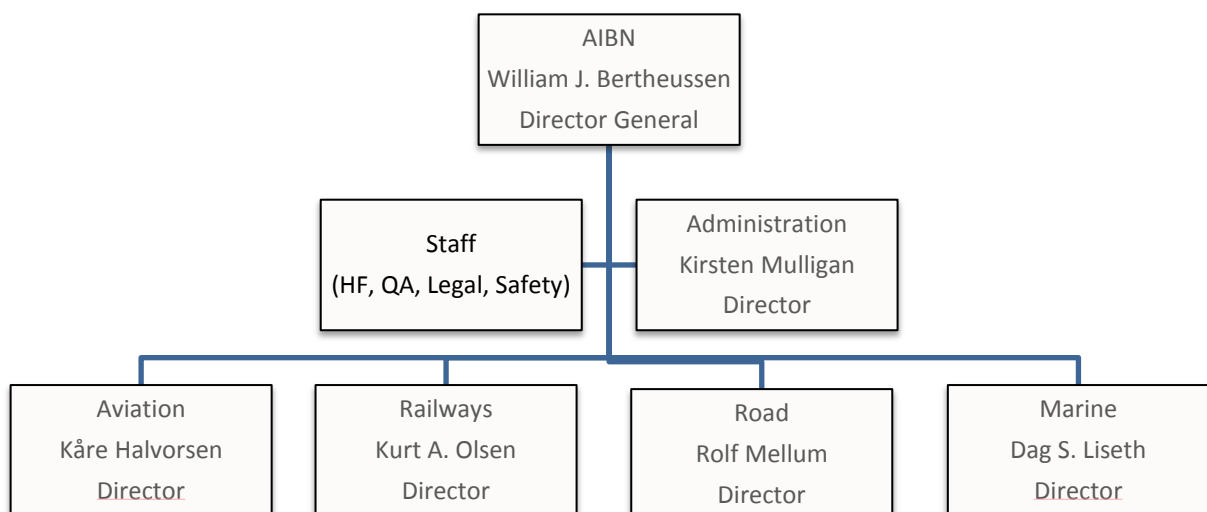


Figure 2: The AIBN organigram.

The AIBN employs 5 railways inspectors with either a professional railway or investigation background, and who have been given extensive and bespoke training concerning railway operations, railway engineering and investigation skills.

All inspectors carry an AIBN identification card, which identifies their powers at the scene of an investigation.

The AIBN Inspectors have the power to:

- Enter railway property, land or vehicles.
- Seize anything relating to the accident and make records.
- Require access to and disclosure of records and information.
- Require people to answer questions and provide information about anything relevant to the investigation.

Notifications of accidents and incidents – key numbers

The AIBN, Railway department received totally 330 notifications by telephone in 2012. The number of notification includes rail-, metro- and tram traffic (LTR). According to the Norwegian Railway Authority (responsible for official statistics), the total number of reported accidents and incidents is on the average level compared to the previous years.

Twenty-eight accidents were registered with a total of 10 fatalities.

Nine accident and incident investigations were started this year.

The AIBN, Railway department was involved in 8 investigations as of 31st December 2012.

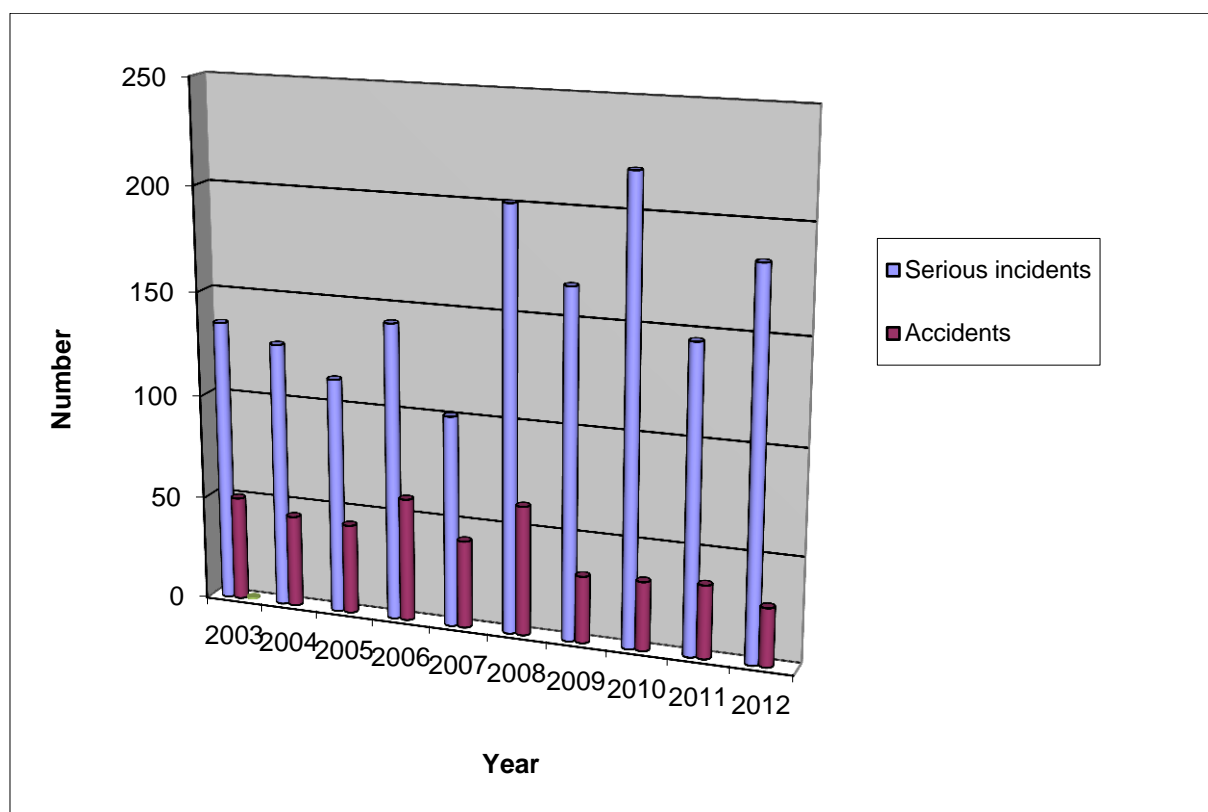


Figure 2: Key numbers, reported (72 hours) railway accidents and incidents.

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Serious railway incidents	127	113	142	101	201	166	219	146	183
Railway accidents	44	43	59	42	62	32	33	35	28
Total	181	156	201	143	272	198	252	181	211
Published reports	15	7	11	13	9	11	9	10	9

Table 1: Key numbers, reported railway accidents and incidents (not official statistics).

The Norwegian Railway Authority (Statens jernbanetilsyn) is the responsible body for the official national statistics regarding railway accidents and incidents.

Other activities

During 2012, several meetings have been arranged with the Norwegian Railway Authority, Infrastructure Manager (Jernbaneverket) and the operators, including metro and tram operators. The meetings have focused on closing safety recommendations, accident reporting and classification, organisational changes, point of contact etc.

Norway, Sweden, Denmark, Finland, Estonia and UK are members of the Nordic Network of Accident Investigation Boards (NRAI). The network organises one meeting per year, where the main focus is to inform each other about on-going investigations, safety learning, ERA network and task force meetings and any other business common to the Nordic Region. ERA is represented in the NRAI meetings.

Investigation reports

The Accident Investigation Board, Norway, Railway Department, published 9 final investigation reports, within 12 months after the date of the occurrence. This gives approximately 2 reports pr. year for each Inspector of Accident. See appendix A for details.

Safety recommendations

The Accident Investigation Board Norway, the Railway department, published 9 safety recommendations in 2012. An overview of the recommendations is given in appendix B.

Status of the safety recommendations, see table below:

Year:	2009	2010	2011	2012
Open:	2	2	2	5
Closed:	19	14	14	4
Total:	21	16	16	9

Appendix A - Published reports 2012

No:	Identification:	Date of occurrence:	Report published:
1	Serious incident passenger train 252, Hakadal station, Gjøvikbanen.	25.08.2011	16.10.2012
2	Serious incident trains 59009 and 59007, between Rombak and Bjornfjell stations, Ofotbanen.	20.06.2011	19.01.2012
3	Serious incident freight train 5077, Asper station, Hovedbanen.	04.04.2011	30.03.2012
4	Fatal accident freight train 8314, Hokksund, Randsfjordbanen.	03.06.2011	22.05.2012
5	Accident passenger train 62, Hallingskeid station, Bergensbanen.	16.06.2011	15.05.2012
6	Accident passenger train 2378, Krokegga Opphus, Rorosbanen.	05.09.2011	26.07.2012
7	Serious incident passenger train 233, Bjorgeseter, Gjøvikbanen.	22.10.2011	29.08.2012
8	Accident freight train 4045, Katterat-Bjornfjell, Ofotbanen.	28.10.2011	17.09.2012
9	Serious incident passenger train 1813, Voss station, Bergensbanen.	14.02.2012	07.11.2012

Appendix B - Safety recommendations 2012

Report No.	Recommendation No.	Text	Status
2012/01	2012/01	<p>Safety recommendation RW No 2012/01T</p> <p>The personnel were certain that the train track signal for main departure signal M displayed signal 36B 'Proceed' (two green lights), carried out the departure procedure and put the train in motion. When the driver was able to see the main departure signal, it signalled 'Stop', and the driver stopped the train. Once the train going in the opposite direction had arrived and the main departure signal signalled 'Proceed', the train left the station without the train crew contacting the traffic controller. When the incident came to the attention of the traffic control centre later that evening, no restrictions were imposed on the operation of trains past Hakadal station, and function testing of the interlocking system was not carried out until the following day.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate instruct the Norwegian National Rail Administration (NNRA) and the railway undertakings to review how the understanding of and compliance with the traffic rules for the NNRA's network and internal procedures are maintained, how non-conformities are dealt with and how experience from handling of non-conformities is addressed with a view to using it in the enterprise's internal dissemination of knowledge.</p>	Closed
2012/02	2012/02	<p>Safety recommendation RW No 2012/02 T</p> <p>On entering Rombak station, a maintenance vehicle of type LM6 ran into a stationary LM2 maintenance vehicle. The area had been designated a 'railway construction area', and the incident took place in connection with the conclusion of the work. When several vehicles are to be moved within a railway construction area, they can either be driven coupled together at visibility speed, driven together at visibility speed without being coupled, or driven individually at visibility speed.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate instruct the Norwegian National Rail Administration (NNRA) to verify how the traffic rules for the NNRA's network and internal procedures for this type of work are complied</p>	Closed

		with and maintained.	
2012/03	2012/03	<p>Safety recommendation RW No 2012/03T</p> <p>On passing Kløfta, a fire was detected in the diesel engine compartment of a locomotive in the aviation fuel train. Soon after, the train stopped at Asper station, where the fire was confirmed. The locomotive was disconnected from the train, and the rest of the fuel train continued its journey to Gardermoen Airport. The fire at Asper station and other incidents involving fires in diesel engine compartments show that several parties have inadequate control and maintenance systems.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate request all relevant parties to state what they do to prevent the possibility of leakages causing fire in diesel engine compartments.</p>	Closed
2012/04	2011/04	<p>Safety recommendation RW No 2012/04T</p> <p>In the Norwegian National Rail Administration's (NNRA) master plan for the closing of level crossings from 1998, the level crossing in question was classified as 'rarely or never used'. The NNRA made an attempt to close the crossing in 2003/2004, but did not succeed in reaching agreement with all the rights holders.</p> <p>If the level crossing is deemed to be so dangerous that it is nevertheless desirable to close it, expropriation would be the next alternative. This is often necessary in more densely populated areas, and will involve a zoning plan process in relation to the municipality that could take several years.</p> <p>The Accident Investigation Board Norway recommends to the Ministry of Transport and Communications that an assessment be made of whether it would improve safety if the NNRA is given suitable instruments to deal with this type of issues to ensure that the rate of closure of level crossings can be maintained, or even increased, in areas where this is recommended on the basis of traffic safety considerations.</p>	Open
2012/05	2012/05	<p>Safety recommendation RW No 2012/05T</p> <p>The Norwegian National Rail Administration's (NNRA) safety management does not identify the fire hazard in connection with snow tunnels. There was no form of automatic fire detection or alarm system in the snow tunnel at Hallingskeid. Immediate measures were introduced after the Hallingskeid fire, but they only target hot work and do not take other causes of fire into consideration.</p> <p>The Accident Investigation Board Norway advises the</p>	Open

		<p>NNRA to consider possible measures to upgrade the fire protection of existing snow tunnels within the limits of what is practically and financially feasible.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate instruct the NNRA to consider requirements relating to fire protection in snow tunnels.</p>	
2012/05	2012/06	<p>Safety recommendation RW No 2012/06T</p> <p>The snow tunnels on the Bergen Line were not defined as tunnels, nor were they defined as special fire objects. No special fire protection measures applied to the snow tunnels on the Bergen Line. The responsibility that rests with the fire service is extensive, and it depends on good cooperation with municipalities and other fire services, in addition to the Norwegian National Railway Administration as the owner and manager of the snow tunnels. The Directorate for Civil Protection and Emergency Planning is the competent authority for fire protection, among other things, and is responsible for regulations, guidelines and expertise in this area. The Accident Investigation Board Norway advises the Directorate for Civil Protection and Emergency Planning as the coordinating competent authority to take greater responsibility for achieving satisfactory fire safety and emergency preparedness for infrastructure on inaccessible parts of the Norwegian railway network.</p>	Open
2012/06	2012/07	<p>Safety recommendation RW No 2012/07 T</p> <p>The Norwegian National Railway Administration declared what is known as a 'green alert' for the Hamar-Elverum-Røros section of track at 21.20 on Sunday evening, which was about the same time as the last train passed Krokegga. The next train to pass this section came more than nine hours later. The green alert did not result in any increase in activity or inspection of the track between Elverum and Koppang.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate instruct the Norwegian National Rail Administration to ensure that the instructions for unfavourable weather conditions (STY-601614) are expedient for all sections of track, regardless of their traffic load and geographical location.</p>	Open
2012/09	2012/08	<p>Safety recommendation RW No 2012/08 T</p> <p>Weather station density varies greatly, and many only report observations at 12-hour intervals, which gives a poor overview of the weather development. The weather radar has no coverage below a certain altitude, and data can be misinterpreted as indicating that an area of</p>	Open

		<p>precipitation is dissolving. The limitations of a tool must be known to its users, and the information must be supplemented by observations from driving personnel, one's own organisation, other regions etc.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate instruct the Norwegian National Rail Administration to improve the existing weather forecast tools and make them more suitable to support the implementation of measures in connection with unfavourable weather conditions.</p>	
2012/09	2012/09	<p>Safety recommendation RW No 2012/09T</p> <p>After the accident at Sydhavna (Sjursøya) in 2010, the Norwegian National Railway Administration carried out risk analyses to map locations with a risk of runaway rolling stock. In connection with this work, the possibility of runaway rolling stock from the engine shed down to the train track at Voss station was identified, but the measures recommended in the risk analysis were not implemented. Since the incident, the proposed measures have been found to no longer be deemed sufficient.</p> <p>The Accident Investigation Board Norway recommends that the Norwegian Railway Inspectorate instruct the Norwegian National Rail Administration to verify that there are no locations on the Norwegian railway network where parked rolling stock can break loose due to inadequate barriers.</p>	Open

The safety recommendations are translated from Norwegian language. The Norwegian text remains the official version of the safety recommendations. Should ambiguity arise between the two, the Norwegian text takes precedence.