



## Guidelines for written “Recent State Developments and Experiences”

1. In lieu of what would normally be a presentation, States are asked to complete this proforma and forward to the Secretariat ([itsa@ntsb.gov](mailto:itsa@ntsb.gov)) prior to Friday 7 May 2021, such that can be collated and disseminated to Members.
2. Points of interest could include:
  - a. Major organizational/structural changes;
  - b. Significant staff changes;
  - c. Budget issues (if they affect the ability to meet the mandate in a timely fashion or preclude conduct of investigations due lack of resources);
  - d. Legislation changes;
  - e. Serious events like hosting/involvement in international transport safety conferences/forums/extended training courses, safety audits, legal proceedings or decisions etc.;
  - f. Issues related to the independence of the organisation and investigations;
  - g. Interesting (in terms of lessons learned) case studies’ (not major necessarily) challenges (if not covered by technical presentations or panel discussions);
  - h. Recommendations of global concern;
  - i. Issues related to main topics of discussion as declared for the current meeting (if not covered by special presentations).
3. The text of the report (up to 3 pages – basic template attached) on the recent development and experience from your organization will be collated and sent to ITSA members in advance of the Microsoft Teams Tele-Conference.
4. Consider the benefits received by the audience from your written report and how this information could be utilized by another Body, State, mode of transport?



## **Recent Developments and Experiences**

Background information for ITSA Member States prior to the May 2021 Microsoft Teams tele-conference

State: Transport Safety Investigation Bureau of Singapore (TSIB)

Presented by: Chong Chow Wah/Director

## **Introduction**

This report highlights Singapore's COVID-19, TSIB's manpower changes and recent TSIB's event.

## **COVID-19 Update**

Singapore started its COVID-19 vaccination programme in Jan 21. As of 18 Apr 21, Singapore has administered more than 2.21 million doses of the COVID-19 vaccine. The health authority is setting up more COVID-19 vaccination centres island-wide to accelerate the pace of vaccination. The first round of vaccination was given to essential and frontline workers such as healthcare workers, air and sea crew. After that, the priority of vaccination was in accordance with age group. The more vulnerable such as senior citizens (70 years old and above) had been given the chance to get vaccinated first. Currently, the age group 60-69 years old is undergoing the vaccination. The vaccination for age group of 45-59 years old has just been opened for registration. It is anticipated that by the end of 2021, the vaccination program for the population will be completed.

However, there were cases of people who had been vaccinated, and yet contracted the COVID-19 virus, but with less severe symptoms. This was a sturdy reminder that the battle with COVID-19 has yet to be over and we should not let our guard down.

A dedicated facility, called Connect@Changi, that house business travellers arriving Singapore on a quarantine-free bubble plan was launched on 18 Feb 21. This facility allows foreign business partners to meet their Singapore counterparts safely by being separated in the meeting rooms with airtight glass panels that run from the floor to the ceiling. It has 670 guest rooms and 170 meeting rooms and can be increased to a further 1,300 guest rooms and 340 meeting rooms. As of 9 Mar 21, travellers from countries such as Germany, France, Indonesia, Japan and the United Arab Emirates have begun the usage of the facility.

## **Major Organisational and/or Staff Changes**

As compared to last report in 2020, the number of TSIB Investigators (Air, Marine and Rail) remained unchanged (refer to Figure 1).



Figure 1: Manpower in year 2021

**Investigation Statistics**

Due to COVID-19, there were no overseas activities and lesser occurrences. The investigators had more time to work on their reports to clear the backlog. In 2020, TSIB completed eight air investigations, 12 marine investigations and one rail investigation, which amounts to 1.75 reports/month. This is by far the largest number of reports completed in a year.

The average duration taken to complete air and marine investigations were 578 days and 527 days respectively. The 3-year moving average for air safety investigation was 355 while the 6-month moving average<sup>1</sup> for marine safety investigation was 341.

The number of investigations launched in 2020 were as follow:

Air	4
Marine	5
Rail	3

In the first quarter of 2021, TSIB launched one marine investigation.

The number of on-going TSIB investigations as of 30 Apr 21 was summarised below.

Air	3
Marine	5
Rail	2

Total on-going investigation cases

<sup>1</sup> TSIB started the marine safety investigation in August 2016. There is not enough data to have 3-year moving average.



### **Fifth International Accident Investigation Forum (IAIF/5)**

TSIB would be hosting the fifth International Accident Investigation Forum (IAIF/5), tentatively planned to be in the week of 9 - 13 May 22 (3-day programme). At the previous IAIF/4 in 2019, 155 participants from 33 States and Administrations and five international bodies, including ICAO, ECAC, IFALPH, EASA and ISASI, gathered together to discuss topics such as amendments to standards and policies affecting air accident investigations as well as challenges and lessons learnt from major accidents. TSIB looks forward to welcoming ITSA members at the IAIF/5.



Figure 2: Group photo during the IAIF/4 in 2019

### **TSIB's participation in the investigation of Sriwijaya Air flight SJ182**

An Indonesia air carrier, Sriwijaya Air B737-500, operating flight SJ182, crashed into sea shortly after taking off from Jakarta, Indonesia on 9 Jan 21. With the permission of the Indonesia National Transportation Safety Committee (NTSC), TSIB sent two investigators to join their investigation.

The deployment was a test case for the TSIB's overseas deployment amid the COVID-19 situation. Through the arrangement with the Indonesia Embassy in Singapore and the NTSC, the TSIB team was granted exemption of compulsory isolation upon arrival in Jakarta. The TSIB team was required to undergo COVID-19 polymerase chain reaction (PCR) tests before leaving Singapore. The team spent 17 days in Jakarta alongside colleagues from the NTSB, FAA, Boeing and GE.

Upon returned to Singapore, the two TSIB investigators served the mandatory 14-day quarantine. The TSIB team continued to participate in the investigation remotely in the area of reviewing investigation documents and drafting of the final investigation report.



Figure 3: Identification of aircraft wreckage (left) and recovery of flight data (right)

### Building capabilities for rail safety investigation

TSIB marked its first anniversary for rail safety investigation since the operationalisation on 1 Apr 20. TSIB continued to build up its rail safety investigation capabilities and as part of cross-training, investigators from the three mode (aviation, marine and rail) attended courses conducted by both the rail operators and rail regulator in Singapore. The courses by the rail operators were customised to complement investigators during a rail safety investigation. The topics included learning of the rolling stock used, the technicalities of the data recorders on-board the train and the working principles of signalling system for the specific railway line. The courses by the rail regulator, on the other hand, provided different perspectives in terms of the design, considerations in ensuring the safety and reliability of the railway system.



Figure 4: Investigators attending training by rail operator (left) and training by rail authority (right)

In addition, TSIB had made arrangement with the Japan Transportation Safety Board (JTSB), to share its experience in rail safety investigation with TSIB. A virtual training had been arranged to take place in either the third or fourth quarter of this year.

TSIB would also be exploring training opportunities from the train manufacturers to further expand the rail knowledge for its investigators to conduct rail safety investigation.