



Lesson Learn from the QZ8501 Investigation

**Komite Nasional Keselamatan Transportasi (KNKT)
Indonesia**



Events

- 28 December 2014, A320 operated as QZ8501 reported lost contact with 162 persons on board.
- SAR response launched by Indonesian SAR agency, BARSARNAS
- Debris was found floating in Karimata Strait
- KNKT (accident investigation authority) coordinated effort to locate and recover flight recorders.



Timeline of Events

- 29 December 2014, the investigation go team assembled including the black box searching team.
- Singapore, France, United Kingdom, South Korea and Australia offered assistant to support the investigation and black box search
- 31 December 2014 the search operation moved from Pangkal Pinang to Pangkalan Bun.



Challenges Faced

- **Accommodation**

- Lack of accommodation
- Improvising and staying onboard vessels



- **Transport**

- 400Kg of equipment
- Help from military and BASARNAS



Locating the Flight Recorder



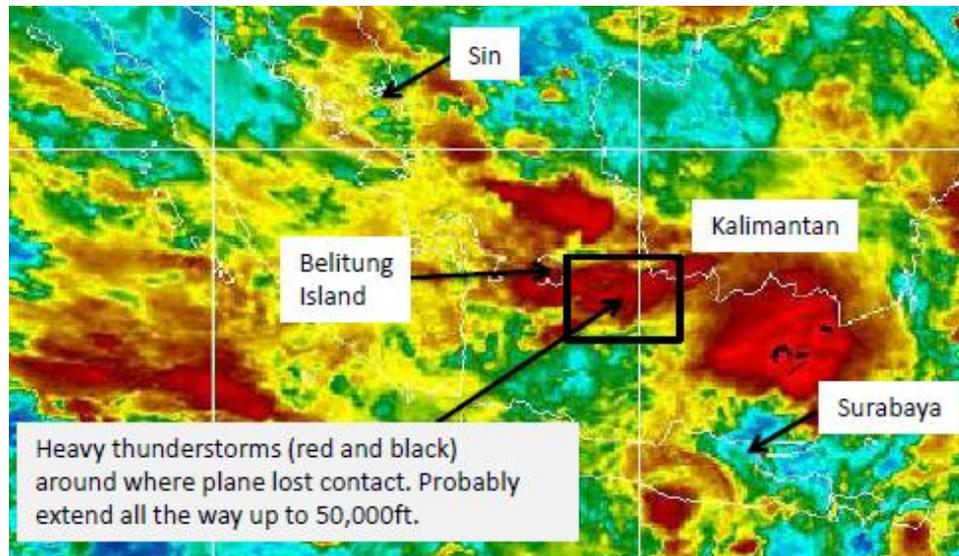
Locating flight recorder refer to the last ADS-B data.

The point calculation was made by team in Jakarta (head quarter) consisted of KNKT, BEA, and ATSB.



Challenges Faced

- Weather
 - Reduced window to detect/localise pings
 - Affected dive operations



- Logistics
 - Planning for maximum endurance of vessels
 - Trade travelling time for endurance



Recovering the Flight Recorders

- 12 January, FDR recovered
- 13 January, CVR recovered





Management of Sea Search

- SAR operation led by BASARNAS
- Flight recorder recovery coordinated by KNKT
- KNKT handled
 - Overall management of underwater search team
 - Logistic support for underwater search team
 - Coordination with BASARNAS
 - Facilitation for necessary clearance required for foreigners



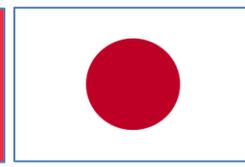
International Cooperation

- **KNKT coordinated with MFA for necessary diplomatic clearance**
- **One KNKT personnel to each group of foreign participants**
 - Translator to communicate with locals
 - Coordinator with HQ
- **Search team able to focus on task**
- **Importance of close relation with counterparts**
 - Developed before crisis
 - Through attending ISASI seminars, ICAO AIG events, MOU, etc



The lessons learnt

- Successful operation based on international cooperation
- Benefits accept offers of assistance
 - Greater efficiency for flight recorder recovery
 - Challenge to coordinate resources
- Investigator training to the current technology, methodology and related issue are significant.



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Annex 12 – Annex 11/13 Issues

Following is ICAO comment in terms of lessons learnt

- **Search Planning** – The search planning and instructions should be carried out by all units civil, military, survey, govt., etc.) based on the plans provided by the RCC. They should not choose and change their area allocated without receiving approval from the RCC

Annex 12 – Annex 11/13 Issues

- **Alerting Service** – QZ8501 was under radar control but it took about an hour for the information (including radar data) to flow to the RCC (Indonesia has separate agencies providing the ATC and SAR services).
- **Command and Control**- In the SAR operations Area, only one authority can provide command and control to ensure safety. The RCC should also have aviation personnel to ensure that aircraft operating in the same area are separated by levels or distance or areas (if at same level).

Annex 12 – Annex 11/13 Issues

- **SAR and Accident Investigation** – The Accident Investigation should not complicate SAR efforts:
 - requesting that SRU keep out of the most probable area to conduct underwater detection for the black boxes; or asking SAR units to remain stationary while they do their search for the black box; or deploying a buoy to recover black boxes and hinder the SAR operation unless this is under the command and control of the RCC;
 - investigators should be educated to understand that SAR is separate from investigation so should make provisions to utilize their own resources instead of using SAR assets.

Annex 12 – Annex 11/13 Issues

- the search for the black boxes should not be conducted under the Command and Control of AIG until such time as the possibility of survivors is so low that the official SAR response is terminated.
- There must be a handover of command and control between the Annex 12 and Annex 13 elements and only one can be in charge at a time.
- This relationship is NOT clear in ICAO documents at present, and was also identified as a problem in the MH370 event.