



KOMITE NASIONAL KESELAMATAN TRANSPORTASI
REPUBLIK INDONESIA

Occurrence record during the pandemic

Paparan untuk SENATIK 2020 – STTA Yogyakarta

Presented by

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Background

- During the COVID-19 pandemic, the number of flight reduced up to 70% to 80% (reported);
- Except for Papua, the frequency of cargo flight did not affect significantly;
- Anticipating decreasing of operation activities, DGCA issued several regulations and exemptions;
- KNKT investigation did not decrease significantly;

Regulations

1. CASR 121.439 requires for a pilot to perform minimum of 3 take offs and landings within 90 days.
2. CASR 121.441 requires a pilot to perform proficiency check
 - For a pilot in command, within 6 months;
 - For other pilots, within 12 months.

DGCA exemptions

On 26 May 2020, the DGCA issued exemption to the pilot proficiency check and recent experience for Air Operator Certificate (AOC) 121 and 135 holders. The exemption allowed the aircraft operator to:

- a. Assign a pilot who has not conducted proficiency check in last 6 months as PIC.
- b. Assign a pilot who has not conducted proficiency check in last 12 months as SIC.
- c. Assign a pilot who has not meet the requirement of recent experience of conducting 3 takeoffs and landings within 90 days.

The exemption was issued considering the travel limitation around the world and reducing the aircraft operation.

DGCA exemptions

On 27 May 2020, the DGCA issued safety circular Number SE.36 of 2020, related to Extension of Pilot Proficiency Check for Air Operator Certificate 121 and 135 holders. The extension would be issued to pilot proficiency check with maximum validity period of 6 months after evaluation of the following aspects:

- The operator required to conduct recurrent aircraft technical ground training and ground check.
- Pilots who received the exemption have experience of more than 3 years or 2,000 flight hours consecutively in the aircraft type.
- Proficient and qualified based on analysis from the last proficiency check and safety issue.
- Risk assessment and mitigation to the assigned pilot accordance with applicable provision.



Rate of Investigation - 2019

$$\begin{aligned}\text{Investigation rate} &= \frac{\text{number of investigation}}{\text{number of aircraft departure}} \times 1,000,000 \\ &= \frac{30}{956,262} \times 1,000,000 \\ &= 31.4\end{aligned}$$

Number of KNKT Investigation

Month	2019	2020	Fatalities		Serious injury		
			2019	2020	2019	2020	
January	1	2				1	
February	4	1					
March	3	3		3		1	PSBB Initiated
April	0	0					
May	1	3		1	1		Idul Fitri
June	2	4					
July	3	3	1	1			KNKT discussed the issue to Director General
August	2	2			1		
September	4	2	4			3	
October	4	2		1			
November	3	1					
December	3	0					
TOTAL	30	23	5	6	2	5	

Note:

1. 12 investigations occurred in Papua in 2020 (8 occurrences in 2019)
2. 4 occurrences outside Papua, related to aircraft system failure

Assumption of Rate of Investigation - 2020

$$\text{Investigation rate} = \frac{\text{number of investigation}}{\text{number of aircraft departure}} \times 1,000,000$$

Assumption of the number of aircraft departure reduced by 70%;

$$= \frac{23}{290,000} \times 1,000,000$$

$$= \mathbf{79.3}$$

$$= \frac{\mathbf{9.1}}{290,000} \times 1,000,000$$

$$= \mathbf{31.4}$$



Occurrences

1. **23 Apr 2020, LUW, A320.** During parking on a narrow apron, the pilot followed guidance from the marshal. The aircraft wing impacted to light pole.
2. **5 May 2020, UPG, B 737.** During taxi out, the aircraft wing impacted to movable passenger stair. The new taxi guideline had just been established. The old taxi guideline was still clearly visible. The cross marks available on the intersections.



Occurrences

3. **11 Juni 2020, BDJ, B737.** During final approach the rain started. The PIC took over control. The SIC was on line training to be qualified FO. Prior to touch down, the visibility was minimum. The aircraft bounced. The first touched down recorded 2.8 g.
4. **1 July 2020, UPG, A330.** During turning for line up on 45 meters wide runway, the aircraft exited the runway. The nose wheel and left main wheel stuck on the shoulder.



Occurrences

- 5. 15 Sept 2020, KNO, A 330.** During approach, the Second in Command (SIC) handed over control to the Pilot in Command (PIC). Both pilots are qualified PIC while the SIC was on familiarization training program. On landing, the aircraft skid to the left of the runway. The SIC last flight was on February 2020 and the last PIC flight on right hand seat was on March 2020.

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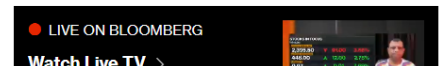
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General findings

- In general, the occurrences during the pandemic appeared to be similar with the occurrences during normal period.
- The investigations have not been completed.
- Initial findings is that several occurrences related to the pilot judgement.



Impair Judgement

- Judgement impairs by fatigue and stress.
- Are the pilot (aviation personnel) suffered fatigue and stress during this pandemic?
- Is there any skill decrement?

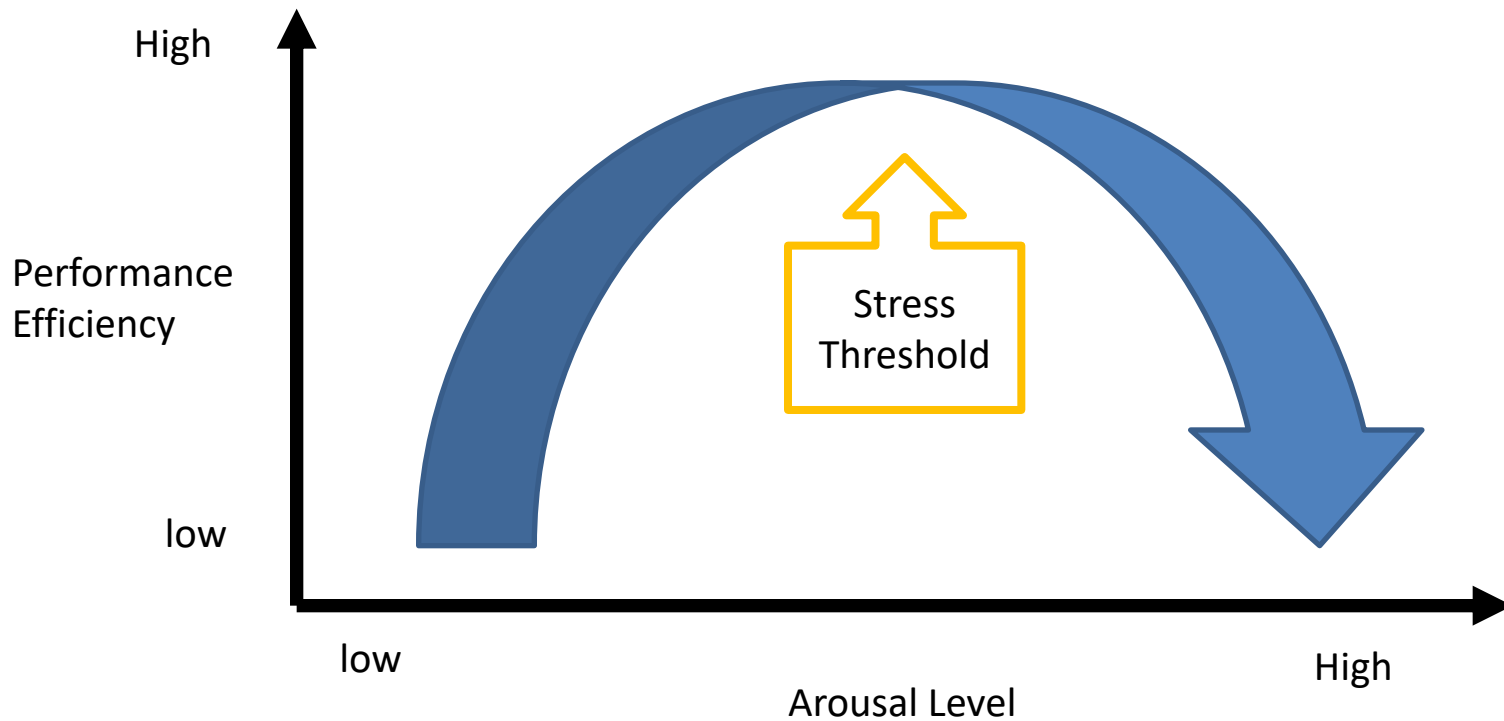


STRESS

- The manifestation of stressors
 - Psychological reactions
 - Emotional responses, etc.
 - Physical reactions
 - Headaches, nausea, illness, etc.
 - Behavioral reactions
 - Accidents/incidents, substances abuse, etc.

Stress and performance

Yarkes-Dodson Law Inverted U Curve of Arousal & Performance





Stress impairs performance

- Attitude
- Awareness of time
- Behavior
- Decision making
- Error monitoring
- Mental abilities
- Perception
- Reasoning
- Self control
- Team work
- Understanding
- Vigilance



Personal stress

- Also referred to as :
 - Domestic based stress
 - Non-work stress
 - Home stress
- Causes most dissatisfaction
- Effect flying efficiency
- Effect nearly one third of working life

Life stress (Holmes & Rahe)

- Husband or wife die 100
- Getting sick or involve in an accident 53
- Divorce 50
- Getting married 50
- Loosing job 47
- Retired 45
- Pregnancy 40
- Sexual difficulty 39
- Adapting new working environment 39
- Financial problem 38
- Holiday 13



Stress Management

- Recognise the factors that cause stress
- Deal with those factors that can be removed
- Priorities
- **Follow standard operating procedure**
- **Use checklist**
- Time management is important
- Delegate when appropriate
- Involve other people; communication is important
- Learn to relax
- Take a short break
- Keep fit
- Maintain healthy diet and lifestyle
- Recognise your own limitation



Fatigue

Types of fatigue:

- Physical
- Mental
- Emotional

Fatigue may be:

- **Acute:** occur in short period caused by circadian rhythm disruption, acute sleep loss or Excessive mental or physical work
- **Chronic:** occur in long time as result of inadequate recovery



Negative effect of Fatigue

- Attention and reaction time
- Short term memory
- Decision making
- The timing of tasks
- The ability to judge distance, speed, and time
- The ability to perceive and interpret information
- Communication and coordination



Fatigue countermeasures

- Get your 8 hours of sleep
- Proper sleep conditions (cool, dark, quiet)
- Nutrition / Balanced diet
- Maintain good health and physical fitness
- Maintain optimal working condition
- Take nap (Best time in low body temp)
- Moderate caffeine (Do not use caffeine when already alert or before bedtime)
- Engage in active conversation
- Do something physical such as stretching or moving around
- Best treatment : Get rest and natural sleep.
- But If not relieve , seek the advice of a professional



How to minimize skill decrement

- Pairing with the recent experience pilot;
- Review the procedure / flight preparation;
- Crew briefing / coordination;
- Follow SOP;
- Use checklist.



THANK YOU