

The Tigerair logo is displayed in a bold, lowercase, sans-serif font. The word "tigerair" is in a dark grey color, and the dot above the "i" is a white circle. The logo is set against a solid orange background.

FATIGUE MANAGEMENT IN TIGERAIR TAIWAN



2018-08-07
By TTW FOD



PRESENTATION OUTLINE

- **TIGERAIR TAIWAN CURRENT STATUS**
 - **A320 FLEET MANPOWER**
 - **PILOT AVERAGE FLIGHT TIME**

- **A320 FLEET CREW MANAGEMENT**
 - **FATIGUE MANAGEMENT SYSTEM-FRMS**
 - **FATIGUE MANAGEMENT COURSE**

- **CONCLUSION**





TIGERAIR TAIWAN CURRENT STATUS

Tigerair Taiwan has been growing its network for 4 years since 26th Sep, 2014 and carried more than five million passengers to date.

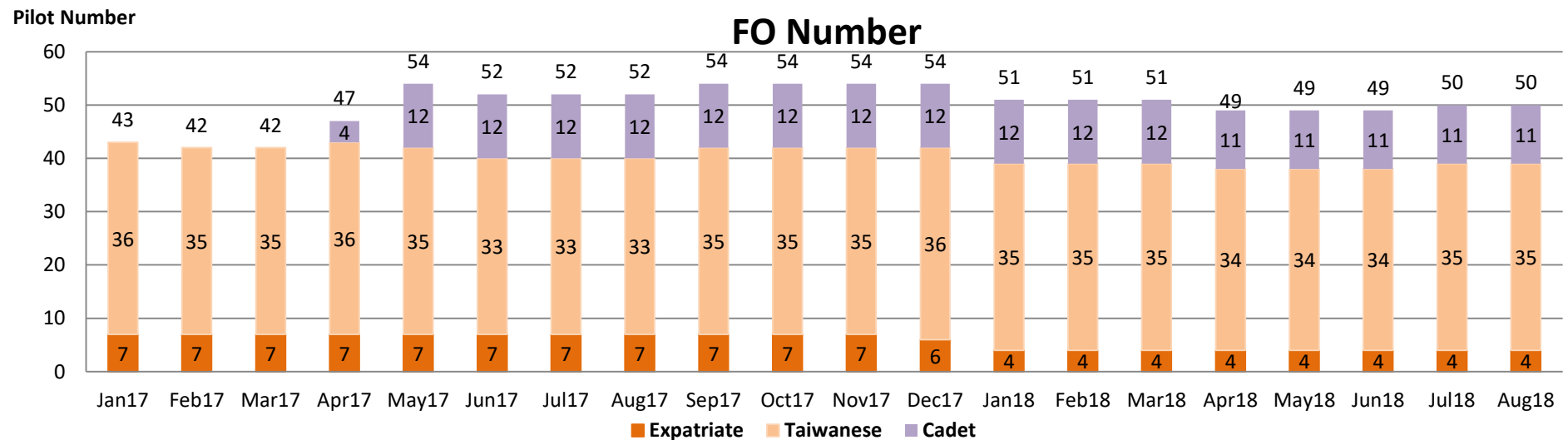
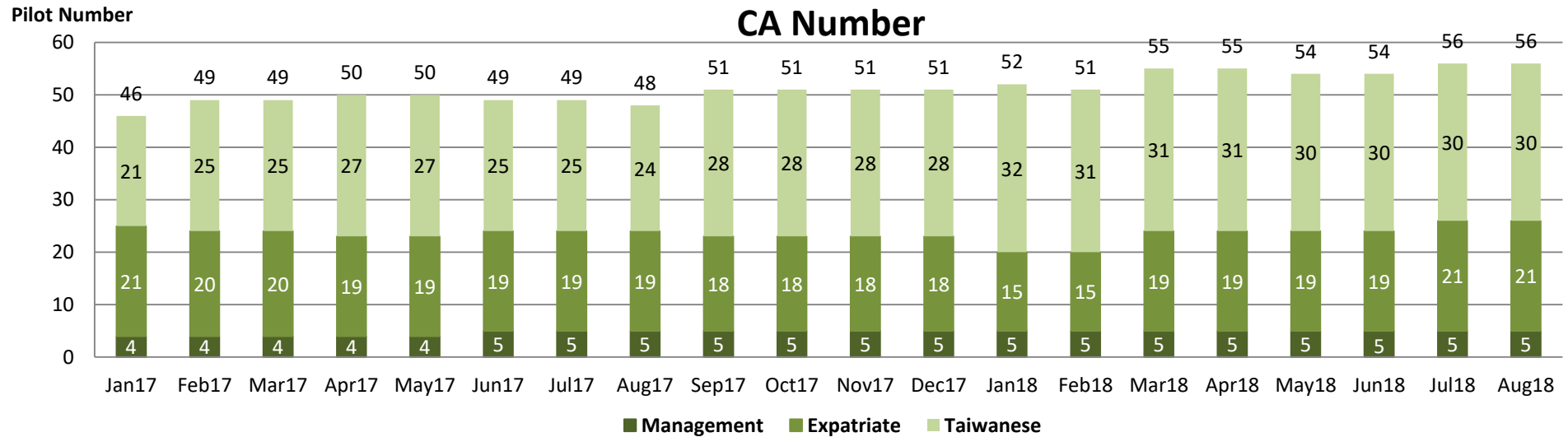
Tigerair Taiwan offers services connecting Taiwan and various country in Asia, more than 60% of routes are Japan service.

Tigerair Taiwan A320 Fleet Introduction

Fleet Scale	11 aircrafts (AIRBUS A320 B-50001 、 B-50003 、 B-50005 、 B50006 、 B-50007 、 B-50008 、 B-50011 、 B-50015 、 B-50016 、 B-50017, B-50018)
Pilot Resource	Total Number: 106 Captain: 56 (From different commercial airline, military, or upgraded by Tigerair Taiwan.) First Officer: 50 (From different commercial airline, military, or trained up by Tigerair Taiwan.) Cadet: 12 (Trained up by Tigerair Taiwan.)
Proportion of Foreign Pilot	25% (25 foreign pilots and 106 Taiwanese pilots)
Pilot Nationality	Taiwan, Malaysia, Australia, Korea, Honduras, and the Philippines
Pilot Average Experience Level	Captain: More than12,000 hours First Officer: More than 5,000 hours

TTW A320 FLEET MANPOWER

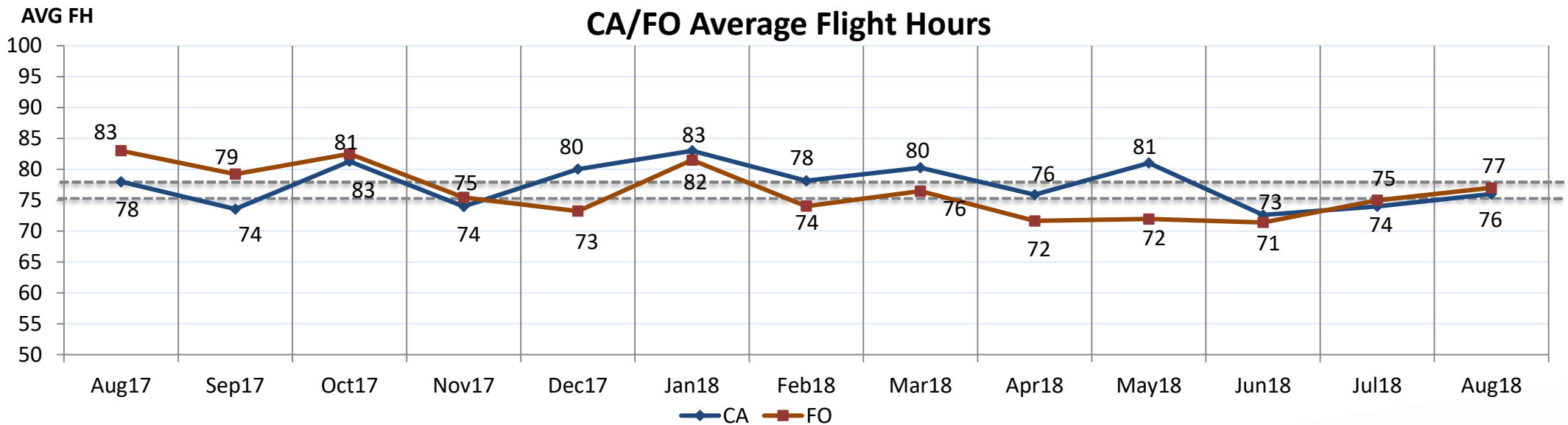
➤ Pilot Manpower Development



PILOT AVERAGE FLIGHT TIME

➤ AVERAGE FLIGHT TIME

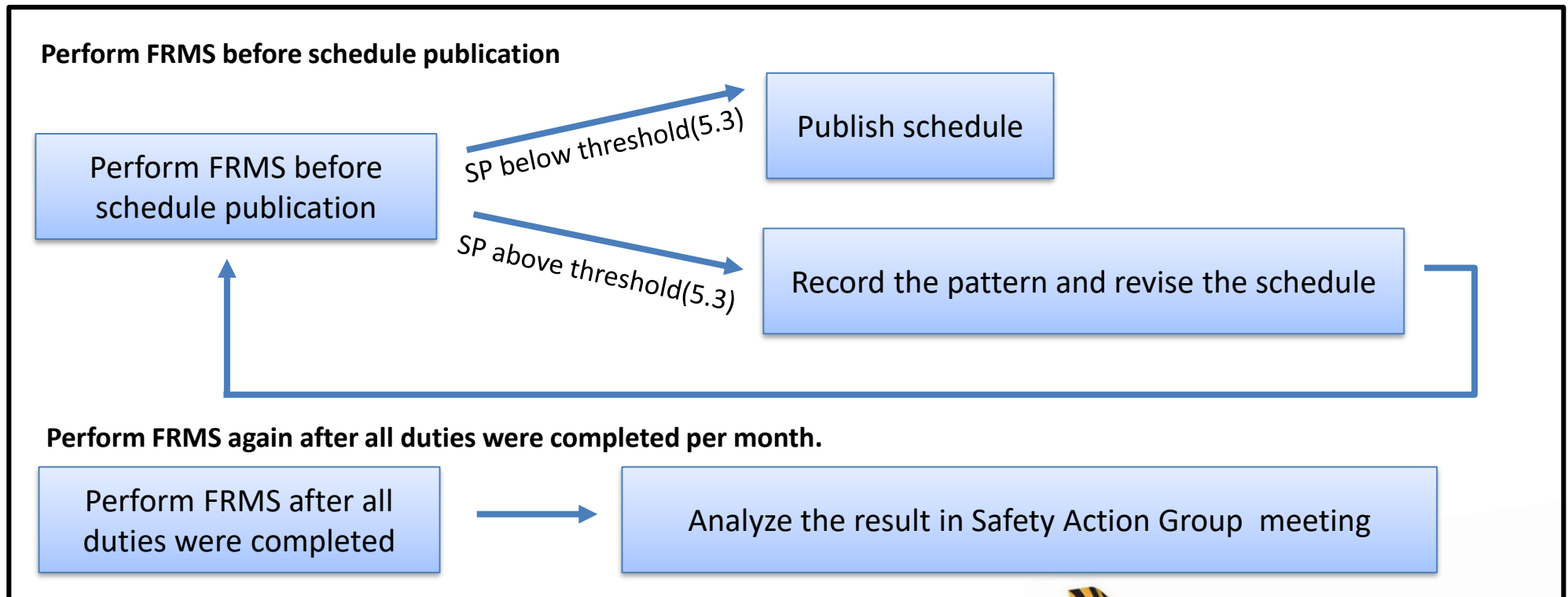
- The targeting Key Performance Indicators is 78 (hours/month) for Captain and 75 (hours /month) for First Officer.
- The upper limit of all pilot's Flight time is set at 83 (hours/month).



FATIGUE MANAGEMENT SYSTEM-FRMS

➤ FRMS (Fatigue Risk Management Science)

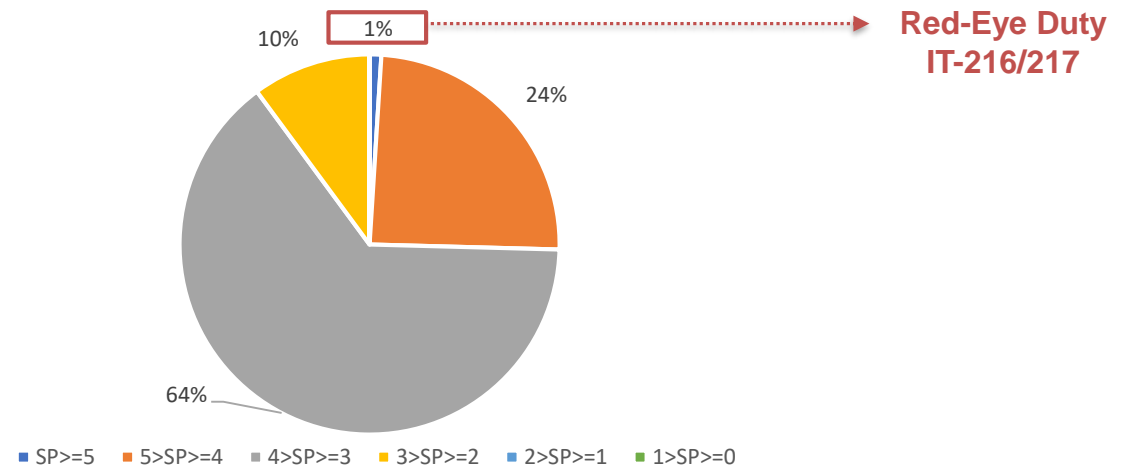
- The threshold in FRMS is using Samn Perelli (SP), which has been set as 5.3 in Tigerair Taiwan.



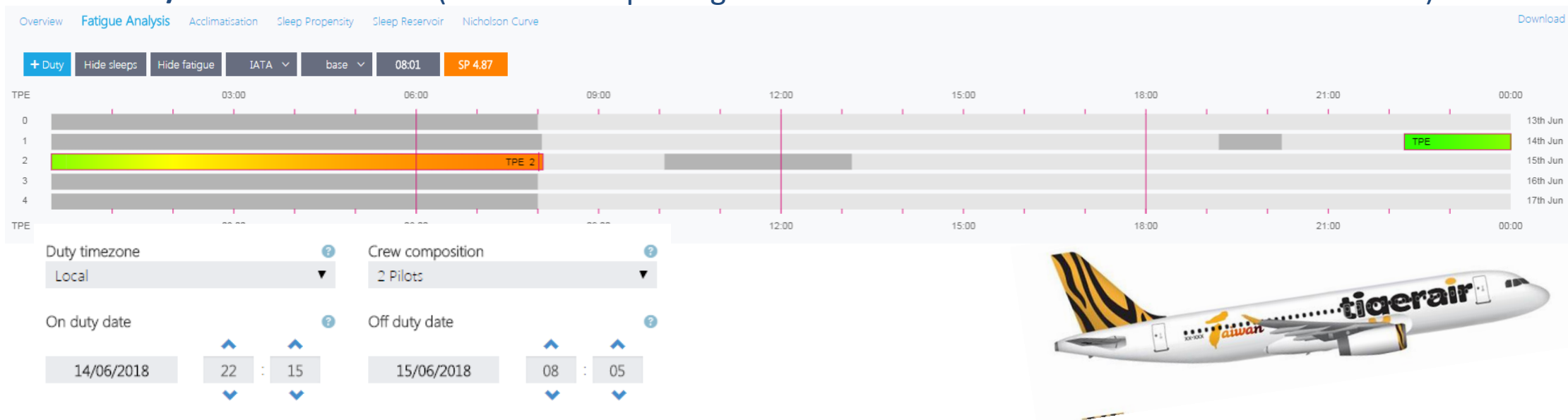
FATIGUE MANAGEMENT SYSTEM-FRMS

➤ SP-index Statistic

SP Range	Number Duty	Ratio
SP>=5	21	1.00%
5>SP>=4	517	24.43%
4>SP>=3	1365	64.47%
3>SP>=2	213	10.08%
2>SP>=1	1	0.03%
1>SP>=0	0	0.00%

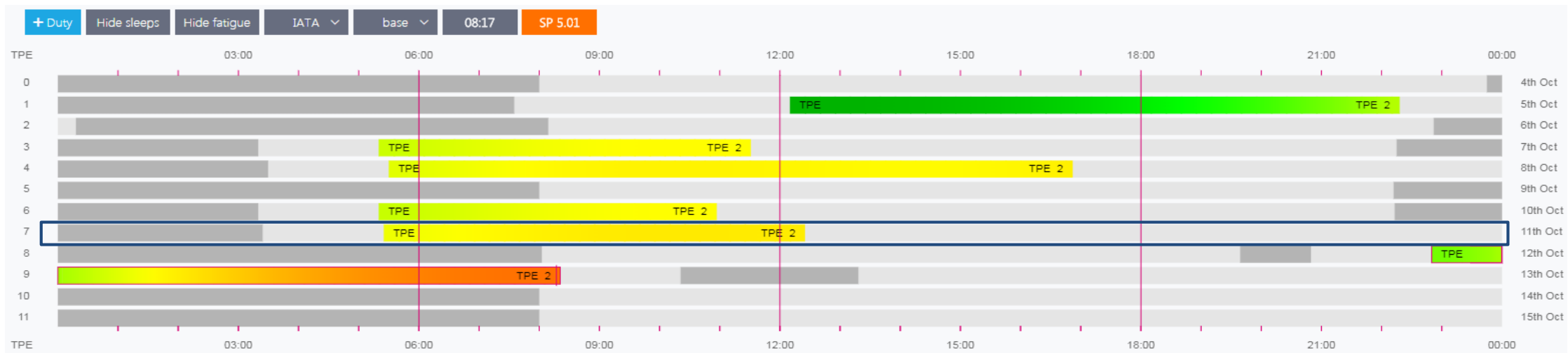


➤ IT-216/217 TPE-HND-TPE (Scheduled reporting time at 22:15 and scheduled release time at 08:05)



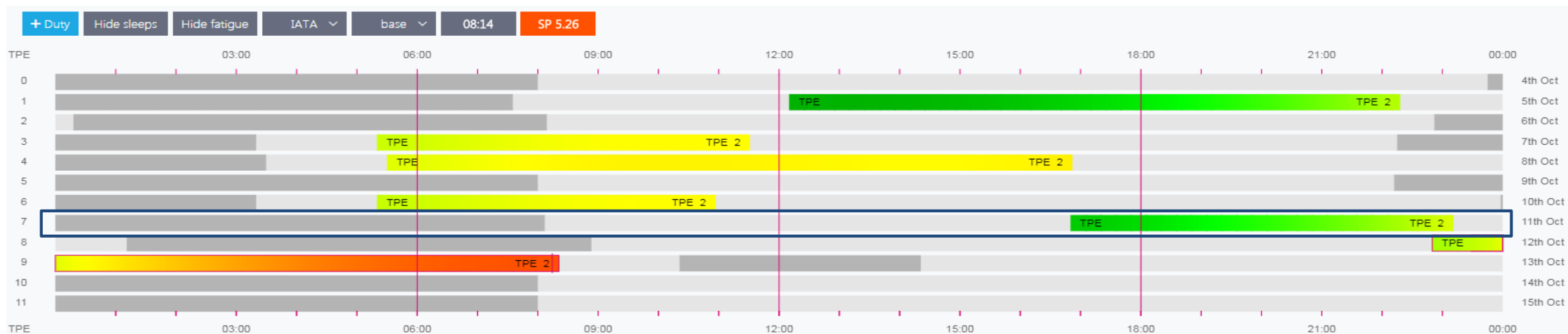
FATIGUE MANAGEMENT SYSTEM-FRMS

- Early-duty (reporting time earlier than 05:00am) before Red-Eye duty might increase the fatigue level.



FATIGUE MANAGEMENT SYSTEM-FRMS

➤ Reserve adequate rest time before Red-Eye duty.



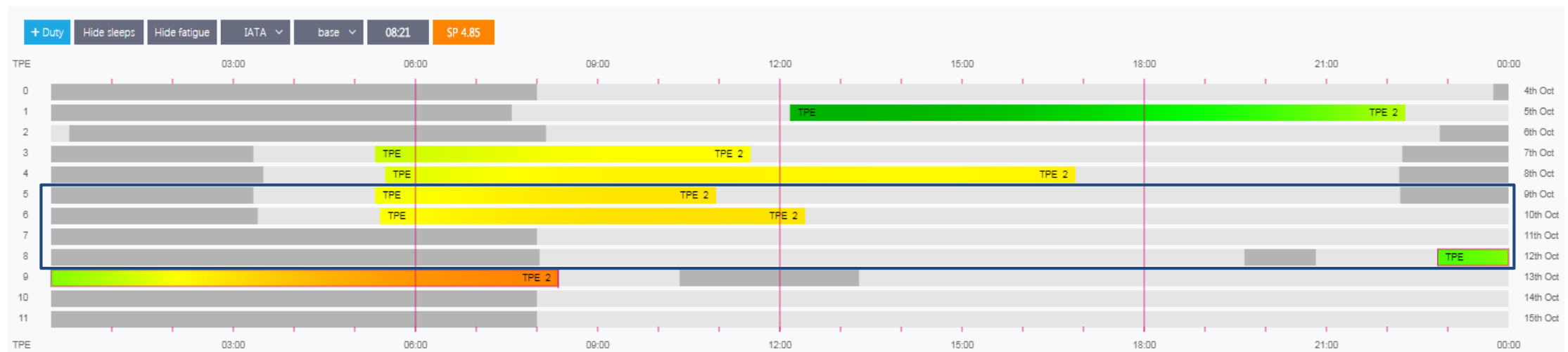
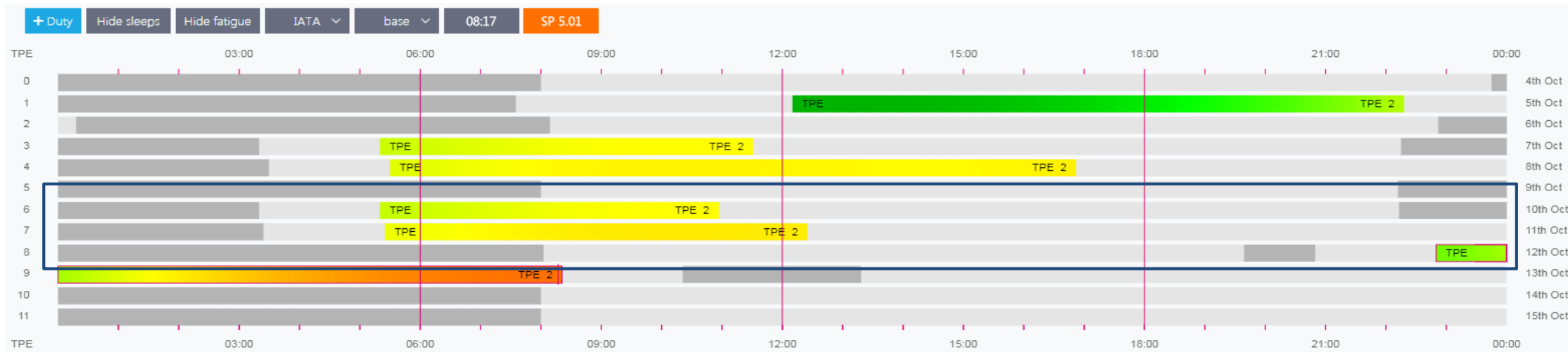
FATIGUE MANAGEMENT SYSTEM-FRMS

➤ Forbid duties with long flight time before Red-Eye duty.



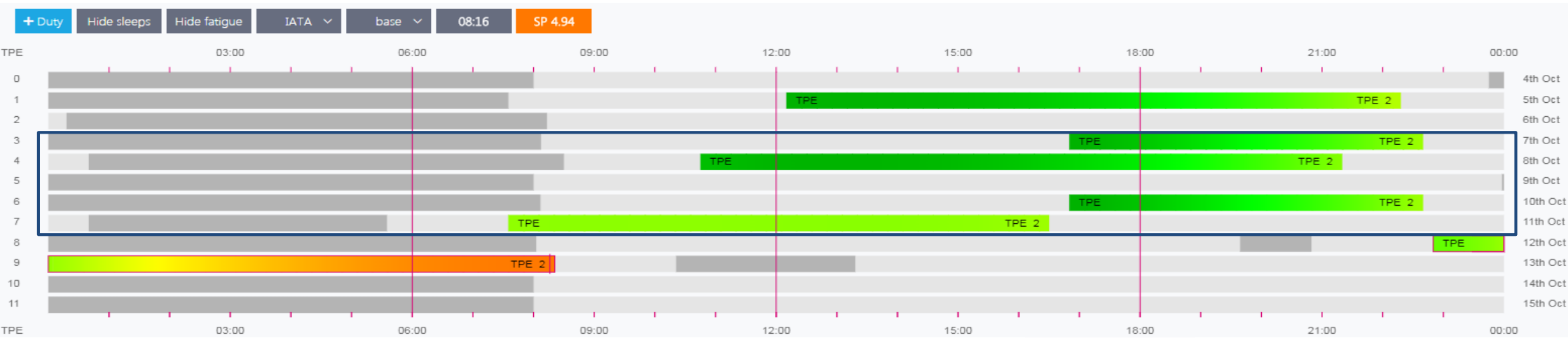
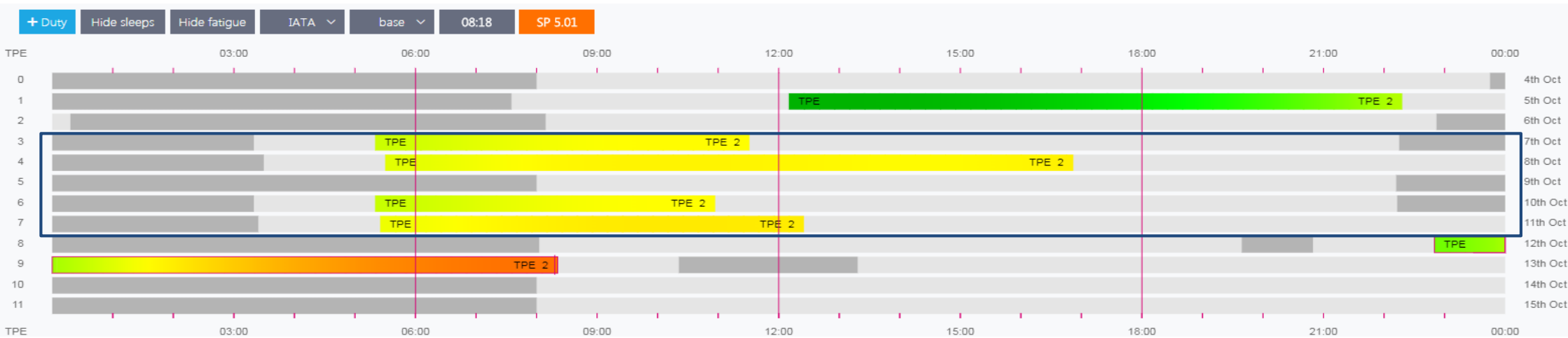
FATIGUE MANAGEMENT SYSTEM-FRMS

➤ Continuous days off can effectively mitigate crew's fatigue.



FATIGUE MANAGEMENT SYSTEM-FRMS

➤ Forbid continuous early duty before Red-Eye duty to prevent chronic fatigue syndrome .



FATIGUE MANAGEMENT SYSTEM-FRMS

➤ Precautionary measure

1. Red-Eye duty will be arranged after continuous days off or annual leave to mitigate crew's fatigue.
2. Reserve adequate rest time before red-eye duty to ensure all pilots have sufficient sleeping.
3. Forbid continuous early duty and long-flight-time duty before red-eye flight.
4. Even though the threshold of Fatigue level (SP) in Tigerair Taiwan has been set as 5.3. The maximum SP index will be controlled within 5.2 before schedule publication to prevent the fatigue caused by unexpected duty time extension.



FATIGUE MANAGEMENT COURSE

➤ Fatigue Management Course

- Arrange fatigue management course on E-Learning System and Flight Safety Meeting.

Fatigue came from



- Illness
- Sleeplessness
- Jet lag
- Stress



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Checklist for duty



- I: Illness
- M: Medication
- S: Stress
- A: Alcohol
- F: Fatigue
- E: Emotion

Recommendation:

- File fatigue report
- FRMS measurement
- Know the symptom
- Manage and adjust sleep pattern
- Use of coffee, walk around, chewing gum

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SUMMARY



- Understand the Human Fatigue symptom and manage professionally.
- Be aware and adjust sleep pattern, exercise and diet habit.
- CRM practice as key elements to support each other.
- Well use the fatigue countermeasure.
- Fatigue reporting for rostering improvement.
- Share the mental model to the partner.
- Feel free to discuss with Management pilots for improvement.

Module N°8

ICAO Safety Management Systems (SMS) Course

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(Pictures excerpted from fatigue management teaching material.)

➤ Fleet Notification

- Use Fleet Notification to remind crew some precautionary measures.

➤ Fatigue Report

- Adjust crew pattern by crew-report suggestions.

➤ Crew Resource Management

- CRM is the key to prevent error.



CONCLUSION

➤ Pilot Pattern Optimization

- Keep recruiting to satisfy manpower requirement.
- Optimize pilot's average flight time, targeting KPI CA 78 (hours/month) and FO 75 (hours/month).

➤ Line Operation Monitoring

- Additional warning message from Rostering system to ensure crew has adequate rest time before flight duty.

➤ Fatigue Management System

- Perform FRMS (Fatigue Risk Management Science) to monitor crew fatigue index.

➤ Notification Propaganda

- Arrange Fatigue Management Course.
- Fatigue Report from crew is actively managed.



CONCLUSION

Tigerair Taiwan operates under a budget airline company model, but under no circumstances shall Tigerair Taiwan ever compromise any least bit in flight safety & security.

SAFETY FIRST. WE DELIVER WHAT WE PROMISE.



tigerair

Thank You

