Jeppesen Fatigue Risk Management

Manage fatigue risk in your planning process.

Jeppesen Fatigue Risk Management helps you address safety issues while boosting efficiency.

Crew Solutions Use science with optimizers	**Fatigue Models** Boeing Alertness Model (BAM) and others	**Consultancy** Impact assessments and more
CAPI Integrate into your environment		**Training** Courses for planners and managers
CFAS Add-on assessment capability		**Data Collection Surveys** Collect data using CrewAlert
CrewAlert Collect data and get acquainted		**Remote Planning** Have Jeppesen plan for you

Jeppesen offers you a variety of solutions to control crew fatigue and fatigue risk in crew planning and operation.

Jeppesen Fatigue Risk Management improves safety and increases efficiency.

Managing fatigue risk not only helps you address major safety issues and regulations, it makes your operation more efficient. Jeppese Fatigue Risk Management provides strategies and proven solutions to fatigue risk issues. The solution suite covers the entire crew management process, and also provides tools for crew members to forecast and mitigate fatigue.

Manage fatigue risk with Jeppesen solutions.

Jeppesen Crew Management

All Jeppesen Crew Management solutions can be connected to fatigue models such as the Boeing Alertness Model, BAM. This allows you to boost alertness while constructing your pairings and rosters with Jeppesen optimizers, and also find weak formulations in your current rule set.

Jeppesen Crew Fatigue Assessment Service

You can easily conduct a fatigue assessment on thousands of pairings or rosters in seconds through the Web-based Jeppesen Crew Fatigue Assessment Service. The service, which connects to any scheduling solution, allows you to show control or progress internally or to a regulator by measuring and tracking predicted alertness from a scientific model.

Jeppesen CrewAlert iPhone Application

The CrewAlert iPhone application allows you to get acquainted with BAM at a minimal cost. You may investigate individual patterns and see how science "plays out" on a roster. CrewAlert can also be used by crew for fatigue reporting and for collecting fatigue data from actual operation.

CrewAlert contains fatigue mitigation advice produced on-the-fly fitting the context of the individual.

See what we can do for your operation.

By analyzing upcoming time tables you can avoid unnecessary fatigue build-up and reduce the unavoidable part of fatigue built into the flight schedule from the very beginning. Furthermore, you can more correctly assess operating costs when evaluating flights.

By regularly measuring planned and actual crew schedules with regard to predicted alertness levels and trend it over time, it is easy to monitor improvement or deterioration. This enables you to stay in control of planned and actual fatigue levels.

Use the predicted alertness levels to more efficiently quality-assure, investigate, and possibly alter, crew schedules before operating them. This will reduce work for QA of monthly pairings and rosters, and enable direct focus to the most concerning fleets/patterns.

Control, maintain, or increase predicted alertness in the crew schedules during the actual construction in the crew optimizers in lieu of introducing overly restricting rules. You will be able to place difficult flights in the best possible context in pairings and rosters to enhance safety, as well as relax existing rules (FTLs and LBAs) while maintaining equivalent level of safety and enhanced crew productivity.

Read about the benefits on the next page →

Learn more about what we offer.

For more information about Jeppesen Fatigue Risk Management, visit jeppesen.com/FRM.

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Jeppesen Fatigue Risk Management

What are the benefits?

Analysis of upcoming time tables in order to avoid unnecessarily building in fatigue.

A/C configuration and augmentation, choice of hotel, timing, frequency, positioning options.

Value: Reduce the unavoidable part of fatigue built into the flight schedule from the very beginning. Alternatively, more correctly assess operating costs when taking the decision to operate the flights.

Regular measurement of planned and actual crew schedules with regards to predicted alertness levels and trend it over time to monitor improvement or deterioration.

Build early to have statistics to base future decisions on!

Value: Stay in control of the average fatigue level planned for and later actually operated. Use in a FRMS as part of "managing fatigue" as required by ICAO. Also use to identify fatigue growth between flight schedule through planned production to actual to address fatigue where it matters most.

Use the predicted alertness levels to more efficiently quality-assure, investigate, and possibly alter, crew schedules before operating them.

In the recurrent pairing or roster reviews, use the metrics to single out the concerning part of the production.

Value: Reduced work for QA of monthly pairings and rosters. Direct focus to the most concerning fleets / patterns.

Control and maintain, or increase, predicted alertness in the crew schedules during the actual construction in the crew optimizers in lieu of introducing overly restricting rules.

• Within existing constraints

• Avoid adding additional restrictions

• Relax existing constraints

Value: Place difficult flights in the best possible context in pairings and rosters to enhance safety. Avoid introducing low-precision rules for fatigue constraining productivity, leading to less deterioration of productivity. Relax existing rules (FTLs and LBAs) while maintaining equivalent level of safety and enhanced crew productivity.

Using the predicted alertness as one possible common metric moderating internal discussions when e.g. evaluating scenarios and altering crew agreements.

Value: Allow fatigue to be a quantifiable property also taken into account when altering crew agreements. Make sure that changes are also good from a fatigue perspective. Better collaboration with unions over common metrics will lead to a better outcome for both parties.

Use the model as part of a Fatigue Risk Management System (FRMS) to assist in complying with regulatory requirements.

Value: Avoid the inefficiency and costs associated with attempting an alternative manual process for applying sleep and performance science to crew scheduling processes. Manually applied guide-lines, reactive and isolated rule changes and a lack of metrics will be very costly – both to perform but also in terms of end result on safety and crew efficiency.

Use the model for investigating possible causes of fatigue reports and find effective corrective actions.

• Investigate context

• Use actual reported sleep

• Compare with other planned/actuals

• Alternative context, augmentation or modify sleep opportunity?

• Personal characteristics

• Find buffer strategies for robustness

Value: Qualify and set fatigue reports into relation to other parts of the operation. If this situation is so fatiguing – what about this other one? Use the model as one tool for drilling down to root cause but also to moderate the internal discussion by having a common metric. Do the right changes to the operation to maintain efficiency and enhance safety in a better way.

Use the model with the optimizers and penalties to stress-test rules (company rules, pilot working agreement and FTLs) to identify and assist with improving predicted alertness levels.

Value: Find the weak spots in the current rule set and patch them up, leading to enhanced flight safety. The patching is most efficiently done by rules and penalties connected to a model rather than using traditional rules based on duty/rest times.

Go from fatigue management to fatigue risk management by adding fatigue context to better reflect mission risk

Value: Increased flight safety even further. Reduce true fatigue risk already when constructing crew schedules. Focus risk reductions efforts correctly by having risk scores on all flights.

Visualize and control alertness during manual modifications to the crew schedules.

Value: Maintain, or even increase alertness levels when manually modifying crew schedules.