

THE CONTROLLER

October 2016

Journal of Air Traffic Control



MONGOLIA

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Cover photo:
Detail of the Genghis Khan equestrian statue, on the
bank of the Tuul river, Mongolia

credit: DP

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STAFF SHORTAGES

Strong feeling of déjà-vu in Europe's ATM



by Patrik Peters, IFATCA President & CEO



For those of us living in our planet's northern hemisphere, a busy and at times stressful summer is slowly coming to end. This should finally see traffic winding down in anticipation of the winter season.

Especially in the European area, the summer was once again marked by staff shortages. Employers are resorting again to cutting leave slots and are requesting staff to work overtime. Hasty decisions, taken during the recent worldwide economic downturn, are now having their unintended, yet completely foreseeable effects on our industry as a whole and on the workforce in particular.

The unfiltered and indiscriminate cut-backs in recruiting and training were clearly driven by a lack of planning, realism and short-sightedness. And, as has happened a number of times in the past, air

navigation service providers are again and increasingly relying on the goodwill of the staff to solve the problems their lack of foresight has gotten themselves into.

The inertia of the system predicts that for the coming years attempts to rectify this situation will once again be 'too little, too late'. And in what looks like a perfect storm, a considerable part of the workforce is approaching their retirement age owing to a previous decision gap in recruitment and training.

Many service providers are squeezed between economic pressures and operational staffing requirements – between a rock and a hard place, so to say. Being in the business myself for a long time now, it is hard to believe that this wasn't predictable or avoidable. But as tempting as it is to complain about the

situation, we should more than ever focus on a way ahead – learn from good examples to overcome the shortage and support those which can serve as role models for others.

At the recent IFATCA Asia – Pacific region meeting in Ulaanbaatar, Mongolia, it was mentioned that a lack of training facilities in the region could result in a deficit of more than 1,000 controllers a year. Anticipating on this, Singapore, as one of the leading countries in the region, has engaged in a constructive dialogue with its staff. Together, they recognized the urgency to recruit controllers whilst collaborating with the airlines to manage their operating costs in lieu of being worried about rising air navigation fees. This kind of collaborative decision-making enables the service provider to remain competitive and at the same time safeguard recruitment and training. Cooperation with staff representatives highlighted

For the coming years attempts to rectify this situation will once again be "too little, too late"



the threat of increasing fatigue for the existing workforce. Regular assessment of the shift system ensures meeting operational needs as well as ATCO preferences.

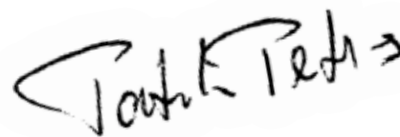
It is examples like these that we need to promote as a Federation. We need to convince other ANSPs and policy makers that this is the one and only viable way forward: involve all stakeholders, including staff rather than relying on a one-dimensional decision making process that has been shown to backfire time and time again.

Another good example of this is our work improved knowledge about

and early recognition of fatigue symptoms are the aims of the recently released ICAO Manual for the Oversight of Fatigue Management Approaches (DOC 9966). Together with many stakeholders in the ATM industry (CANSO, IATA, IFALPA, FSF, IBAC), ICAO and IFATCA were instrumental in contributing to the manual. The awareness of fatigue and its impact on alertness and consequently safety – both on the ground and in the air – needs to be spread.

Only through investment and regional cooperation can we prepare for the future safe and expeditious handling of air traffic and continue

to connect people and continents. Where the number of global air travellers is set to double in the next two decades to about seven billion people, we need to stand in close collaboration. ✈



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IFATCA REGIONAL MEETINGS 2016

EUROPE Reykjavík, Iceland October 20-23, 2016

<http://www.erm2016.is>

AFRICA & MIDDLE EAST Khartoum, Sudan November 7-9, 2016

ASIA/PACIFIC 2016 REGIONAL MEETING

How can the region cope with a tripling of traffic?



by Mike O'Neill, EVP Asia/Pacific region and
Philippe Domogala, Deputy Editor

This year's IFATCA Asia Pacific Regional Meeting was held in Ulaanbaatar in Mongolia. The dates for this regional meeting were unusually early, at the end of August, to avoid the harsh Mongolian winter weather upsetting travel to/from Ulaanbaatar. It was the second time that the Mongolian Air Traffic Controllers' Association, MONATCA, hosted a regional meeting. The first time was exactly 10 years ago, in 2006.



IFATCA
33rd ASIA PACIFIC REGIONAL MEETING
ULAANBAATAR MONGOLIA 2016 AUGUST 22-24

→ EVP Asia/Pacific Mike O'Neill
addressing the meeting during
the opening ceremony.

Photo: MONATCA



Ten years later, major changes are clearly visible across the country and in the capital. While the old soviet-built central heating power plant is unfortunately still an eyesore in the middle of the city – complete with its coal fumes hanging over it – the skyline has totally changed to a modern, thriving city.

Air traffic control has also changed with more modern equipment. Unfortunately for the controllers, their salaries are still very low and some social benefits, such as healthcare, are being downgraded or even cancelled. More on this later.

The meeting was held in one of the modern hotels, Tuushin, which is housed inside one of the new skyscrapers near the city's main square.

Over 80 delegates from most of the region's controllers' associations attended as did a lot of the local Mongolian controllers. On one of the days, there were over 120 people in the room! The meeting received substantial support from the Mongolian authorities and Mr. B.Tsogtgerel, Vice Minister for Road and Transportation Development, and the Mongolian General Director of the Civil Aviation Authority, Mr. G.Nyamdavaa, opened the meeting.

Two IFALPA representatives also attended: Dieter Oakley from Hong Kong ALPA and Kelvin Kwan from Singapore ALPA.

Several presentations were centred around the forecast that the aircraft fleet in the Asia/Pacific region is expected to triple over the next 20 years. Coping with the associated growth in air traffic will be a massive challenge for all involved, not in the least air traffic control and air traffic management.

It is apparent that ATM must embrace a cultural as well as fundamental breakthrough in how air traffic is handled. Several of the handling techniques for arrivals and departures were analysed to highlight areas of over-servicing. Controllers need to transition from a strategic and tactical based handling of individual aircraft

towards controlling of traffic flows with greater reliance on performance based navigation (PBN), airspace procedures and descent profiles to provide separation and greater fuel efficiencies. All options need to be considered regarding the usage of existing runways, by utilising curved approaches and staggered departure tracks. Equally aircrew need to grasp the need for strict adherence to procedures and behaviours when they operate in such proceduralised airspace.

Singapore ATC and the Singapore Air Line Pilots' Association provided an excellent breakdown on their research to assist in the most efficient structuring of an arrival sequence and still provide the opportunity for aircrew to meet stabilised approach criteria.

The presentation highlighted there is sufficient flexibility to accommodate the majority of aircraft types and landing weights. It is an IFATCA aim to standardise the handling techniques in the terminal areas throughout the region to enable the most consistent performance from aircrew. The outcome is more towards 'safe and repeatable' versus 'infinitely flexible'.



→ Ladies of the Organising Committee.

Photo: MONATCA

Colleagues from Japan briefed the meeting on their new flow management system, which was implemented to fight congestion at the Tokyo Haneda airport.

Taiwan reported on the two controllers that are being prosecuted following the crash of an ATR72 on Penghu island (see The Controller May/June 2016). One controller had been on the frequency for only 6 minutes before the accident, but as a government employee, he's not allowed to defend himself. It's a critical situation and IFATCA is monitoring developments carefully.

New Zealand reported that its control towers are now open to competition, comparable to what's been happening in the UK (where the contracts for Gatwick and Aberdeen tower were awarded to German provider DFS). In

→ Regional meeting delegates at the monumental statue of Genghis Khan.

Photo: MONATCA



New Zealand, there's a genuine concern that their Area Control Centres may be next.

In Iran, there's major concern that a closure of the Afghanistan airspace could triple the number of flights across Iran overnight. They've created three new airways and although they expect this will help, difficulties are still anticipated.

Mongolia reported unfair salaries, combined with a constant rise in traffic, around 5% every year. On top of that, there are several other issues, such as a lack of refresher/recurrent training and the recent suppression of some social benefits. With their cost of living constantly on the rise, it's becoming increasingly difficult to live on only one salary. This kind of situation should no longer occur anywhere in 2016!

On the positive side, Singapore reported excellent relations with both their employer and their national airline. IFATCA EVP ASP, Mike O'Neill, said that Singapore was the model for any member association in the region. They deal with issues quietly and efficiently, regularly visit neighbouring countries ATC facilities. Controllers have access to flight simulators and familiarization flights, and enjoy a good working climate. Hopefully, it's sets an example for other countries in the Region to follow.

→ Batnasan (Bat) Yondon, President of MONATCA (left) handing over to Jon Brooks of the NZALPA organising committee for next year's regional meeting in New Zealand.

Photo: DP



The social aspect of the meeting was superb, providing a glance of the Mongolian culture and the country's history. This was nowhere better illustrated than during a visit to the monumental metal statue of Genghis Khan just outside the city. It's a stunning reminder to all of the impact that this – by today's standards small – country, had on the world some 800 years ago.

Many thanks to Bat, Zaya, Johnny and the entire team from MONATCA, who put together a memorable event. The fact that they combined this with their control duties makes it all the more impressive.

The next ASP Regional meeting will be held in Wellington, New Zealand from 19 to 21 October 2017. 📍

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UPDATE ON NEPAL



by **Philippe Domogala, Deputy Editor and treasurer of the Nepalese support fund**

After the devastating earthquake that struck Nepal in April 2015, IFATCA appealed to its members to raise funds to help their Nepalese colleagues rebuild their homes.

A recent estimate showed that the total damage caused by this earthquake in Nepal was around 10 Billion USD, or nearly 50% of the country's nominal Gross Domestic Product (GDP).

During the 2016 Asia/Pacific Regional Meeting, the Nepalese controllers' association (NATCA), which received the funds, presented an update on how the fund was being distributed and used.



After the money was transferred to the Association in November 2015, during the previous IFATCA Asia Pacific Regional Meeting in Macau, they created a committee. This consisted of three people, who were tasked to assess the damages or loss of property among the membership. This was the basis to decide on a list of people who would receive financial support

The association then distributed the fund among these people during a formal ceremony.

The Nepalese association NATCA would like to appreciate the efforts put by IFATCA and other international member associations in raising fund to support their affected Nepalese controllers. Finally, NATCA would also like to thank IFATCA Executive Board for awarding them a Certificate of Appreciation during the 55th Annual IFATCA Conference, in Las Vegas. This certificate was awarded to the association and its members for their contribution. 📄

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THE NEW AIRPORT IN ULAANBAATAR

Growth necessitates ambitious airport move



by Philippe Domogala, Deputy Editor

Ulaanbaatar's (UB) existing Chinggis Khaan International airport (ICAO: ZMUB) is located in a valley, with a mountain range at the end of it. It means that jet aircraft can only use one direction of its single, slightly sloping runway. Any expansion would be difficult, not to mention very expensive. In 2006, the decision was taken to look for alternatives. After reviewing of several locations, it was decided to build a completely new airport some 50 Km away from the city (and 37 Km from the current airport).

Joint venture

Funded by a soft Japanese loan, the airport's design was awarded to a Japanese consultancy firm (Azusa Sekkei/Oriental), who setup a joint venture with a number of local development companies. A complete tender was issued in 2012 for a "greenfield" construction project that included a concrete runway (3600m x 45m), with a parallel taxi way, an apron with hydrant refuelling, a terminal building with 6 gates, facilities, a control tower, technical facilities, etc.

The contract was awarded to the Mitsubishi-Chiyoda Joint Venture of Japan, with a prime subcontractor of Samsung of South Korea for a total cost of US\$550 million and a delivery date of January 10th 2017 and a operational date around June 2017. It's initial planned capacity is for three million passengers a year – the equivalent of

→ The new tower nearing completion.

Photo: DP & NUBIA (right)



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Mongolia's total population. The current airport handles around one million passengers per year.

Ahead of schedule

Work started in 2013 and, unusual for a lot of projects of this scale, it is reportedly on budget and even slightly ahead of schedule: delivery is now expected early December 2016.

During the IFATCA Asia/Pacific Regional Meeting, we visited the new control tower, which is nearly complete. It's a pretty standard cab 38 metres high. During our visit, they were busy installing the electronic equipment in the tower and around the runway. Everything looked very familiar, even as it was the latest generation of equipment.

Only one side of the runway will have an ILS, as 98% of the time the wind is steady in one direction. The runway will use RNP/PBN approaches which will complement the ILS. The airport will have its own VOR as well as a multilateration system surveillance system.

Move

After the construction is complete, the plan is to move everything in one day from the current airport to the new one, as has been done elsewhere. 'That plan might need to be

adapted due to delays in getting some supporting infrastructure finished: the access roads for which the government is responsible, and some of the airline maintenance hangars, which are not part of the airport contract, might not be ready in time.

This might require that both airports will have to operate simultaneously which will undoubtedly cause a real headache for ATC, as there is not enough controllers and support staff to man both airports.

Air traffic controllers

It's currently foreseen to transfer the current 20 tower controllers from the old airport. They will be joined by 12 new colleagues, currently undergoing training in Thailand. These will start working on assistant and flight information positions while undergoing On-the-job training. The approach and en-route facility will remain at the old airport.

Should both airports be operated at the same time, then position manning will be critical. In addition, it will create a rather complex airspace structure with 2 control zones very close to one another. There are no spare controllers that can be seconded from other facilities: Mongolia has 20 tower, 20 approach, 80 area controllers in the

capital, with another 30 controllers spread around this massive country's 15 regional airports.

Phase 2

A follow up phase two foresees a second, parallel runway, an extension to the current one to 4100m and more gates (up to 20). The underlying idea is that with Beijing relatively close by, Ulaanbaatar could serve as a hub for regional cities in China. This is a bit of a gamble of course, though not an unreasonable one. But such ambitious expansion plans will also require they can train a large number of controllers rather quickly.

Name

The new airport is currently known as NUBIA for 'New Ulaanbaatar International Airport'. It will be renamed to Chinggis Khaan International Airport, once it is operational. The old airport will be the one to change name. Proud of their heritage, Mongolia does not want the country's most historic and iconic person to be associated with an obsolete airport. ☺

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→ Aerial view of the new terminal.

Photo: NUBIA



AVIATION IN MONGOLIA

Relatively modest industry serves massive country



by Philippe Domogala, Deputy Editor

The size and remoteness of the country means that Mongolian aviation is rather different. While 2016 marks the 60th anniversary of the first civil flight, the real expansion only started in 1990 when the country became independent from the Soviet Union.

The country itself is 1,565,000 square km or roughly the size of France, Germany, Spain and the UK combined! However, if the population of those 4 EU states is around 260 Million, Mongolia's population is only around 3 million. Roughly half of them live in the capital city Ulaanbaatar (UB).

Airports

UB city has an international airport and spread around the rest of the country are 15 domestic airports. Some of these are extremely small. The closest "big" cities are Beijing in China, about 1100 Km to the east and Irkutsk in Russia which is 500 Km to the north. In fact, in case of bad weather in UB, the normal diversion for jet aircraft is one of those 2 cities...

Season

Air transport caters for roughly one million passengers per year. Of these, some 70% use international routes, with the remaining 30% using domestic flights. The vast majority of travel takes place during the summer (April-September). It is also worth noting is that a large part of the population is nomadic and cannot afford to travel via the air.

It's quite a challenge to develop a sustainable aviation industry in such an environment. But with the help of the state, that is exactly what MIAT, the Mongolian national airline, is doing.

MIAT

MIAT, Mongolyn Irgenii Agaaryn Teever or Mongolian Civil Air

Transport, was established in 1956 using an Antonov An-2 aircraft.

They operated a large fleet of them and kept this fantastic, but rather basic aircraft in their fleet until 1995. In fact, there is one still flying in Mongolia for a small private company.

One of the MIAT Antonovs was restored and preserved as a monument near the airport. During the "Soviet" period, they operated only propeller aircraft: Il-14, An-24 and An-26 and even Chinese Harbin Y-12.

Jet aircraft

Their first jet aircraft was a Tupolev Tu-154 leased from Aeroflot in 1988. The MIAT domestic fleet was largely

→ MIAT Antonov An-2.

Photo: planes.cz



AT B767

Photo: wikipedia (GNU)

→ Aero Mongolia Fokker 50
Photo: blgmgl via wikipedia (cc)

decimated in the 1990s, when two An-24, one An-26 and two Y-12s crashed on domestic routes mainly due to bad weather and poor safety culture/oversight. During the following years, it leased two Boeing 727s from Korean Air, followed later by an Airbus A310.

Replacements

In 2003, they replaced the ageing 727s with a Boeing 737. They also began retiring their An-24 and An-26 fleet, as domestic services were being phased out. In 2011, they leased a Boeing 767 to replace the A310, allowing them to open long international routes like Berlin. They later bought 2 737s and a second Boeing 767-300ER. Today MIAT operates 3 B737-800s and 2 Boeing 767-300s.

Domestic operations

To fill the void when MIAT started phasing out domestic flights in 2008, a new airline was created: Aero Mongolia. They started operations in 2003 using two Fokker 50 turboprops. Today, they operate four Fokker 50s and serve 90% of the domestic market in Mongolia.

Mining industry

The country has one other major airline: Hunnu Airlines (R/T call sign is Trans Mongolia). They started operations in 2011 using 2 Fokker

50s. In 2014, they had plans to lease 2 Airbus A319s to expand to international destinations such as Paris and Bangkok, but these were repossessed after the summer season. Today Hunnu Airlines operates one ATR 72 and three Fokker 50s, mostly on charters for the mining industry.

Today in 2016, basically Mongolia has three airlines operating a grand total of 13 aircraft. ☺

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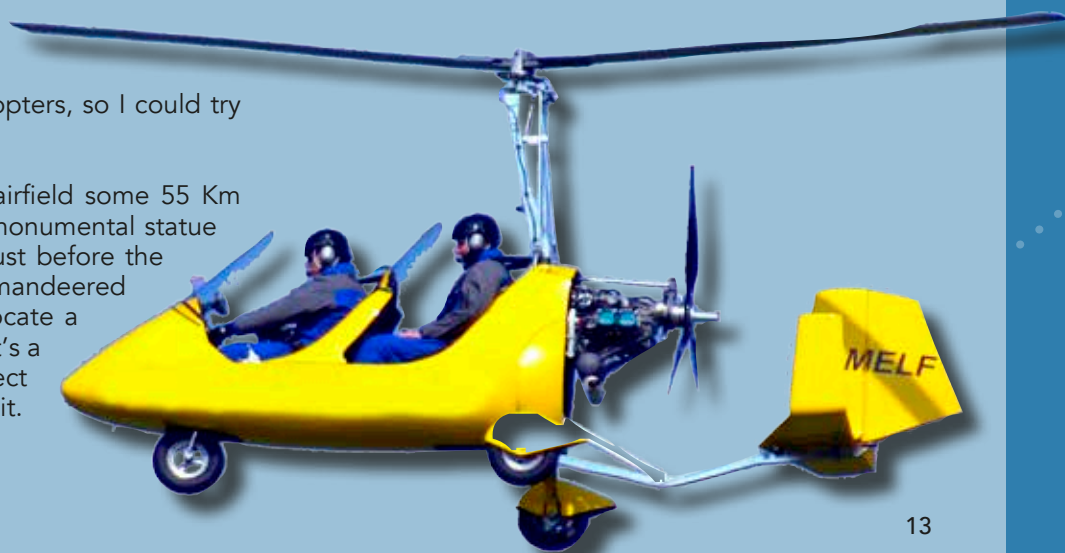
FLYING VFR IN MONGOLIA?

Well, I tried! But it's far from easy. Mongolia has only three small VFR aircraft with valid airworthiness certificates on its register: one Sportstar Ultralight and two MTOsport Gyrocopters. That's three aircraft for the entire country! To put things into perspective: in total, there are only 23 aircraft on the Mongolian register that are considered airworthy!

One of our Mongolian colleagues, Tsomo, kindly put me in touch with Alexandr, the owner of the Gyrocopters, so I could try and arrange a flight with him.

We arranged to meet at a small airfield some 55 Km away from Ulaanbaatar, near the monumental statue of Genghis Khan. Unfortunately, just before the flight was due, the police commandeered the aircraft and its pilot to help locate a fugitive. The flight was cancelled. It's a real shame as the weather was perfect and I was really looking forward to it.

The very small number of airports compared to the size of the country, make things very difficult for small slow aircraft. The limited range and the harsh conditions during the Mongolian winters make it very difficult to develop any VFR operations. ☹



ARE YOU A GOOD REST MANAGER?



Why fatigue is everyone's business...



by Jean-François Lepage,

Liaison Officer to the ICAO Air Navigation Commission

The Fatigue Management Approaches in Aviation Symposium (FMAS2016) was convened last April in ICAO HQ in Montréal, Canada. The event provided an incredible information sharing opportunity and gathered numerous key actors from the industry. Among them, Mr. Patrik Peters, President and CEO of IFATCA, addressed the audience and underscored that fatigue management is paramount to the air traffic control field.

The event also saw the official launch of the Fatigue Management Guide for Air Traffic Services Providers (available at www.ifatca.org), a collaboration between CANSO, ICAO and IFATCA. Dr. Michelle Millar, Technical Officer (Human Performance) – Operational Safety Section in ICAO HQ in Montréal, the instigator of this brilliant initiative, gladly agreed to answer my questions for The Controller.

Jean-François Lepage (JL): Why and how was decided the idea of a partnership between CANSO, ICAO and IFATCA for the manual?

Michelle Millar (MM): Fatigue management requires a sharing of responsibilities between the regulator, the service provider and the individual aviation professional. In developing the 1st edition of the Fatigue Management Guide for Airline Operators 7 years ago, collaboration between ICAO, IATA and IFALPA resulted in a common understanding of fatigue management approaches as implemented in airlines that has continued to evolve in a harmonised way to this day. In fact, it has worked so well, we have just co-developed the 2nd edition of this manual together. This manual is used globally by regulators, airline operators and flight and cabin crew members alike and has become a very well-known key-resource document.

When work began in 2013 to develop Fatigue Management Standard and Recommended

Practices (SARPs) for ATCOs, ICAO wanted to encourage the same sort of like-mindedness and ownership amongst the stakeholders with regards to implementation of fatigue management in the air traffic control community. ICAO approached IFATCA to participate in the development of Annex 11 fatigue management provisions, with a view to co-branded implementation guidance that represented a common way forward agreed upon by ICAO, IFATCA and CANSO. IFATCA members were therefore integral to the development of both the SARPs and the guidance material.

JL: What do you think are the advantages of such a partnership (co-branding)?

MM: There are many cases of guidance and "how to" manuals being offered

on the same subject by different organisations that are either inconsistent or misaligned, which can bring confusion. Having IFATCA and CANSO at the table and working together to develop this



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manual meant that many of those tough discussions have been had and a consistent and mutually agreed-upon message is provided. It also increases accessibility, with IFATCA, CANSO and ICAO making the manual freely available to all their members on their websites. The work we did together on the Fatigue Management Guide for Air Traffic Services Providers also contributed to a significant revision of Doc 9966 (Manual for the Oversight of Fatigue Management Approaches), which is directed

JL: How has our understanding of fatigue management changed over the last few years?

MM: We now have a clearer expectation that a prescriptive approach requires the service provider to use their existing SMS processes to manage fatigue risks within the constraints of the prescribed limits. Not everybody needs to have an approved FRMS. The cost and complexity of implementing an approved FRMS may not be justified for operations that

in how work periods are assigned across a roster.

FRMS has additional requirements, including those related to fatigue data collection, to ensure a level of safety that is at least equivalent to that achieved by operating within the prescribed limits. Where their ANSP wants to get and maintain approval for its FRMS (and therefore be able to move outside of prescribed limits), ATCOs will be asked to provide specific fatigue data during and outside work periods.

"In the past, fatigue was somehow seen to be a weakness that could be overcome by professionalism and work ethic"

to States. Previously titled the "FRMS Manual for Regulators", this document now includes the oversight of the prescriptive approach to fatigue management as well as FRMS and incorporates the oversight of ATS providers. To reflect these expanded topics and updates based on implementation experience gained in airlines, Doc 9966 has been retitled.

JL: Do you think fatigue is a topic that is more important today than in the past?

MM: I think it has always been an important topic but today it is more openly discussed. In the past, fatigue was somehow seen to be a weakness that could be overcome by "professionalism" and "work ethic". A "good" ATCO could do more at greater intensity for longer than "less capable" ATCOs, so there was a reticence to admit to being unable to "rise above" being fatigued. Today, I think we are much more aware of the links between sleep and performance. ATCOs now recognise their responsibilities for being "fit for duty", and ANSPs are more cognisant of allowing adequate opportunity for recovery sleep.

remain inside prescribed limits and where fatigue-related risk is low. However, this does not preclude a Service Provider from using FRMS processes to manage their fatigue risks within the prescribed limits.

JL: How will the new Fatigue Management SARPs in Annex 11 affect ATCOs?

MM: The SARPs require that, by 2020, all States must have duty limitation regulations for ATCOs based on scientific principles, knowledge and operational experience. In those parts of the world where there are no duty limits for ATCOs, this may result in significant changes to the hours they work.

ANSPs are also expected to construct ATCO rosters that consider scientific principles, so the focus will be on providing adequate opportunity for rest and recovery sleep and may result in differences

JL: Why should ATCOs dedicate time and energy to fatigue management?

MM: Fatigue has been described as "the universal human factor" because it affects everyone as a normal consequence of our physiology. In a world that is experiencing large increases in aviation traffic, rapid development of ever-increasingly complex systems and a diminishing pool of experienced ATCOs, the push is to do more with less – and ATCOs need to make sure they can do it safely. Managing their fatigue, and the associated performance decrements, helps them to do this. Managing fatigue also has benefits outside work. Getting enough sleep has health and wellbeing benefits.



JL: Do you envisage a second edition of the manual with IFATCA? When?

MM: Yes, when we've had some time to implement the new Fatigue Management SARPs. Lessons learned from during that period can be used to inform and update a second edition. Doc 9966 and the Fatigue Management Guide for ATSPs are complementary documents and have been formatted to facilitate their combined use. Revision of one will impact the other, so IFATCA and ICAO will be working together to make sure that both continue to be aligned and current.

JL: The manual has now been officially released and is available online on www.ifatca.org. How are ATCOs expected to make use of the manual? How would you suggest they get involved and take

action after reading it?

MM: By doing the following:

- ➔ Use the manual to get informed about the scientific principles of fatigue management and find out the role of the ATCO in a prescriptive approach to fatigue management first;
- ➔ Work with the ANSP to develop rosters (schedules) that allow opportunities for adequate sleep recovery rather than primarily accommodating personal preferences;
- ➔ Propose new or improve existing operational mitigations (establish napping policy; adjust scheduling rules; inclusion of fatigue questions on existing hazard report forms; consider establishing a protocol for driving home following night shifts; etc.);

➔ Look at developing their own personal strategies for fatigue management (improved sleep hygiene, timing of exercise, hydration and nutrition);

➔ Talk to your family about why getting enough sleep is important for you as an ATCO and enlist their help. ☺

JL: Thank you very much for your time!

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For more information on FRMS, visit the [Fatigue Management portal](http://www.icao.int/safety/fatiguemanagement/Pages/default.aspx) at:
<http://www.icao.int/safety/fatiguemanagement/Pages/default.aspx>

SID/STAR PHRASEOLOGY

Changes to remedy confusion over departure and arrival route restrictions



by Ignacio Baca, IFATCA Technical & Operations Committee

The next edition of the PANS-ATM will be issued in November this year. It will include some changes to phraseology to hopefully end to what has been called the "SID/STAR issue". This item has been a hot topic and a recurrent source of work in ICAO over the last few years:



Photo: American Airlines via YouTube

The problem arose after an amendment of the PANS-ATM published in 2007 requesting restrictions issued by ATC to be repeated in every new level clearance to remain in effect.

At the same time, published restrictions would always remain in effect unless explicitly cancelled by ATC. In practice this meant that some restrictions (the ones

issued by voice) must be repeated while others (the published ones) must not. Some confusion followed increased by some States implementing modified versions of the amendment while others did not implement it at all.

The subsequent lack of harmonization in procedures led to flight crews being uncertain of what restrictions were in place when ATC cleared them to a new level.

This in turn led to an increase in



sets shall be developed to easily cancel published level restrictions

ICAO was already looking for a solution but the problem proved a lot more complex than initially anticipated.

A solution seemed to be within reach in 2012, when a new draft amendment was considered mature enough to be distributed by ICAO in a State Letter.

This included a number of changes to the applicable phraseology. The basic idea was to use **climb** on Standard Instrument Departures (SIDs) and **descend** on Standard

Terminal Arrival Routes (STARs) to follow the published restrictions while **open climb** and **open descend** would be used to cancel such restrictions.

Surprisingly, reaction to the State Letter somewhat mixed and not at all reaching the hoped consensus: some States supported the proposed changes while some others objected, making a number of counter-proposals. As such, ICAO decided not to publish the amendment since it would simply result in too many States choosing to deviate from the PANS-ATM. As such, the sought-after harmonization would not be achieved. The unsatisfactory situation therefore remained.

When the new ATM Operations Panel was formed, the SID/STAR issue became its first priority. The work of the panel led to the development of a new proposal that was sent to others panels for comments to ensure as wide a consensus as possible. The final result was distributed in a new State Letter issued in June 2015. This proposal received wider support. State feedback led to minor modifications and finally the amendment is ready to be published in November 2016.

It will introduce a new phraseology not too different to the previous proposal. To follow the SID or STAR as published the new phraseology will be **Climb via SID to (level)** or **Descend via STAR to (level)**. In case a restriction is not to be followed the phraseology will state **Cancel speed restrictions** or **Cancel level restrictions**. To cancel both types of restrictions **Cancel level and speed restrictions** may be used but also the much shorter **Unrestricted**.

It is expected that this new amendment will put an end to what has been a recurrent subject of conversation and source to endless discussions over the past years.

For details of the new procedures and phraseology, make sure to check the new edition of the ICAO Doc 4444 (PANS-ATM) after November this year. ➔

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frequency congestion due to queries from the crews. Even worse, it may result in some aircraft following a different vertical trajectory than the one intended or expected by ATC.

IFATCA voiced its concern and dedicated part of the work program of the Technical and Operations Committee (TOC) to the issue. The following IFATCA Policy, triggered by the mentioned situation, was issued during the Amman Conference in 2011:

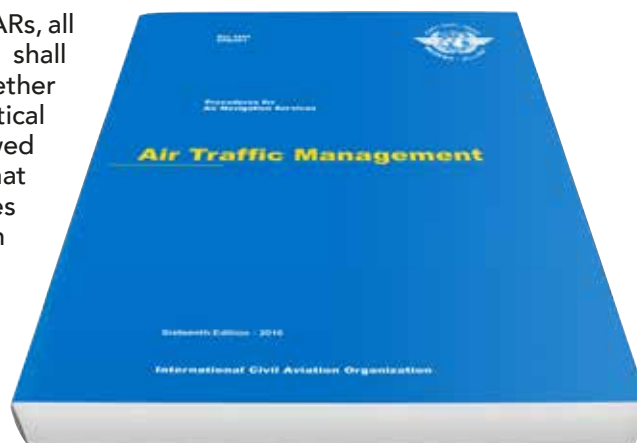
→ SID and STAR design and use should be globally harmonized.

→ Phraseology and corresponding message sets shall be developed to easily indicate whether the published vertical profile is to be followed or not.

→ For aircraft on SIDs and STARs, all level change clearances shall explicitly indicate whether the published vertical profile is to be followed or not, provided that controller workload does not increase beyond an acceptable level.

→ Published level restrictions remain valid unless explicitly cancelled by ATC.

→ Phraseology and corresponding message



BELGIUM - SIX MONTHS LATER...

Technical and social deadlock for Belgian controllers.



by Philip Marien, IFATCA Editor

Belgian controllers will remember April 12th 2016 for a long time to come. On that day, the Belgocontrol management forced a vote on a social agreement. With the voting not being proportional, the agreement went against the interests of the controllers. It included, among many other questionable measures, an increase of their retirement age to a minimum of 58 without any transition measures. It was also the start of an endless round of controller bashing, fuelled by their employer, national service provider Belgocontrol.

As controllers were deeply upset about management bypassing them in the social dialogue and realizing the impact on their individual career – some people realised they would have to work operationally until the age of 62 – a significant number of them felt too upset to work operationally. On top of the already significant staff shortage, this had an acute effect, forcing major disruptions in the Belgian FIR. Management appeared to have prepared for this and reacted immediately, falsely informing both press and airlines that controllers had gone on a wildcat strike.

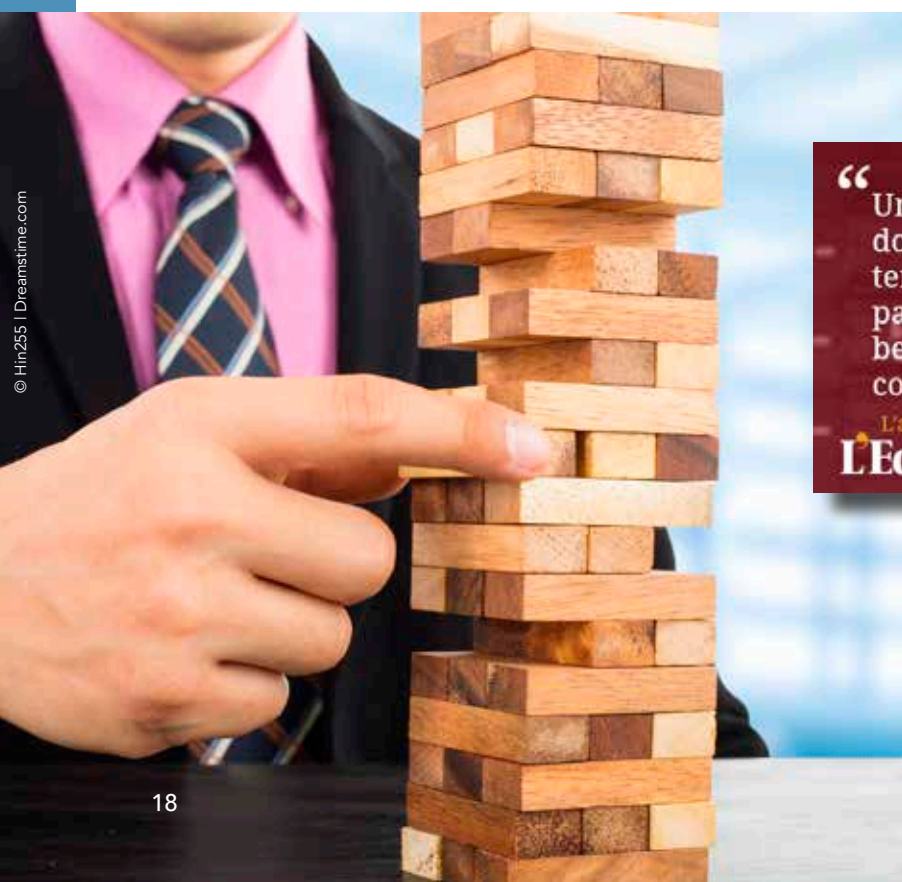
Public Opinion

These bogus claims immediately turned the public against the controllers. With the air traffic only slowly recovering from the terrorist attacks in Brussels three weeks earlier, they found themselves in the middle of a media storm. Without any consideration or even bothering to check the one-sided statements from Belgocontrol's management, the controllers were slaughtered and condemned by the entire country – up to and including Belgium's Prime Minister, who felt compelled to react...

For many controllers, this only added to the psychological stress, anxiety and pressure that had been building up over the years, as the circumstances in which they had to work were left to deteriorate.

CISM

Management's orchestrated media storm caused even more controllers to cave. The ones that did continue to work, felt psychologically "forced" by the public opinion, not only the media's but also that of friends and even family. The amount of pressure on them was enormous. The person responsible for Critical Incident Stress Management (CISM) had to request the help of a professional team of specialised trauma psychologists, out of genuine fears that something irreparable would happen. Amidst fears that



“Un aéroport qui se remet doucement des attentats terroristes (...) est pris en otage par les contrôleurs aériens belges. Nous n'arrivons pas à comprendre cela.”

L'association des compagnies aériennes européennes

L'Echo

→ Just one of the quotes in the national press: "An airport that is slowly recovering from terrorist attacks is taken hostage by the Belgian air traffic controllers. We can't even begin to understand that." [Association of European Airlines (AEA)]

people would break down at work, these psychologists were available on site during a number of days for the controllers who needed their help and assistance.

Legal notice

Besides the “orchestrated” media attack, Belgocontrol’s CEO Mr Decuyper issued an official notice of default against the Belgian Guild of Air Traffic Controllers threatening with huge claims and even a prison sentence for its president. The Guild had no other choice but to counter with a notice of default of their own towards Belgocontrol and its CEO. In this, they confront him with his responsibility for the staff shortages, the countless technical failures, the lack of procedures and defamation. This led to confidential negotiations, which unfortunately were fruitless as the CEO used every opportunity to crush any progress...

Procedures

While negotiations on the practical implementation with social partners hadn’t even started yet, management wasted no time to implement parts of the contested agreement, such as the stand-by duties. Contrary to what the official aim was – to ensure all existing positions could be manned – the result was a de-facto reduction of sector manning: two duties per shift were replaced by stand-by’s. Not only did the management

conveniently forget to implement the necessary conditions in which these duties could be used, but they also neglected to adapt operational procedures for working an ACC with 12% less personnel. They also argued that a safety case for such a radical change wasn’t necessary...

Closures

In the meantime, the structural and chronic staff shortage remained, leading to closures of aerodromes and huge delays in the Belgian FIR. At a certain moment controllers were even requisitioned at home by means of a courier letter forcing them to come to work for unscheduled duties. Under increasing scrutiny and no longer able to claim this was due to controller ‘actions’, management negotiated an allowance for control staff willing to work more than the legally determined periods. While they agreed to pay overtime at 250%, they now interpret this verbal commitment differently, using a lower base amount for the calculations.

Technical problems

On top of all these problems, Belgian controllers are still regularly confronted with technical failures. Their trust in the system is nonexistent. Within two weeks after media storm, a technical failure of the Eurocat system forced a clear-the-sky procedure. And

only a couple of months later, in September, there was a failure of a technical connection serving the country’s southern aerodromes: they lost their communications, Eurocat and back-up systems. The frequency coverage of the ACC East was reduced as the link to frequency relay stations was also severed. This again led to a clear-the-sky procedure in the eastern sectors. It is hard to understand how management can still insist on reducing the staff with such an unstable system...

Trust

Needless to say, whatever little trust staff had in their management before April 12th has been completely destroyed. Given the current deadlock, it seems unlikely that this can be restored in the medium or even long term. Worse, there is no outlook for any of the social, staffing or technical issues to be resolved either. It’s a stark illustration of what happens if an ill-advised management is entirely focussed on cost saving.

Driven by unrealistic targets set by the European Union, which don’t take local particularities into account and which don’t consider the long-term effects, it not hard to see that it will happen to others. ➔

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→ The Belgocontrol tower at Brussels Airport
photo: (CC) Wim Bladt via wikimedia

SESAR: QUO VADIS?

Europe's SESAR transitions into SESAR 2020



by Marc Baumgartner, IFATCA SESAR Coordinator

The [Single European Sky Liberalisation](#) of Air Traffic Management program started in 1999 and has successively built the current framework in which the European Air Traffic Management is evolving. Five pillars lay the foundation for this political initiative, lead by the European Commission on behalf of the European Union: Institutional, Safety, Airports, Human and Technology. Since 2008, the technology pillar has evolved around the [SESAR Joint Undertaking \(SJU\)](#). The SJU has been created with the aim to become a major contributor to the modernisation of European Air Traffic Control/Management infrastructure. It has been organised in three distinct phases: Definition, Development and Deployment.

The definition phase outlined the concept for the future, while the development phase coordinated all the relevant research necessary for a possible harmonised and synchronised deployment over the past eight years.

It has also pooled all the research and development initiatives, which were scattered throughout the industry and government research landscape in Europe under the so-called [EU Framework program](#).

Breakthrough

This created a real breakthrough and presents as a great example of Joint Undertaking: the founding members EUROCONTROL and the European Union were joined by industry and manufacturing partners, as well as all stakeholders from airline operators to unions.

Uniquely, it gathered all the actors in the field around the so-called road map called the [ATM Masterplan](#), which became the "file-rouge" for the overall work. This masterplan was based on the work of the definition phase. Since 2008, it has been updated twice.

The building blocks for the ATM Masterplan have created the baseline together with the FAA NEXTGEN program to constitute the ICAO [Aviation System Block Upgrades \(ASBU\)](#).

End of Phase 1

To mark the end of phase 1 of the SESAR development phase, the SJU organised a [SESAR showcase](#) event in Amsterdam at the NEMO Science centre in June 2016. Over the course of three days, some 500 people gathered under the heading of delivering solutions for ATM Modernisation. They learned

of the achievements of SESAR, including ways to optimise airports operations, improve network management and flight planning, make flight operations and air navigation service provision more efficient and unlock infrastructure and system capabilities (e.g. CNS). IFATCA's President and CEO Patrik Peters participated to [the panel](#) on day three which highlighted the SESAR achievements.

Some SESAR 1 activities are still ongoing till the end of December 2016 and SESAR 2020 is due to start on the 1st of January 2017. As the program evolves, its structure has been adapted. The future work is based on the new edition of the ATM Masterplan 2015. From a financial setup, the SESAR Joint Undertaking has been adapted to the overall [European Union Horizon 2020](#) research program. That poses new challenges for all stakeholders, including IFATCA.

Discussions with SJU are ongoing on the future involvement of staff. IFATCA will have the opportunity to be involved at a different level than before. Less involvement in the work packages and the research is foreseen, while participation to validations and demonstrations will continue at the same level. What will however be a fabulous opportunity for IFATCA and the other Professional Staff



Organisation (PSO), is that we will be able to influence research and validation through transposing chapter 4.7 of the ATM Masterplan into guidance.

The Human Element

This chapter 4.7 elaborates on the role of the human in the future system. It addresses elements of change like training, education and information and the challenges automation and new system will bring to the floor. IFATCA's involvement in drafting this chapter can certainly be seen as a milestone. In parallel, IFATCA – together with ECA and ATCEUC – had the opportunity to associate itself with Airbus and reflect on the future role of the human with automation. A [comprehensive white paper](#) will soon be published, which elaborates our thoughts and our policies. It will also present some ideas as to what the future challenges will be, not only for research but as well for deployment.

Ambition

SESAR 2020 is a very ambitious program and the challenge will be to translate our policies into guidance which benefits future controllers to help them cope with changes that will hit the operational environment soon. Hopefully, we can continue to count on the enthusiastic commitment of our current SESAR representatives in the future.

As SESAR 1 comes to a close, it is important to highlight the dedication and motivation of all the representatives of IFATCA who participated in SESAR on behalf of the Federation. Over 50 people from across Europe and different operational backgrounds have actively participated in the work packages. They've commented on deliverables, assisted the researchers in understanding the operational needs, highlighted that some research was already outdated in the real world. They've prevented SESAR from continuing to support old technology and assisted SJU in judging the relevance of the ongoing research.

Influence

IFATCA advocated aligning work being done in the USA on ACAS X, rather than developing yet another new version of TCAS based on ageing ACAS standards and in abandoning research on updating paper strip technology. Involvement in the [international validation exercises](#) have given IFATCA representatives the opportunity to give practical advice and discuss the validation results with participants and organisers. Remote Tower and Resilience Engineering were other hot topics where IFATCA's expertise was used to shape the final outcome of the validation exercises and deliverables. In our view, one of the major achievements is that some of the work packages have been written by IFATCA members represented in the work packages.

From a global perspective, IFATCA contributed to the development of the ASBU. We were involved in the technical team that decided which building blocks of the NEXTGEN and SESAR programs were to be included at ICAO level. When the technical team met in Europe, the SESAR coordinator participated and when it took place in North America, our IFATCA ANC and EVP Technical participated. This ensured a truly global representation of the controllers. In addition, the availability of SESAR funds allowed

us to have a regular exchanges with our colleagues from the USA (NATCA), giving IFATCA the opportunity to coordinate the latest developments and learn about the ongoing work.

Eight years of involvement and a lot of work by the IFATCA representatives have laid the foundation for our future involvement. It has proven beyond any doubt that ATCOs can make a significant contribution to the ATM Research.

There will be plenty of work and we will be at the forefront of research and implementation if we get involved at the early stage. The preparation activities are ongoing for SESAR 2020 and the European Regional Meeting will feature a special workshop and some break out sessions assessing the impact of SESAR on our daily work. This will mark the end of our SESAR 1 activities and give the opportunity to discover the SESAR 2020 activities. ☺

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→ Panel discussion during the SESAR showcase event in Amsterdam, June 2016

Photo: © SESAR JU

IFATCA SESAR Involvement in Numbers

- Involved in 49 out of 130 workpackages
- 50 representatives
- 1200 days of work
- 5 new & 10 updated IFATCA policies
- 1 white paper
- 20 coordination meetings
- 8 workshops
- 4 EUR-USA meetings
- 680,000 euro budget

NORDIC MEMORANDUM

Associations from Northern Europe commit to closer cooperation



by Helena Sjöström, President Swedish Air Traffic Controllers' Association

The air traffic controllers' associations and unions of the Nordic countries and the union representing ATCOs in the United Kingdom have signed a Memorandum of Understanding stating the intent to share relevant information, have regular dialogue and develop joint negotiation strategies.

It was at an informal Nordic presidents' meeting at conference in Las Vegas in March this year, that Peter Lennartsson, president of the Swedish union ST inom Flygledningen, suggested a Memorandum of Understanding in order to clearly emphasize the close cooperation and the endeavours to ensure that flight safety is not compromised in the seemingly endless hunt to lower costs and raise revenues and to fight any indications of social dumping within the ATM sector. On Peter's initiative Paul Winstanley, chair of the UK's Prospect ATCO's branch was also invited into the collaboration.

After a few months of discussions and wording, the Memorandum of Understanding was signed at the Nordic Presidents' Meeting in Reykjavik on May 31st 2016.

The parties are committed to ensuring the highest standards of safety, maintaining high quality terms and conditions in ATM and security of employment as well as mutual involvement and consultation on any agreement between the parties and their

employer organizations, as far as practicably possible with regard to state laws and to maintaining company secrets.

Signatories to the memorandum were:

- Peter Lennartsson, chair of the Swedish union ST inom Flygledningen (ST in ATM)
- Helena Sjöström, president of the professional association SATCA, Swedish Air Traffic Controllers' Association
- Kasper Berg, president of the union DATCA, Danish Air Traffic Controllers' Association
- Robert Gjønnnes, president of the union NATCA, Norwegian Air Traffic Controllers' Association
- Sigurjón Jónasson, president of the union ICEATCA, Icelandic Air Traffic Controllers' Association
- Roy Myrberg, president of the union FATCA, Finnish Air Traffic Controllers' Association
- Paul Winstanley, chair of the union Prospect ATCO's branch for UK and Gibraltar

The evolvement of the ATM-sector from an infrastructural service to society performed by governments of states, into more and more of an open market enterprise with a required rate of return, has meant continuous pressure on ANSPs to lower costs and increase revenue. The competition amongst stakeholders and airline operators and the economical demands from owners and investors, have trickled down into the ATM industry. Alarming reports of social dumping in the airline industry causes concern also in the ATM sector.

The air traffic controllers' associations of the Nordic region have enjoyed a close cooperation for decades. Annually, three separate meetings are held where the Nordic associations share information, learn of new developments and assist one another in various ways. In September every year there is a Nordic Meeting where 20-25 members of the five boards convene for three days. At IFATCA's annual conference, there is always a Nordic Meeting the day before the opening plenary. Participants are all attending delegates to conference, usually around 20 persons. Working Papers are discussed and those that require special attention are highlighted. If possible, the Nordic region aims to align its views and votes as one entity. Lastly, in late spring each year, the Nordic Presidents hold a two-day meeting to further strengthen the bonds between the associations and to plan future strategy. ✈

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→ Signing the memorandum (L to R): Kasper Berg, Peter Lennartsson, Helena Sjöström, Robert Gjønnnes, Sigurjón Jónasson and Roy Myrberg.

URGENT NEED TO REGULATE DRONES



by Philip Marien, IFATCA Editor

In September 2016, a number of European organisations signed a statement to support the effort of the European regulator to produce a robust harmonized EU-wide regulatory safety framework for drones. The statement from ECA, IATA, EHA, ERAA, IACA, ACI EUROPE, IFATCA, and CANSO also expresses serious concerns for the safety of manned aircraft in controlled and uncontrolled airspace, especially near European airports or close to low-level helicopter operations.

Recent rapid technological developments have resulted in a mass introduction of drones (or 'UAS' = Unmanned Aircraft Systems) on the consumer market, and increasingly for commercial purposes. To ensure safe drone operations – and in the absence of a European legal framework for drones below 150 kg – many European Member States introduced regulations for drones at national level. However, these national rules are not harmonized and some of them regulate commercial drone operators in no stricter manner than for recreational users.

The technological achievements do indeed offer many practical and efficient possibilities, especially for commercial applications. If operating within a clear robust legal framework, these technologies can be exploited in a manner that ensures high safety of operations and encourages responsible use of drones. To achieve this, the legal framework for such commercial

operations must include appropriate licensing of the drone pilot and authorization of commercial drone operations, as well as robust oversight by the national aviation authority.

The recreational use of drones is rapidly increasing and the related risk of incidents and accidents with manned aviation must be mitigated. In fact, illegitimate recreational and commercial drone use constitutes serious safety risks that are often under-estimated. To mitigate those risks, extra measures are required to address the following issues:

- Shortcomings in rule enforcement
- A lack of awareness and negligent behaviour of some operators/consumers as to the technical possibilities of their drones versus legal restrictions
- A lack of awareness about safety risks and in particular about the consequences of a collision between a drone and manned aircraft, be it an aeroplane or a helicopter.

In addition, registration of the drone & its owner, mandatory training to ensure appropriate knowledge, and – depending on the properties and features of the drone – a license or certificate should be included in the legal framework, as it is for the commercial manned aviation sector. The signatories emphasize the importance to ensure compatibility with the ongoing work at ICAO level.

They jointly ask for the introduction of the following measures for all types of drones – excluding only the harmless ones (under 250g, subject to scientific research) – in order to preserve the high level of safety in European airspace in addition to the request of a clear, stricter and robust legal framework for commercial operation:

1. Registration of all drones
2. Mandatory training and certificate/license
3. Extensive public awareness campaign
4. Increase in the effectiveness of enforcement.
5. Technical Performance Limitations, including built-in geo-fencing and altitude / distance restrictions.
6. In-depth research into the impact of collisions between drones and manned aircraft.
7. Integration of recreational drones into national Model Aircraft Flying Regulations

The full statement can be read on the [ECA website](#)



PROJECT LOON

Balloons to provide remote internet access



by Philip Marien, Editor

We often take internet access for granted, but for billions of people living in remote or under-developed areas, surfing the web or access to email is anything but trivial. A number of large companies are actively investigating how to provide internet access to these areas, without having to run and maintain expensive ground infrastructure (i.e. cables).

A number of them, including Facebook, are looking at satellite technology, including micro-satellites that can be launched relatively cheaply to create a planet-spanning network. 'X', the research and development arm of Alphabet Inc. (formerly Google X) came up with a plan to use balloons to provide a wide-area LTE network. It's using technology similar to that of current mobile telephone networks, but instead of using ground-based transmission towers, it uses balloons that can cover larger areas – up to 80 km in diameter. Several balloons link up to form a wide-area network, which then allow anyone in the area to connect using a small antenna on the outside of a building, or even using a normal mobile phone.

In addition to being cheaper than launching satellites, it can also be deployed very quickly. This is im-

portant for situations where critical ground infrastructure is rendered inoperable after a natural disaster for example.

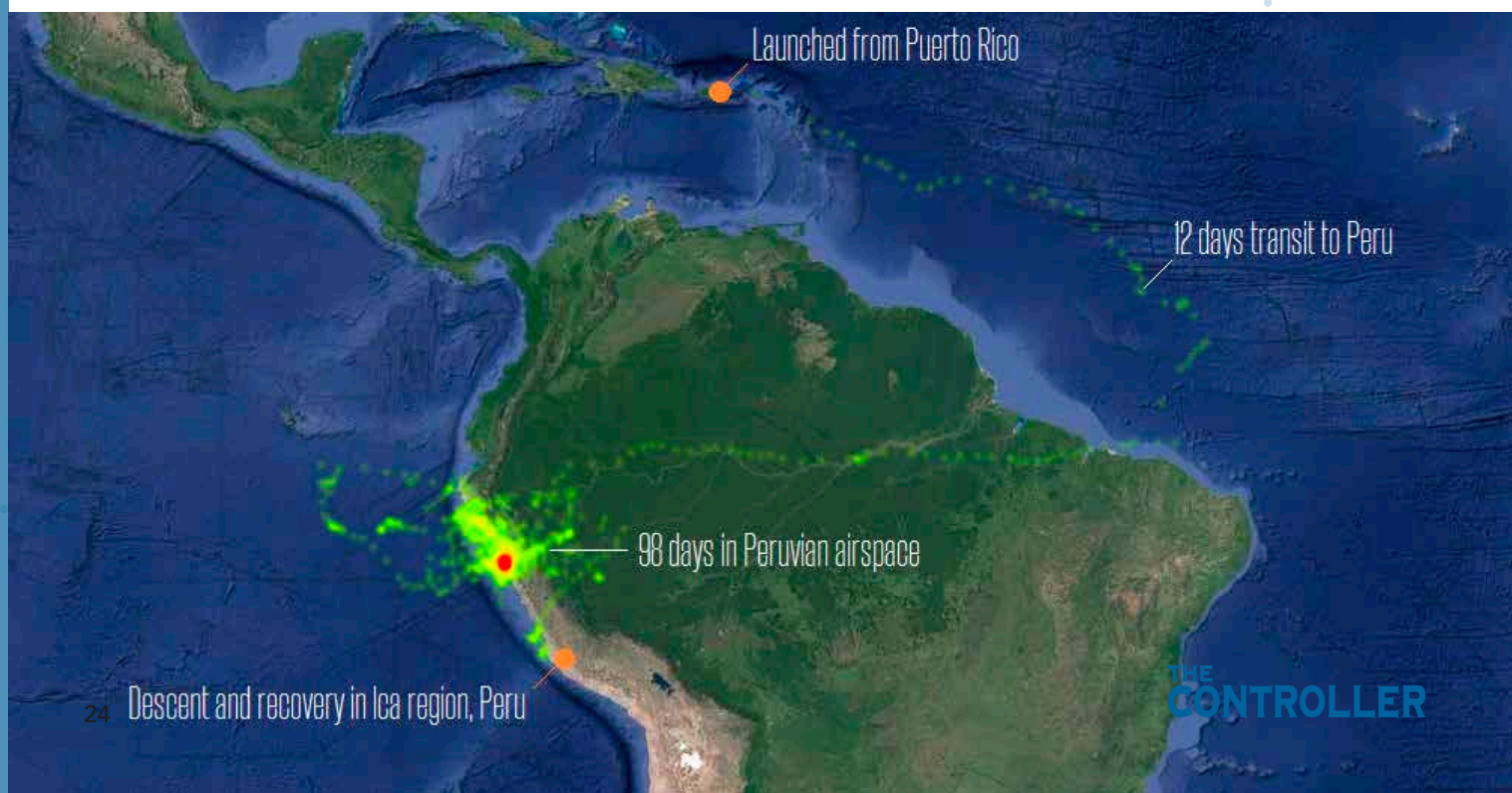
Trials

In 2013, Google began a pilot experiment in New Zealand where about 30 balloons were launched in coordination with the Civil Aviation Authority from the Tekapo area in the South Island. About 50 local users in and around Christchurch and the Canterbury Region tested connections to the aerial network using special antennas. After this initial trial, Google plans on sending up 300 balloons around the world at the 40th parallel south that would provide coverage to New Zealand, Australia, Chile, and Argentina. Google hopes to eventually have thousands of balloons flying in the stratosphere.

Stratosphere

Normal operating altitude for these balloons is around 18km, well above that of commercial air traffic. A team of flight engineers constantly control and monitor the balloon fleet and coordinate with Civil Aviation and Air Traffic Services across the globe as necessary. Yet as these balloons transit to Flight Information Regions (FIRs), it is necessary to establish operating procedures to ensure coordination with Air Traffic Control service providers.

Loon balloons navigate by moving up or down into different wind patterns travelling in different directions in the stratosphere. By adjusting the volume and density of the gas (e.g., helium, hydrogen, or another lighter-than-air compound) in the balloon, the balloon's variable buoyancy system is able to control the balloon's altitude. Using the experience of the test flights, the team





→ Project Loon balloon during the 2013 launch event in Christchurch, New Zealand.

Photo: (cc) iLite Photography via Flickr

has developed sophisticated models that allow very accurate wind patterns predictions at different altitudes. Using this data, software algorithms are able to determine

which altitude has a wind pattern that gives the best chance of keeping the balloon close to the target area.

Peru

To test the latest updates, the team launched a balloon from their launch site in Puer-

to Rico, headed to Peru and then attempted to stay in the region for as long as possible. After 12 days in transit, the balloon was able to spend most of its time in the strato-

tern couldn't be found to keep the balloon over land, the algorithms picked the next best option, sending the balloon drifting out over the Pacific Ocean to pick up easterly winds that could help it sail back into position. In total, the balloon managed to spend 14 weeks in Peruvian airspace, which required making nearly 20,000 separate altitude adjustments during its flight.

After 98 days, the balloon was instructed to set a course for the flat, remote plains in the Ica region in Southern Peru. Here, a controlled descent was coordinated with local Air Traffic Control. While there's still a lot of work before an operational deployment, this test certainly proved the idea is feasible... ✈

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SULLY: THE MOVIE

What can Hollywood teach us about Just Culture?



by Tom Laursen, IFATCA EVP Europe

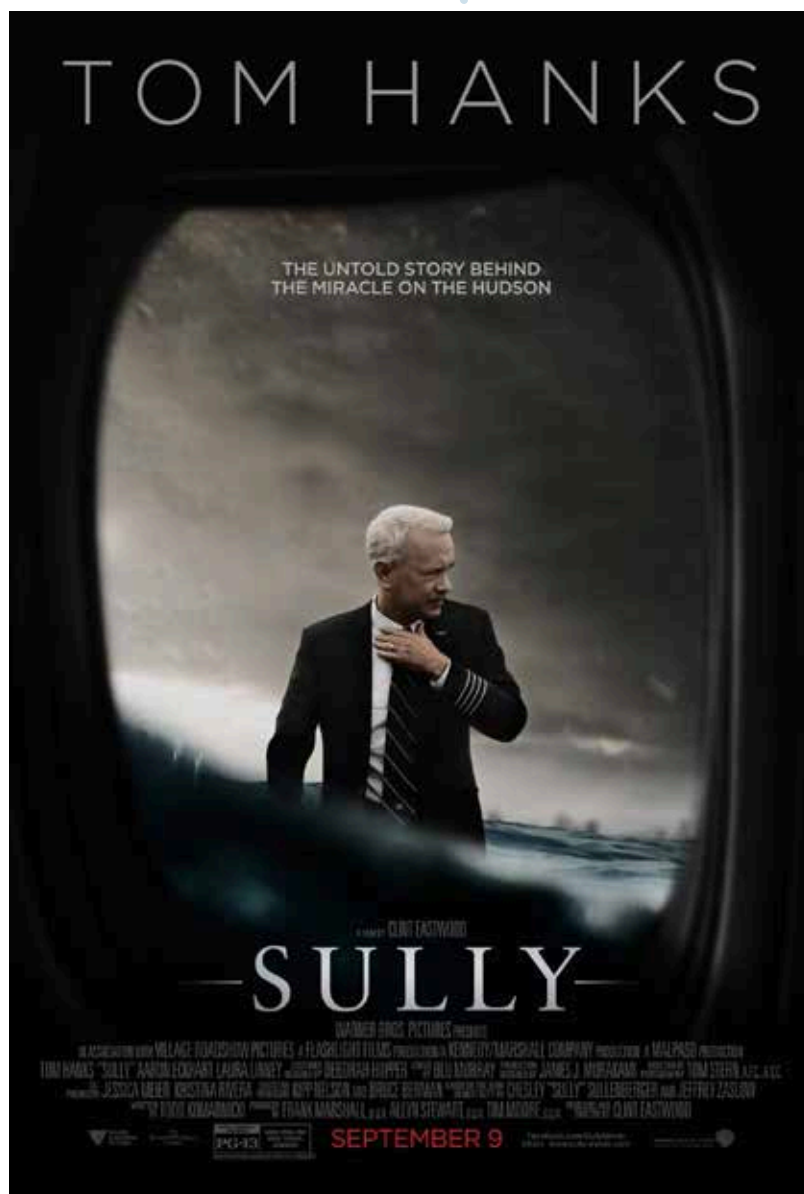
On January 15, 2009 US Airways Flight 1549 was forced to make an emergency water landing in New York's Hudson River, after multiple bird strikes caused both engines to fail. All 155 passengers and crew aboard the Airbus A320 evacuated from the partially submerged airframe as it sank into the river; they were rescued by nearby watercraft. The incident came to be known as the "Miracle on the Hudson", and Captain Sullenberger's memoir, *Highest Duty: My Search for What Really Matters* was adapted into a feature film "Sully", released in September 2016. The movie was directed by Clint Eastwood, with Tom Hanks as Sullenberger and Aaron Eckhart as co-pilot Jeff Skiles.

It was with mixed emotions that I went to the movies last week to watch 'Sully' the movie. As an air traffic controller, being a very close friend of the late Peter Nielsen (the controller who worked in the night of the Überlingen accident), I didn't know what to expect. I feared the movie could bring back some unpleasant experiences I had in the days, months and years after the Überlingen accident. I also thought that 'how can a movie by Clint Eastwood tell any meaningful story about the issues that surround an aviation event like the one on the Hudson River?'

But I went and I was positively surprised how delicately the movie handles the issues and by its perspective from the professional side. The movie is based on the experience of the flight crew and especially on how Chesley Sullenberger experienced the accident and the aftermath.

The movie raises two very important questions in the Just Culture debate.

Firstly, it describes what the people directly involved in an event like this have to go through in the days and months following the event. For the individuals involved, the movie describes their mixed feelings, such as doubt about one's own professional skills, doubt whether



you did the right thing or not, doubt about how the environment around you will react, how do I explain this to my family? And: will I have to go to jail or not? How much does it cost my company? Will I have support from my union and my company? What do my colleagues say? etc.. In my experience these thoughts and problems are more or less omnipresent. They are constantly present in ones thoughts and especially when trying to go to sleep the thoughts become a burden and can be almost unbearable.

Secondly, the movie raises the issue of how incidents and accidents within the aviation world are investigated. Among the general public, the investigation boards around the world almost have a sacred status of being able to tell the 'truth'.

Together with Peter Nielsen I experienced exactly the same as the crew did in the movie. The Investigation Board is interested in showing what went wrong and they will go to any length to do that. In the case of Überlingen, I assisted Peter Nielsen the day after the accident at his first interview with the Investigation Board. At that moment they were already asking questions about what he could have done differently and also what the employer could have done



→ Controller Patrick Harten (middle) attended the New York premiere of Sully Movie with Patch Darragh (left), the actor who plays him in the film, and with Tom Hanks, who plays Captain Sullenberger.

Photo: NATCA Facebook page



→ 15 January 2009: a US Airways A320 ditches in the Hudson river after a bid strike caused both engines to fail.

Photo: Greg L - cropped from Flickr

differently. This was followed, like in the movie, by further interviews where Peter Nielsen was asked all kinds of questions with the underlying tone of 'why didn't you just do something else?' and 'you did something wrong'.

Almost all investigations made by investigation units within airlines, air traffic service providers, safety boards, etc ask the same question: What could have been done differently, what would have saved the situation? These might sound like logical questions to ask. But first of all it doesn't really help if you want to understand what happened and if you want to understand why people did what they did and therefore be able to contribute to improve the overall performance of the aviation system. Secondly, the philosophy behind the investigations trigger defence mechanisms and make people reluctant to cooperate and what is worse make them doubt even more whether they did the right thing or not. This has led to suicides in the past and I can only guess how many times this has led to, and will lead to, psychological problems. Apparently (aviation) society accepts this and the individuals involved just have to live with this. A third issue is, what does the investigation board's approach do to people's general willingness to report and communicate openly about incidents they have been involved in, and in the wider context what it does to Just Culture?

There are many more consequences of this investigation approach that we are pursuing at the moment within IFATCA. This article is written

only to highlight a few issues where I think the movie can help the Aviation industry and the representatives of the public (government officials, ICAO, Airlines, Air Traffic Control, etc.) to reconsider the approach that they have today.

Hopefully the movie can help us highlight that the philosophy behind ICAO annex 13, a cause driven investigation philosophy, has to change. I suggest that we consider changing it to an explanation driven philosophy where investigation boards around the world need to seek explanations instead of causes. This will help us understand incidents and accidents better than we do today. As Sidney Dekker highlights that 'the risk of error and failure is the inevitable by-product of 'pursuing success in a resource-constrained, goal-conflicted world' and that we need to understand that to be able to act meaningfully. This will not save the world but it will help a lot and it could possibly be the best thing that we could do for Just Culture.

I have been trying myself to pass the message of Just culture for more than a decade now. I might have been able to change a few people's minds and ideas, but my success has been very limited. Clint Eastwood, Chesley Sullenberger and the crew behind the movie is probably going to be much more helpful than all the work I, and others like me have done. Go watch the movie. It is entertaining and if you have my comments in mind it will also have some aviation interest. ☺

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UNUSUAL AIRPORTS

EDCP: Peenemünde, Germany



by Philippe Domogala, Deputy Editor

Peenemünde is a village with a seaport on the Baltic Sea island of Usedom, in the north of Germany. It is best known for the former Peenemünde Army Research Center. It was here that the world's first functional large-scale liquid-propellant rocket, the V-2, was developed by German scientists during World War 2.



The brains behind this frightful weapon was Wernher von Braun who, after being captured by the Americans, would go on to design the Saturn rockets for NASA that brought men to the moon in the late sixties and early seventies.

In 1936, Hitler's government bought a large piece of land on the north side of Usedom island to develop a research centre for both advanced aircraft and rockets. The world's first aircraft propelled solely by a liquid-fuelled rocket, the Heinkel He176, flew from Peenemünde in June 1939.

Two years later, in 1941, the only rocket-powered fighter aircraft to

ever been used in operations, the Messerschmitt Me163 Komet, first flew there in 1941. This was the first aircraft to ever fly faster than 1000 Km/h. Later the V-1 flying bomb and the V-2 ballistic missile rocket were developed and tested in Peenemünde from 1941 to 1943, before they were put to use after the allied landing in June 1944.

In 1943, the facility was heavily bombed, which prompted the move of the rocket production to labour camps and tunnels dug under the Harz mountains in central Germany.

In April 1945, the Soviet

army captured the facility. In 1956, the Russians returned control of the base to the East German Air Force and Navy who operated various MiG fighters until 1989 when the wall fell.

It was then downgraded to a storage area for all former East German aircraft. By 1991, a small group of people had created a small museum in the old power station close to the airfield. The 2600m long concrete runway was reopened for general



➔ Messerschmitt 163 - Komet

➔ Heinkel 176

Photos: wikimedia

aviation, though it can only be used on request (PPR). At the beginning of this century, the museum was upgraded and expanded to become a top class attraction. The V-1 and V-2 exhibits are well-worth the visit.

The airport is still open, though still on request, and it is a very interesting place located in a beautiful area. Last August, a few days of good VFR weather gave me the perfect opportunity to fly up there and back.

The airport is visible from far away, as the area is relatively flat. The old control tower and its adjacent buildings were partially destroyed by the Russians when they left. As a result, they are not usable. The "airport facilities" moved to the other side of the runway, where some functional buildings remained. These are now used as a tourist office, which rents bicycles and offers accommodation. There's also a small restaurant and a hangar

for the local small aircraft.

But as part of the runway is obscured by trees, during the peak summer season the control tower is housed in a modified container, near a taxi way entrance.

Over the summer, there are two "Flugleiders", who provide Flight Information Service. They happen to be pilots too, flying a Cessna 172 for photo and introductory flights in the beautiful areas nearby, such as Rügen island. Especially when the sun is out, it's a stunning part of the world.

The controllers have some modern equipment, a PC, but their screen isn't sun proof. An improvised sunscreen makes the screen readable. For air-conditioning, they rely on a recycled PC cooler fan to help evacuate the hot air through a hole in a window. ATC ingenuity and flexibility at its finest!

Gabriele, one of the "flugleiders" welcomed me, in French no less, and arranged a bicycle

to visit the area and the museum. Everyone around is very more than willing to help and extremely friendly. The museum is very well done and definitely worth to visit. Sadly, I could not stay overnight, as I had to fly out to the next island, Rügen, to stay ahead of some bad weather that was expected to move in from the North the next morning. But I definitely plan to go back and stay a bit longer next time. ✈

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→ Gabriele in her "state of the art" tower

Photos: DP

CRYPTOGRAPHIC DELAY

Would you delay a Presidential flight?

✈ by John Ottley, Jr., contributing editor

A 19-year-old rookie cryptographer might not have been the best choice to decode a message that U.S. President Franklin Delano Roosevelt (FDR) needed clearance to land at Gravelly Point (now Reagan Washington National) Airport.

Cryptography

Helen Janeway, a brand new Air Transport Command cryptographer, deciphered the first part of the message. It read "Great White Father arriving". The next words didn't match anything in that day's code book.

It was January 29, 1943. The President's conference with British Prime Minister Winston S. Churchill, French General Charles DeGaulle, and their senior military staffs, at Casablanca, Morocco, had ended five days earlier.

Air Transport Command was firm: no coded arrival estimate, no landing clearance. No matter who was aboard or what the pilot told the control tower. There was the

obvious concern that an enemy transport might scam the tower, slip onto the runway, and spill a load of armed paratroopers onto U.S. soil minutes from the Capitol. Encryption thwarted any risk of eavesdropping which could give an assassin an opportunity to take out a VIP.

Garbled

As the minutes ticked by, Helen sweated with the last part of the



- Top: Helen at age 20 in Air Transport Command (ATC) uniform she helped design for 300 fellow civilian employee cryptographers
- Middle: a USAF C-54 Skymaster
- Left: General Giraud, President Roosevelt, General de Gaulle and Prime Minister Churchill at the Casablanca conference in 1943.

Photos: Helen Janeway & wikipedia

message. The President's ETA had been garbled in transmission. The Morse code operator typed it verbatim without catching the glitch. Only Helen knew it was flawed.

She sensed people standing behind her. Whipping around, she recognized Air Transport Command worldwide commander Lieutenant General Harold L. George. Two weeks on the job and a three-star was breathing down her neck. The other officers were also high ranking.

"Young woman", the general bellowed, "do you hear that airplane circling overhead?"

"Yes, sir," she stammered.

"And, does 'Great White Father' mean anything to you?"

Terrified, she nodded.

"Well, he's inbound from Casablanca and has 20 minutes fuel remaining. Now, get him down!"

Exam

Fresh out of Maryland's exclusive Oldfields School, Helen had been working at a department store's complaint desk in New York when the Japanese bombed Pearl Harbor on December 7, 1941. Her father, Pennsylvania's deputy adjutant general, insisted she'd take the Civil Service exam and join the war

effort as a civilian.

After passing the entry exam, a former school friend urged Helen during an interview to apply to Air Transport Command as a cryptographer.

Up until that day, it had been a piece of cake. Boring even. After what seemed like an hour, Helen finally cracked the remaining code groups. They read, "ARRIVING WASHINGTON NATIONAL ETA 1200".

VIPs

There was no mention of President Roosevelt being aboard—because he wasn't. He had taken a Douglas C54 Skymaster to Bathurst, Gambia, where a chartered Pan Am Boeing 314 Clipper flew him to Miami. There he stepped aboard the presidential rail car Ferdinand Magellan and returned to Washington January 31, 1943.

The top man on the circling C-54 waiting was perhaps wartime Washington's second most important person: Army Chief of Staff Gen. George C. Marshall. He returned from the January 14-24, 1943, Casablanca Conference ahead of the President.

Among the other VIPs on Marshall's plane were LTC Frank McCarthy, secretary to the Army General Staff; MG John E. Hull was assistant chief of staff for operations, Army General Staff; and COL Charles Kenon Galey, who later rose to major general and would bid Marshall a final farewell.

Flown by four TWA captains who, like many civilian airline pilots, had been drafted into the U.S. Army Air Forces, the Skymaster had refueled at Trinidad after crossing the pond from Africa. With a fuel capacity of 4,400 gallons, and burning 300 gallons an hour at cruise, it should have reached Washington with at least 3.5 hours of fuel remaining. So perhaps the "20 minutes of fuel remaining" was just to light a fire

under the hapless cryptographer.

Codenames

The code name "Great White Father" may have been assigned to Gen. Marshall's plane to deceive enemy spies. A January 25, 1943, a message from McCarthy to the U.S. Army commanding general in South America specified that "absolute secrecy is essential" to Marshall's trip. A search of Secret Service presidential code names did not reveal one for FDR. The service assigned "Rover" to his wife, Eleanor, and "Mrs. Johnson" to his mistress, Lucy Mercer Rutherford.

Had the right hand known what the left was doing, there might have been no delay. On January 28, 1943—one day before the Air Transport Command incident—a message from the British Guiana Base Command to the War Department Adjutant General stated that General Marshall's plane would overfly Belem (Brazil), refuel at Trinidad, and arrive at Washington National at 2200 GMT on 29 Jan 43 (noon Eastern Standard Time). Obviously, this information did not reach Lieutenant General George.

Helen never heard another word about the delay. She later joined the Office of Strategic Services, the predecessor of the CIA. She was deputy station chief in Oslo before OSS was disbanded by President Harry S. Truman in September, 1945. Now 94, Helen Janeway Price Gilbreath resides in Sandy Springs, GA, an Atlanta suburb. ➔

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➔ Helen Janeway Price Gilbreath today

Photo: John Ottley, Jr.

CHARLIE'S COLUMN

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Buzzing the tower, norwegian style

Last April, two Norwegian Air force F-16s took part in an exercise near the small island of Tarva, on the country's western coast. Believing they were closing in on their designated target, one of them started to machine gun the control tower, which was manned by controllers at the time. The pilot fired what is known as an M61 Vulcan cannon, which can fire up to 6,000 rounds per minute.



Photos: wikipedia

Countless bullets struck the tower, but a spokesperson for the Norwegian Air Force reassured everyone that they were "cold" bullets, i.e. the non-explosive variety. That must have re-assured the poor controllers, who fortunately remained unharmed. The same probably can't be said for their uniform, which might have some coffee (or other) stains on it!

Pilot-pimp your dashboard

If it wasn't for the internet, we'd never know about this guy, who designed his car dashboard like an aircraft cockpit. Great way to keep track on your engine performance, fuel consumption, heading, elevation and what have you. Not too sure it allows you to drive IFR, i.e. without looking outside though!



Photo: internet

Low-cost boarding

Low cost airlines have long perfected the art of self-boarding: all passengers are hoarded into a small room and when the gate opens, there's a sort of stampede as everyone rushes towards the aircraft to get a seat. Recently, someone took the sport of self-boarding to another level. A passenger in Madrid, who for some reason didn't make it on time to the gate, decided to jump off an air bridge to chase the taxiing Boeing 737 across the apron.



Reports on what happened next differ, but it's likely he was told he could not board with 2 carry-on bags.



Photos: internet

Beer at 35.000ft.

KLM has announced it will introduce draft beer on some of its long haul flights. Using a special trolley that holds a small keg and a beer tap, there's apparently demand for this during longer flights. Not sure what other national flag carriers think of this, but we hope for the poor flight attendants' sake it doesn't catch on: tiny Dutch beers are one thing, but we can't imagine seeing German crews having to haul huge beer steins through the cabin in some Oktoberfest-style effort...



Photo: KLM



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