

# OUTPUT EGATS

Spring/Summer 1999 Volume 4, Issue 1

# Shift Work

## EGATS OUTPUT

**24 hour operations creates additional stress in an already stressful job.**  
**Dr. Lawrence Smith of the University of Leeds looks at the consequences.**

Shift work is by no means a recent phenomenon, as there have always been groups of people who work at night. But Thomas Edison's invention of the electric light has enabled a true 24-hour society, one which has come to rely increasingly on people who work outside the usual nine-to-five routine. Around 20% of industrialised nations' workforces use some form of shift roster.

Colonisation of the night provides power, food and services, increases the commercial viability of many businesses and enables cost-effective use of expensive technology. In addition, it helps ensure constant security, from emergency services to air traffic control; commercial aviation has grown rapidly over the last half century, and the H24 airport is firmly established in today's culture.

But while it might provide obvious benefits to the passenger, a workforce which is out-of-step with normal societal activity can pay a heavy price and there are significant implications for safety. Put simply, human beings are not designed for shift work, either physiologically or psychologically.

Evolution has made no allowances for night work in the design of humans. People are hard-wired by nature to be active during the day and to rest at night—they are no more nocturnal than they are aquatic.

Research shows that long-term exposure to shift work - and especially night work - can be harmful to health and well-being, both directly and indirectly. Why should this be?

The human body is governed by natural rhythms; most of its physiological functions, and many mental processes and behaviours, show a rhythmic activity over a 24-hour period. Described as 'circadian' rhythms - from the Latin meaning 'about the day' - they are entrained to a 24-hour day-night cycle, but are also driven by a small cluster of cells in the brain commonly known as the 'body clock'.

For example, alertness levels have their lowest point between about 04:00 and 06:00, after which they gradually increase through the day to peak during late evening, around 20:00 to 21:00. Body temperature shows a similar pattern. Levels of the sleep-related hormone melatonin are low through

the day, but increase from around 20:00 to peak in the early hours, from 02:00 to 04:00 - precisely when the shift worker finds it hard to resist falling asleep.

Air traffic controllers working changing shifts, including regular night duties, can suffer the disruptive effects of shift work - as can aircrew, who might also be vulnerable to jet-lag. Flight simulator research suggests that operational performance at night can be degraded to a level corresponding to a 0.05% blood alcohol level; *this level is worryingly similar to that found after moderate alcohol consumption.*

Problems associated with shift work are well-documented. The most immediate impact is the direct-bit effect on the body clock, which tries - but ultimately fails to adjust to the changed activity and rest schedule. This can have several negative effects on both sleep duration and sleep quality.

There are also related effects, which include:

- Increased tiredness and chronic fatigue
- Decreased mood and greater irritability

*(Continued on page 2)*

## EGATS OUTPUT

- Impairment of physical and psychological well-being
- Disruption of social and family life

All businesses running 24-hour operations are under pressure to match staff levels to business needs. Air traffic control must match controller levels to air traffic flow. As the number of flights increases, capacity is constrained and the pressure intensifies. In many cases staff lose out, bearing the weight of shift rosters designed in haste without enough regard to their effects.

There is a lesson to be learned by ATC managers who draw up such rosters. Poorly-designed rosters can ultimately affect the smooth running—and even the safety—of air traffic in several ways:

- Lower tolerance of stress
- Decreased alertness on shifts
- Decreased motivation and morale
- Impaired performance
- Increased potential for error
- Increased absence due to sickness, especially on night shifts
- Potential for greater staff turnover

**Relatively simple improvements to shift rosters have been shown to reduce sick leave by more than 20%**

In the UK, the UTC trade union organisation calculated that work-related stress costs employers around £5 billion annually, with a loss of 6 million working days. Long hours and shift work were each found to be among the primary causes.

Yet relatively simple improvements to shift rosters have been shown to reduce sick leave by more than 20%.

Research confirms that effects of shift systems vary between indi-

viduals and depend not only on the specific features of the roster being worked, but also on the roster's flexibility. Both have a significant impact on the individual's tolerance of the work schedule.

Another interesting area of debate is the effect of clockwise shifts compared with anticlockwise shifts.

Under a clockwise shift, a worker finds the hours of subsequent shifts falling later and later in the day, while an anti-clockwise worker finds his shifts starting earlier. There is evidence of a difference in overall performance levels between the two patterns.

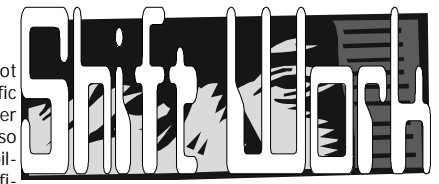
Sleep disturbance is one of the most common complaints reported by night shift workers. Sleep is as essential as breathing and eating, yet is probably the most regularly-abused basic necessity.

### Is there an ideal shift roster?

Shift work evaluation is complex and involves far more than simply analysing the roster structure. Researchers must consider such moderating influences as:

- *nature of the job: activity and monitoring levels vary between different ATC controller positions*
- *organisational and social environment: are the controller's surroundings unnecessarily disruptive?*
- *personal characteristics: how does the controller shape up physically and mentally?*

There is no perfect roster; consequently, a prime objective of shift work research is not to find a system which is universally applicable, but to identify those features which are associated with the least disruption to the workforce - and to use these as a basis for decision-making during roster design.



Research on sleep deprivation, fatigue and human performance confirms that there are zones of vulnerability over a 24-hour period which parallel the physiologically-based sleepiness rhythm.

These zones occur between midnight and about 05:00 and during the afternoon, between around 13:00 and 17:00.

Fatigue-related accidents and human mortality - from all causes - show a remarkable correspondence to these vulnerable times, peaking in the early hours after midnight, with smaller peaks during late afternoon.

Shift work tends to exacerbate this situation by requiring people to work in opposition to the natural timing of the rhythms controlled by the body clock. One study reveals that 11% of shift workers admitted to falling asleep at some point during a night shift, while 59% admitted to dozing off on at least one occasion. The corresponding figures for day shifts were 0% and 23% respectively. Similar statistics are found across a number of industries.

Sleep deprivation caused by shift work can result in significant long-term sleep loss, owing to forced changes in habitual sleep-wake rhythms. Complaints include premature awakening, feelings of having too little sleep and feelings of not being rested after sleep.

Morning shifts are associated with difficulties falling asleep, difficulty waking up and a strong sense of lack of recovery.

Interestingly, repeated experience of acute sleep deprivation does not appear to result in the individual becoming immune. Only adequate sleep can make up for significant

sleep loss.

The more tired the brain becomes, the more it relies on the environment to maintain alertness. Unfortunately for air traffic controllers, their environment can consist of a quiet, dark room with only a few people for company - hardly a stimulating situation.

This sleepiness can result in increased lapses of attention, or even 'micro-sleeps' short periods, using during the early hours, where the brain falls asleep but the eyes remain open and the person appears to be awake.

More often than not, people are completely unaware of these micro-sleeps and lapses, and would claim adamantly that they had been awake at all times through their shift.

Working Time Regulations implemented by the European Union last year include night work limits and health assessments for night workers. These regulations have prompted many responsible organisations to examine their work schedules; but not every industry has to comply.

There are no firm rules for combating shift-related problems, owing to the wide differences between people in their tolerance levels, and not all people cope equally effectively, nor will everyone admit to not coping.

Shift workers often report that they have suddenly started to experience problems after years of little difficulty. Many will not feel willing to talk about the difficulties caused, or made worse, by shift work because they see colleagues apparently all coping adequately.

Strategic intervention to minimise disruption to rhythms, sleep, well-being and performance is nevertheless possible.

The ideal solution, of course, is to ban night work; but this is simply impractical for airlines, which are seeking to extend night operations, and consequently, also for many ATC units.

Changing a shift system is probably the most common catch-all method of fighting shift-related problems. Essential services such as the UK and Irish police forces are presently considering roster changes for precisely this reason.

Completely overhauling a shift system, however, is not entirely problem-free. In many organisations, those who design or approve the rosters either do not work them themselves or have forgotten what night shift working is like.

They often do not possess reliable or comprehensive information on best practice in designing rosters which will cut disruption while maintaining adequate levels of cover.

Practitioners often ask what 'the best' roster should include, or how they can compare three or four different rosters.

Computer-based decision-making is an emerging weapon in the battle for shift work efficiency. This year, the German air navigation organisation DFS is to begin managing more than 3300 controllers with scheduling software from Canadian firm Ad Opt Technologies, and, in the UK, members of the Shift work and Safety Research Group at the University of Leeds' School of Psychology have developed a software package called 'Shiftcheck' to assist decision-making when choosing the most appropriate roster. The software assesses a roster's potential disruptiveness to the worker - and ultimately, the organisation. While not a roster-design tool, the software is based on present research

## EGATS OUTPUT

knowledge about the potential disruptive effects of different shift configurations, producing a report highlighting positive areas in the roster, as well as those which could give cause for concern.

But advanced technology is not the only solution. Shift workers

**Managers in safety-critical organisations cannot afford to ignore the wealth of scientific and anecdotal evidence about the potentially destructive effects that shift work - and night shifts in particular - can have on their staff.**

can be provided with information and training in coping skills and strategies; few employers, however, take this approach, other than paying the idea limited attention. There is a poor history of organised shift work information or programmes for coping being provided by employers.

Yet consultation about the rosters under consideration, and participation of shift workers in the decision-making process, are highly influential moderators of shift work effects.

Despite the apparent drawbacks, shift work is not all bad all the time. It can provide advantages in terms of fitting with lifestyle or career development. But managers in safety critical organisations cannot afford to ignore the wealth of scientific and anecdotal evidence about the potentially destructive effects that shift work - and night shifts in particular - can have on their staff.

Dr. Lawrence Smith  
Psychology Department,  
[University of Leeds](#)

Reprinted with kind permission from  
GATCO's 'TRANSMIT' - Summer 99.

## EGATS OUTPUT

**Santiago De Chile**  
**March 15th-19th**  
**1999**

**T**his year's IFATCA annual conference was held the 15<sup>th</sup> until 19<sup>th</sup> March in Santiago de Chile.

Chile is with ca. 5000km (18<sup>th</sup> 'til 57<sup>th</sup> southern latitude) the longest country on earth whilst its width comes up to only 180km in average. There is a saying in South-America: "The Chileans have to lay down in north-south direction, otherwise they'll get wet feet."

The country extends from the driest area on earth, the Atacama Desert to the eternal ice of Patagonia. Passing the Andes with its highest top of the continent, the Aconcagua (6959m), we descended into the Aeropuerto Arturo Merino Benitez, the 5 million capitals' airport.

The EGATS delegation, consisting of Inge vander Eyken (Deputy Director Committee C), Philippe Domogala (Deputy Director Committee B), Jos Haine (Delegate), Tony Savage (Acc. person) and Patrik Peters (Director of Delegation & Committee A), stayed at the conference venue, Hotel Carrera, situated in the heart of Santiago, facing the Palacio de la Moneda, - the government palace.

**Committee A - Administration.** Usually known as being the "dry stuff", I'll try to keep it short. This year, there was only one knew association wishing to join IFATCA, the ass. of Cabo Verde. On the other hand, the membership of Zambia had to be terminated with immediate effect, due to their interference in conjunction with the dismissal of the Zimbabwean controllers following an industrial ac-

# ANNUAL CONFERENCE



tion last year (we reported).

- Another membership association reporting serious trouble, were the Panamanian controllers, where in November '96, 69 ATCOs were dismissed. In the meantime retired USA-controllers (no NATCA-members!) were hired to train ab-initio controllers for their replacement. A court decision is pending, but will depend mainly on the outcome of national elections this May. Meanwhile IFATCA and NATCA have offered their help. At the time of conference Panama needed another 17.000 US\$ to represent their members in court. Nevertheless, the association is confident to solve the problem.
  - Marc Baumgartner, EVP-Europe, informed us in his report that the Bulgarian problem is almost solved. Except for two controllers, all the fired staff have been re-hired.
  - Greek authorities are finally making an effort training 50 new controllers for their new system (which is operational now); a result of intervention, both, of IFATCA and IFALPA.
  - Our Finnish colleagues were on strike from the 1<sup>st</sup> of February until the 8<sup>th</sup> March '99. Their request for a pay increase was granted after lengthy negotiations and they receive a 13% increase over the next 3 years.
  - IFATCA's permanent office in Montreal/Canada took over all secretarial work in the past year and it was said that the professionalism of our office manager Mrs. Maura Estrada provides us with a smooth run of the office; much better than expected after such a short time.
  - The Controller-magazine went through some difficulties the past year, mainly because of management-problems and bad moral of payment, which has been recognised, solved and will be closer monitored in future, both by the CMG-Controller Management Group (GATCO) and the Executive Board of IFATCA.
  - Future Conferences: The conference venue for the year 2000, Marrakech/Morocco, has been confirmed at conference, following a lengthy discussion, because the organising committee failed to provide any report or information to the Executive Board of IFATCA. They promised to improve in future and informed the committee about the support they receive from the King of Morocco and their national airport authority.
- The annual conference 2001 will be held in Geneva/Switzerland. There was no offer for the year 2002, but Mexico indicated willing to host the 2003 conference in Cancun.
- Mr. Martin Cole/USA unexpectedly had to step down due to lack of support from his employer. The new Executive Vice President- Technical is Mr. Andrew Beadle/Australia, who has vast knowledge in the field of computer programming. Other new elected members of the Executive

## EGATS OUTPUT

(Continued from page 4)

Board are: Mr. Paul Robinson/NZ as Deputy President (re-elected); EVP-Africa/Middle East: Mr. Albert Taylor/Ghana; EVP-Asia/Pacific: Mr. Philip Parker/Hong Kong; EVP-Americas: Mr. Jean Robert Dumfries/Aruba.

- We have had the possibility to look through the new IFATCA-website that will be launched before May 1st. All IFATCA manuals and policies as well as the structure and officials of the federation will be found on those pages. Responsible for the website is IFATCA's newly appointed webmaster Mr. Robert Marshall/UK.

The address:

<http://www.ifatca.org>

In all reports, it seems that lack of staff is rapidly becoming the major problem in the whole of the European region. All claims of increasing capacity through programmes and projects like 8.33kHz channel spacing, RVSM, ATM2000+ etc.. are likely to hit a "staffing wall": with no one to man the extra sectors needed, the foreseen capacity increase will not be reached.

**Committee B**, dealing with technical & operational matters in ATC, this year concentrated its

work on two main items of policy: - One with little or even no effect on us (so far): ADS (using FMS data to be transmitted to the ground (via satellite) to determine position of aircraft and display that similar to a radar picture, as we know it). Main use of ADS will be the oceanic airspace - a later use to backup SSR could be envisaged. This would eliminate the necessity of primary radar. 16 recommendations were passed, determining IFATCA policy on ADS. - The other large point of discussion took place around the introduction of 8.33kHz frequency spacing in Europe, which will directly affect our daily work. 10 recommendations were passed on that subject - they become IFATCA policy. These 10 recommendations are set in Annex and EGATS will support and use them in our discussions with management on introducing the programme in our UAC.

Other points of interest to EGATS:

- When using data-link applications, if any form of D/L is to replace VHF R/T (or used as part of R/T communications), it should have equivalent VHF voice characteristics in term of transaction times and general human-system interface.
- RVSM: Controllers using

RVSM (1000 feet separation above FL290) in the North Atlantic would like to keep FL300 vacant (i.e. non-plannable FL) for dealing with emergencies (for crossing tracks to return an aircraft). This procedure is not necessary in a radar environment such as ours, but it highlights once more the complexity of compressing more aircraft together at cruising altitudes. Oceanic North Atlantic Controllers also want to establish a procedure by which aircraft flying at odd levels should off-set to the left 2NM, while aircraft flying at even levels should off-set to the right 2 NM. This procedure will help reducing requests for altitude changes due to wake turbulence and also increase dramatically safety, as today with GPS accurate navigation aircraft find themselves often exactly on top of each other on the same tracks.

- For the use of data-link in general: The IFALPA (pilot associations) representative stated that pilots did not offend the use of D/L using FANS I/A but that its use should be limited and not used for tactical control.
- Y2K-problem: The ICAO representative informed us that they have made a video on contingency planning and that anyone interested could contact them for a copy. IFALPA commented that there will be little demand for travel during the millennium change over and that airlines will naturally reduce the number of flights. In Committee C an information-paper was presented to assure awareness amongst the MA's, which were advised to reconfirm employer's contingency plans.

(Continued on page 6)

## EGATS OUTPUT

(Continued from page 5)

- During the technical panel, Eurocontrol Agency (Mr. Bernard Miallier) gave a presentation of ATM2000+ and the future. Seeing the difficulties they have in having states agreeing in implementing relatively simple projects like RVSM, 8.33kHz freq. spacing, B-RNAV, ARN-V3, etc... one can only wonder how much more ambitious programmes like ATM2000+ , aiming to establish some form of Free Flight in Europe, will in the end be really implemented.

Interesting fact: Based on RPLs (Repetitive Flight Plans), the present equipage is 43%; that means 16% below expectation. Seeing the low accuracy of RPLs we're talking about a real 25% equipage rate.

**Committee C** (professional & legal matters in ATC) managed to work through quite a big number of high quality working papers, resulting in 32 resolutions. Some important new policies were established and existing policies on both professional and legal matters have been revised.

EVPP, Mr. Martyn Cooper/UK, had a busy year. Worthwhile mentioning was his involvement on behalf of IFATCA in several disputes, such as in Panama (see above), Russia, Bulgaria and Zimbabwe.

IFATCA's Human Factors Specialist, Bert Ruitenbergh/NL, has co-authored a book: "Air Traffic Control: Human Performance Factors" (Publisher: Ashgate- UK), which will be shortly available to IFATCA-membership associations at a reduced price.

An interesting point of discussion was the ATC rating structure, which turned out to be a rather complex issue. A worldwide program was considered desirable but it would only be achievable in conjunction with harmonised

training programmes. IFATCA will therefore approach ICAO to review the existing policy and to determine whether their "Safety Oversight Program" is producing recommendations for a change.

Another issue of high importance to deal with was the "transfer of separation functions to pilots" (especially seeing the current ideas of "Free Flight"). The following provisional policy on human factors aspect has been issued:

*IFATCA has strong concerns over the transfer of control responsibility to the cockpit for the following reasons:*

- *If separation functions are transferred to the cockpit, the situation awareness and skills base of the ATCO will be degraded to the point when intervention will not be possible, and*
- *Aircrew workload will increase by fulfilling additional tasks, which are currently carried out by ATC. This might lead to overload situations in cockpit workload when other, higher priority tasks have to be taken care of by the crew. Responsibility for the control function cannot simply be handed back to the controller.*

In conjunction with the above *IFATCA shall establish a joint task group with IFALPA to evaluate the "Free Flight Concept" with a view to determining a Concept Document on the future ATC. The provisional policy of IFATCA on the "Free Flight Concept" includes some vital points, such as (summarised):*

- *Situational awareness of the controller must be a key element.... Able to interact cooperatively with the crew.*
- *Due to unpredictable movements of aircraft, the respon-*

*sibility of conflict detection and the maintenance of the safe separation function should rest with the pilot.*

- *Procedures for re-integration of aircraft entering "managed airspace" have to be established.*
- *Reactions and conflict alert systems for pilots and ATCOs need to be aligned.*
- *Question of de-skilling controllers has to be checked.*
- *Priority should be given to the human approach to the "Free Flight Concept".*
- *Just handing back responsibility to the controller when "Free Flight" fails does not work. The limits of human-centred control must be clearly established.*
- *Both, ground and airborne (ASAS) conflict alert systems have to be proven in all circumstances.*
- *The dispersion of workload from the ground to the cockpit has to be reviewed carefully (see also above).*
- *Aircrew performing under the "Free Flight Concept" should have special qualifications.*

With reference to performance indicators an information paper presented by Ireland confirmed that despite pressure from the aviation industry, it is virtually impossible to define performance indicators for ATC.

Regarding human factors aspects, which have already been mentioned, some more important policies have been added:

- *The implementation of automated systems shall include sufficient training, including the human factors aspects of automation, prior to using new equipment. The level of*

(Continued on page 7)



(Continued from page 6)

training is a major factor in determining the level of traffic that can be safely handled until all controllers have gained enough hands-on experience.

- A minimum daily rest period of 11 consecutive hours a day should be provided.
- At least one break of a minimum of 1 hour duration, on both day and afternoon shift, shall be given to ATCO's for the purpose of eating at regular times and to prevent

gastrointestinal dysfunction.

- IFATCA recommends that for active air traffic controllers the age of retirement should be closer to 50 than 55 years of age.

Some other aspects of last year's work will continue to be monitored, such as the impact of privatisation and CISM (Critical Incident Stress Management).

The Safety Monitoring Tool is a subject Standing Committees 4 & 7 will investigate in the year 1999/2000. EGATS will therefor

IFATCA remains very concerned regarding the possible risk of confusion and misunderstanding during frequency changes with the planned channel numbering using 6 digits.

Although it is recognised that 100% equipage will not be achieved and in line with Safety Validation Groups conclusions based on the assumption of an equipage rate of 95% IFATCA believes that for the introduction of 8.33kHz the following conditions must be met:

- Appropriate "filtering/gate keeping" procedures must be in place in the ECAC area and surrounding states.
- Detection of 8.33kHz carriage by IFPS and the display of non-equipped status to the controller must be in place.
- Education programmes for pilots and controllers must be completed. This is particularly important in states surrounding 8.33kHz airspace which will perform the "filtering/gate keeping" procedures.
- Procedures, which consider a controller as the principle means of mitigation, are unacceptable.
- Last minute diversions and sub-diversions of non-equipped aircraft directly affect the capacity of the sectors involved, therefore such re-routings must be kept at the absolute minima in order that the safe operations of the sectors involved are not degraded.
- CFMU shall not re-route automatically non-equipped aircraft.
- 121.5 cannot be considered as a contingency frequency for non-equipped aircraft nor can it be used to re-route or divert aircraft that are non-equipped.
- A 25kHz independent contingency frequency must be available to re-route non-equipped aircraft.
- Non-equipped medical flights will only be accommodated in the case of an in flight emergency.
- The introduction and use of 8.33kHz spacing must be proven to meet at least the current target levels of safety (i.e. 25kHz).

provide some information material; we hope to receive IFATCA Guidance Material on the matter.

This concludes the report of the 38<sup>th</sup> Annual Conference of IFATCA.

I would like to thank the other delegation members for their very good and efficient work (and their contribution to this report).

The atmosphere within our small group reflected at all times in a good working spirit, which continued throughout the whole conference. In my opinion, we did a good job, both for EGATS and for the Federation: - and we, besides the heavy schedule and the sometimes hard work, had a lot of fun.

Thanks as well to our families/partners, who endured this week without us.

Finally, I like to extend our appreciation to the Organising Committee of this years conference, the *Colegio de Controladores de Tránsito Aéreo de Chile*.

Well done!

Thank you as well to our flight department and thus to British Airways, KLM, Iberia and Swissair for providing us with excellent travel facilities.

Patrik Peters

# Flight Dept. News

The EGATS Flight Department has completed a re-organisation. These changes are mainly due to the need to relieve Danny grew of some of his (extensive) duties and also because new arrangements with some airlines (Continental, LTU, etc..) have changed the application-flow. There are now 5 people in the Flight Department.

**Philippe Domogala** becomes (again) the Chairman of the Department and will now concentrate on the management side of the Ft. Dept and will cease to process applications.

**Wolfgang Karl** will process LTU, Hapag-Lloyd, Deutsche BA, Condor, and Eurowings applications.

**Christiane Beins** will handle Swissair, THAI, Alitalia, Iberia, Aer-Lingus, TAP and Turkish and becomes the Deputy for Steve and Wolfgang when they are absent.

**Steve Pelsmaekers** will process Lufthansa, Air Exel and act as deputy for Danny and Christiane when they are away.

**Danny Grew** will continue as General Manager of the Flight Department, in charge of day to day operations and the financial side. He will continue to process applications for some airlines, mainly British Airways, American, Northwest Delta, British Midland, Air UK, Crossair, etc ... and deputises Christiane and Philippe, in their absence.

The set-up of the Brussels office remains unchanged, with **Paul Adamson** and **Gillian Heath** as managers.

In addition, circumstances have dictated a new rule: due to the ever increasing number of EGATS members, the limited resources of the Flight Department, and considering that we will give normally priority to active staff, we've had to evaluate the impact of retired staff to our operations. Certain airline regulations regarding non-active staff and considering to the general extra workload that out-of-station requests can cause the Flight Department we asked the Executive Board to endorse the following:

**One year after departure on ETS, Normal or Medical pension, the use of the Flight Department will normally cease. The Executive Board can consider individual applications of said members, taking airline regulations and advice of the Flight Department officials into account.**

Furthermore, with the EGATS membership approaching 600 members, we'd like to remind everyone that our volunteers manage the Flight Department in their spare time. We are not a professional travel agency and our manpower is geared to process a limited amount of applications per year. Fortunately not every member uses our services every year, and we

have been so far able to accommodate most requests.

However, a small, but increasing number of members, are using the Flight dept more extensively (i.e. sometimes more than once per month). Should this number increase, the functioning of the Flight Department would become impossible. I therefore would appeal to these few "jet setters" to be more considerate and reduce the burden they put on the Flight Department. If necessary, the Executive Board will impose a membership-wide restriction (e.g. 2 flights per member per year), but we want to avoid this as long as possible...

Now if you want to help us in the Flight Department, try to follow the principles below:

- A strict 4 weeks notice (6 weeks in certain cases) when making an application needs to be applied.
- Read the Flight Department folder before making your application.
- Always add your administration fee together with sufficient eurocheques where applicable (LTU, DLH, SAS, TAP, many more, etc ). For those of you who do not have eurocheques, we have to insist you obtain some if you intend to use the Flight Department.
- Any special request should preferably be done in writing and put in the NEW Flight dept locker, No. 110 located in the locker room. Alternatively they can be faxed to us [EGATS FAX is +31.43.3661.541] if you're not in Maastricht.
- Avoid using personal lockers (the deputies do not have access to them and someone can be sick or on leave).
- Avoid going to see Flight Department managers while they are working on the sectors as much as possible. Also please be considerate about contacting them at home: only use it as a very last resort.
- Avoid contacting Executive Board members about your requests: they are not familiar with Flight Department internals nor do they know where your tickets are.

If everyone can take the above into consideration, we can continue to enjoy our flight facilities, despite the growing number of EGATS members. We thank you for your understanding.

Happy Flying

Philippe Domogala  
Chairman Flight Department.

# EGATS FORUM 1999

A report of the Forum by Philippe Domogala.

**T**his year's theme was **THE FUTURE OF SEPARATION**. The one day Forum was attended by around 200 participants and this despite a terrible weather that paralysed traffic all around the South of Holland and Maastricht area in particular, about 25 cm ( 12 inches) of snow had fallen the previous night and disrupted all traffic. It took more than 2 hours to cross the city , where normally 15 minutes maximum are needed.

Fortunately most speakers had arrived the night before and, albeit a delayed start, the Forum could start.

The quality of the presentations this years was above average, and everyone present praised the organisers for a very entertaining and interesting day.

The first speaker was Mr **Arnold VANDENBROUCKE**, Director of the Maastricht Control centre, who in his opening speech reminded us that seen the complexity and the high density of airspace we were now working in, and seen the slow acceptance for changes, it will take more time than initially envisaged to get new future ATC systems in place.

Mr **CAZAUX** of the French research centre (CENA) explained ASAS ( Airborne Separation Assurance Systems). As a co-developer of the system, he explained both the possibilities but also the limitations of the system. Mainly that ATC was more than aircraft separation alone and that ASAS could never fill all ATC re-

quirements. For this he did not expect the so called co-operative Separation applications ( i.e. aircraft separating themselves autonomously) in the near future .

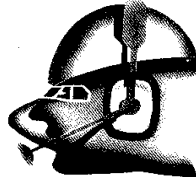
**Martin COLE**, Exec. Vice President Technical of IFATCA, said that IFATCA was not against shared responsibilities for separation per se. He wondered however, that if the systems proposed ( ASAS and CDTI [Cockpit Display of Traffic Information] ) were technically feasible, it was quite a different story if one considered the Human aspects. With this he meant liability, the reverting back responsibility to the controller if a pilot cannot continue with his manoeuvres etc...

He also questioned how controller could efficiently recover from a non routine situation. All this would certainly increase his/her workload and therefore not allow the promised increased capacity.

**Christian DENKE** of the German pilot Association explained the various IFALPA policies on ATM (Air Traffic Management). He said Pilots will support the use of CDTI and ASAS providing some conditions are met : special procedures of course and ACAS (TCAS) ultimate protection. However he said pilots were not so eager to take over ATC tasks. He saw a possible use en-route, again providing some proper tools are in place., but certainly not in the arrival/sequencing areas...

**Dirk VAN ECK**, a Dutch Legal expert explained the legal implications and various protections available for controllers when separation standards are in-

## EGATS OUTPUT



olved.

Using various scenario he demonstrated that today we still lacked a proper International Convention on the liability of Air traffic Controllers. He said the work started in 1977 but was never finished and he urged IFATCA to look into the matter.

**Peter MALANIK** representing the Association of European Airlines (AEA) made a remarkable and courageous presentation by arguing in this forum that the controller was in fact the limiting factor for the lack of capacity in Europe.

He said AEA saw the Free flight concept as the solution to their problem as it will reduce the responsibility of the controllers and ATC in General . Among other remarkable things, Mr Malanik said that AEA was not anymore against State ownership of ATC as they realised that there is much greater danger in Privatised monopoly of ATC. For AEA the performance of control centres is limited by cost. The cheapest is the better. According to AEA the airspace is not crowded, just badly managed. He also said that the current AEA press releases blaming ATC are not to be seen by controllers as a measurement of their jobs (he said that controllers individually were doing a good job considering the tools they were given), but as a statement that ATC as a whole was deficient.

He concluded his presentation by telling us that airlines in fact were planning in taking the separation of aircraft in the future away from

(Continued on page 12)

## EGATS OUTPUT

# TEAM RESOURCE MANAGEMENT

**A**fter having had already three TRM courses here at the Maastricht UAC, it is time to give some detailed information about this course, its subjects and its goals.

TRM is a course, whose origins lie within airlines and their CRM, Cockpit Resource Management courses (not to be mistaken with crew co-ordination concept). The idea behind this CRM was, to provide cockpit crews with a changed awareness and a better point of view on certain fields within their work. And the goal to be achieved was to improve their overall performance and thereby increase their safety level.

Soon it was detected that cabin staff were part of the overall safety aspect and had to be included in what was then called Crew Resource Management courses. Eventually it was even enlarged to Company Resource Management, including staff with tasks outside the aircraft.

EATCHIP management recognised the benefits of this program and its importance for ATC staff. So the course material already available was adapted to ATC needs by a contractor in Paris and a course was produced for use throughout the ECAC member states. The following subjects were chosen as areas of main interest:

**Team work, team roles, communications, situational awareness, decision-making and stress.**

When it was finished, this raw material was offered to various ATC centres in Europe, our centre being amongst the first. The course material underwent another adaptation and fine tuning here in house in order to make it more relevant to our specific working culture. This tuning lasted a week and was done by operations staff.

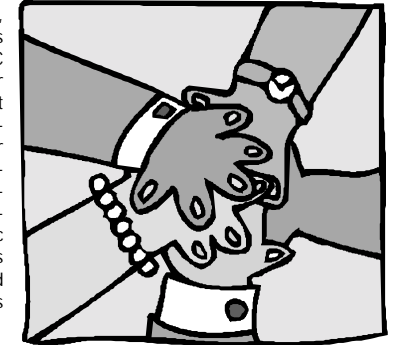
The course will not be mastered by a teacher in front of a class, but will only be supported by a facilitator. His task is to guide the participants through this course, to help them follow the subject, to trigger discussions and brain storming and to organise exercises or "games".

The course participants are the experts, they come together and exchange their ideas and experiences, i.e.:

- Experts meet experts
- Exchange of knowledge
- Exchange of experience

And this is the goal: **TRM strives to develop positive attitudes and behaviours towards skills and human performance in Air Traffic Management.**

The course lasts 3 days and is held here in the Maastricht Centre. Every person in our operations



room should eventually have attended this course. It will not be left to the individual to book it or not. A good mixture of staff from different teams, tasks, age, gender and experience is important for each course.

You are the expert and your experience is needed.

Facilitators are at the moment:

- Adri Bos..... F4
- Athina Velissariou ..... D4
- Ali Lees..... B3
- Tony Dwyer ..... B6
- Marc Coolen..... D3
- Jos Haine..... B4
- Urs Schöke..... H3

Let's have a talk, contact us!

Urs Schöke

# IN MEMORIAM

EGATS OUTPUT

June was a tough month. Not less than three EGATS members passed away. For those who knew them, they will be remembered colleagues but above all as friends. As if their loss isn't hard enough in itself, the fact that all three of them passed away way too early makes it even harder to accept...

**Jukka Klemetti** joined Eurocontrol in 1992 as Flow Controller after a career as ATCO in Tampere, Finland. He was only recently appointed training officer on Team B in the CEU. Besides travelling, his great passions were motorbikes, cars and jazz music. Combining a joy for life with great professionalism, he will be sadly missed by all his friends and colleagues. Jukka was only 36 years old...

**Jacques Pirson** died on June 19<sup>th</sup>. After a long time as Flight Data specialist in the Operations division in Maastricht, he joined the facility staff of the same division in 1993. As the resident PC expert, he was responsible for producing traffic statistics for the centre. Jacques was only 53 years old...

**Harald Liss** passed away on June 25<sup>th</sup>, after a long battle against cancer. I think the most striking about Harald was his professionalism and his ability to convey this to his students as a training officer. Combined with a passion for the job of air traffic controller, his loss will certainly be felt in the Ops room for a long time. Harald was only 47 and leaves his wife and their two children.

Our thoughts are with the family and friends of these three people.

## New EB Members

This year, two Executive Board members chose or had to leave the board: **Inge Vander Eyken**, who continues as chairperson of the EGATS Professional Committee and **Günther Niemz**, the Forum Coordinator. At the same time, Paul Hooper, stood for re-election.

To fill the three vacant posts, three people were found, including Paul, and therefore elections were not needed. The new board members are **Andree Leermann** (DFS) and **Damian Glennon** (DECO Sectors).

As successor of Günther, Andree Leermann has taken over the function of Lippe liaison in the EGATS executive board. Andree has worked as a controller in the aerodrome control - and approach control services on a military airport before he came to Maastricht in 1994. For the last five years, he's been working at "Lippe Radar". Andree is 31 years old and single.

With Damian Glennon, we finally get a DECO controller back in the EGATS board. Damian is 34, Irish and briefly worked there in ATC before joining Eurocontrol in 1987 (and probably regretting it ever since). For the past years, he was active in the Trade Union Maastricht. It is logical that besides DECO specialist, he will act as liaison with the TUEM.

Lastly, we want to thank Inge and Günther again for their contributions to the EGATS board over the past years.

## New EGATS Members

On July 1<sup>st</sup> the following people became EGATS members:

### MAASTRICHT

- R. HARTSTEEN
- T. PLANTAZ
- J. VAN DEN BRANDE
- D. STEVENS

### DFS

- R. ZECH

### LUXEMBOURG

- J. HYDE

### BRUSSELS

- J. KIHLENGREN

EGATS OUTPUT

(Continued from page 9)

ATC... "We will do it ourselves !," he said...

Finally, **Alex HENDRIKS**, Head of the Airspace Division in Eurocontrol (and Former IFATCA EVP Technical) gave a very good presentation in explaining first the current situation, and secondly what was planned in the future in order to improve capacity.

He mentioned the Flexible use of Airspace concept, the Basic RNAV project that both were implemented in order to expedite and re-route traffic around bottle neck areas.

He however explained that some very basic improvements were not implemented purely for political reasons.

He said that the main problem in European ATC today was the use of the word SOVEREIGNTY. He gave a few interesting examples on how this was used to prevent some projects today. Concerning Free Flight, he saw the transfer of responsibility for separation from the ground to the cockpit as the sticking block that is preventing Free Flight. Therefore Europe will initially implement a Free Route Airspace, initially above 8 states from 2003 or 2004, to be extended thereafter to the whole European area. For him ATC must firmly remain on the ground, as pilots and Controllers have very different tasks..

The FORUM participants then all went to a reception area, as this year, the debates that traditionally follow the presentations, were not held in the auditorium, but in a nearby Bar area, with a glass in hand. A much more relaxed atmosphere allowing the participants to have direct access to the speakers and ask their questions in a much less formal manner.

Philippe DOMOGALA

## Front row seats?

During the 23rd edition of the Super Bowl, the American football championship, the Federal Aviation Administration erected a temporary control tower to oversee the more than 475 helicopters, blimps and sign draggers that requested to fly over or near the Pro Player Stadium in Miami. Five air traffic controllers manned the 2,5 by 3 meter tower on top of the stadium's northeast corner, occupying what would normally be 10 rows of seats.

The NFL became concerned about air traffic control during last year's Super Bowl in San Diego. Not only are there news helicopters and blimps to provide aerial TV shots, but many celebrities and corporate VIPs attending the game arrive by helicopter, landing on one of two helipads.

The FAA has previously created temporary control towers for events such as the Masters golf tournament, but they have never been on site. A list to sign up as volunteer to do the same during selected games of the up-coming European football championship is available from any EGATS official.

## Delay? Phone the Police!

Angry IBERIA passengers have found a new way to beat the flow control system: a scheduled flight from Madrid to the Canaries missed the take-off slot. As time past, the atmosphere in the cabin grew more tense: with crying children, screaming adults and smokers getting more and more anxious, passengers demanded that the captain would let them back into the terminal.

Unwilling to discuss this, the crew locked themselves into the cockpit. The passengers then resorted to phoning the police on their mobile phones and threatened to press charges for kidnapping against the crew. When the police finally arrived, they managed to prevent a full blown mutiny and the plane finally left with over 3 hours delay.

## KLM & Y2K

All those stories about planes falling out of the sky when the millennium dawns are, of course, complete rubbish. We are quite sure that the airlines have done everything necessary to ensure their computers are millennium compliant and will switch over to the year 2000 with no problems.

All the same, we're just a tiny bit alarmed after reading the following on the statement of our "Flying Dutchman" air miles points from KLM last month. It says that if we want to stay in the so-called "Royal Wing" part of the scheme, we'll need to earn 22 000 extra points "before 21 January 1900".

EGATS OUTPUT

VOLUME 4, ISSUE 1

Editor : Philip Marlen

Contributions by: Philip Marlen(BM) : Patrik Peters(PP): Philippe Domogala(DP): Urs Schöke: Dr. Lawrence Smith

Lay-out: Philip Marlen

Scanning: An Agfa™ scanner

Corrections: The Microsoft™ spell checker. So please blame Mr. Gates for wrong spelling.

Printing: Eurocontrol® Maastricht® Printing Office. Thanks guys.

EGATS OUTPUT™ is published as soon as we get enough material together to make a decent enough looking magazine. Of this issue, 600 copies were printed and distributed to EGATS™ members.

The Small Print: Okay, this is where we tell you all sorts of stuff, including that nothing from this publication may be reproduced under any circumstance without our express, in triplicate written permission of the Editor or of the EGATS™ executive board.

Any similarity between persons, living, dead or working for Eurocontrol is unintentional or pure coincidence (possibly both).

The EGATS name and logo are our trademarks. They are not to be used without permission.

© EGATS 1999