

INPUT

86.2





the magazine of the
EUROCONTROL GUILD of AIR TRAFFIC SERVICES

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Photo Front Cover

Iberia DC10 in San-José ready to bring
home the IFATCA Delegates

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EDITORIAL

by Patrice Béhier

A study of psychology tells us that a human being will always, consciously or not, escape a situation with which he cannot cope when it goes beyond his capacities. This applies particularly when responsibilities are involved, in the case of extremely high responsibility, people who are not able to cope will normally not involve themselves in a process where they would have difficulties.

Air traffic controllers have to assume a responsibility for preventing collisions between aircraft which could result in the killing of hundreds of persons. They have to live with it although it is a responsibility which can be considered as far too high for a single group of persons.

Anyway, controllers are unable to escape from such a responsibility and must bear it alone, but they cannot live all the time consciously aware of what they are really doing and their

psychism will find ways of reducing an intolerable burden.

Various ways in which this phenomenon can be observed are, for example, increased cynicism, the tendency to "joke" about serious situations or affecting to take dramatic occurrences with a smile, these attitudes are actually quite normal and pilots react similarly.


Other common attitudes often to be found within the controllers (or pilots) communities are, arrogance, false indifference to tasks, apparent sloppiness (although the person can be highly concentrated), a false "decontracted" attitude and many others depending on the individuals.

This behaviour not only helps to partially disassociate people from their huge responsibility but it also reduces the stress. Most controllers never behave irresponsibly but they sometimes appear so for the reasons I have attempted to explain. Perhaps these few words might help some people on the fringe of ATC to better understand the sometimes seemingly "strange breed" of Air Traffic Controllers.

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PRESIDENT'S MESSAGE OR (THE RETURN OF BRIAN)

by Jan Gordts

Before, during and mostly after our 1986 AGM there has been a very intense dispute amongst EGATS Members about fundamental issues such as:

THE EGATS CONSTITUTION, THE BYE-LAWS AND THE ELECTION PROCEDURES.

This fundamentalist movement has led to a special general meeting on June the 2nd during which it was decided to review the procedures and to propose new bye-laws.

I have watched this process with mixed feelings: being partly surprised about this sudden return to the basics I must finally come to the old fashioned conclusion that history repeats itself!

I happened to be there when EGATS started off and I distinguish a striking similarity between past and present: in the early seventies already there were basic discussions on how to found, make constitutions, draft bye-laws, etc... The brainstorm that took place had, compared to to-days movement, at least, the same intensity.

Proposals, meetings, study groups, sub-committees, etc... were constant happenings and therefore also easily comparable to the 1986 situation.

One capital feature is lacking though: we miss some of the prophets who coached the EGATS crowd into the unavoidable sequence of trial and error which was maybe an unpleasant experience but which ultimately gave us the impression of having done the right thing until events proved otherwise! Can the strong voiced prophets of the 70's be of any use now?

EGATS has stabilized in the meantime, achievements are there to show our qualities and capabilities and the members are very determined to cure all blemishes and shortcomings which would obstruct EGATS' progress.

Being optimistic by nature (though not always apparently) I therefore have confidence in the future and realize that the return of BRIAN is not yet in sight! (or is this too prophetic)?



1986 IFATCA CONFERENCE IN SAN JOSE — COSTA RICA —

by Patrice Béhier



Christopher Columbus whilst sailing towards Nicaragua, encountered a land inhabited by "Indians" covered with golden jewels; he thought this was a rich (RICA) land and therefore named it COSTA RICA.

The soil of this country is fertile and the Spanish conquerors cultivated it and mixed with the local "indians" without overwhelming them. The population succeeded in creating a peaceful State, isolated from other South American nations.

It became a State in 1838 and was the first South American country to be organized as a democratic nation; Costa Rica is nowadays the most advanced country of South America, as far as social conditions and political status are concerned. It enjoys the highest individual income in the region and the population is very proud of their democracy and freedom.

Since 1949 there have been no armed forces and the army buildings have been replaced by museums. The internal security is the responsibility of the civil guards (5000 men).

Costa Rica is often called the "Switzerland" of Central America, and this is true in many respects. Tolerance, pacifism, democracy are bases of the nation's political system, and I must say that the people of Costa Rica are very proud of this and seem to live happily, they are quite friendly and ready to assist the tourists at any time when necessary.

In addition, it is a beautiful country, enjoying a tropical (but not too hot) climate and having access to both Atlantic and Pacific oceans.

The IFATCA conference was excellently organised by efficient and friendly COSTA RICAN colleagues at the location of the "Herradura" Sheraton Hotel of San José.

This year a strong delegation of nine enabled us to have at least 2 representatives per committee, an ideal situation, with myself in addition



patrolling the corridors chasing for advertisements from the industry, hopefully with some success.

The delegation was composed of:
Philippe Domogala as director
Committee "A": G. Horsman, K. Scholts
Committee "B": J. Gordts, R. Hölcher
Committee "C": F. Lenoble, A. Bonne



Committee "C" was chaired by Philippe, which was a valuable experience and will generate revenue for the Guild because this post is paid by IFATCA and Philippe will donate the money to EGATS.

A considerable amount of work was done within the committees and our delegates were very active, intervening frequently. A debriefing was held every morning before the working sessions. This proved to be very useful and a good team spirit prevailed.

Philippe has been elected IFATCA Regional Vice President Europe which highlights the input of EGATS within the Federation.

Eric Sermijn from the Belgian Guild has been elected President of IFATCA defeating Edge Green of GATCO (U.K.). The new treasurer is TORD GUSTAVSON from Sweden.

The conference was excellently organised and the social events were most enjoyable.

Our delegation performed efficiently as a team and as a real European entity consisting of five nationalities.

THE REPORTS FROM THE COMMITTEES FOLLOW:

committee A by K. Scholts

Although Committee A always means a lot of work, procedures are getting smoother. Delegates apparently read and prepare the working papers more than before so endless discussions and explanations on the contents are getting rare. Also a lot of administrative problems have been put aside throughout the last years so it looks like getting better. Our presence is more and more appreciated, however. Especially by the non-European MA's, for whom IFATCA is important to improve their knowledge and systems. International contacts and exchange of views will always be the main advantage of IFATCA.

We learned that there exists another international agency for ATC in Latin America, called CENAMER, who applied for membership. There were long discussions about the necessity of this membership and Belgium led this long discussion. The membership was accepted, however, our neighbours were against. In the Plenary Session CENAMER was accepted without problems. Also accepted were: Australia, Barbados, Senegal, St. Kitts, Ecuador and Panama. A good result, as the goal of Latin America as conference venue was to promote IFTACA and ATC in this part of the world.

We stressed the importance of reports to conference by the Regional Vice Presidents, the representatives of IFATCA in the different areas. Out of 11 RVP's there were only 4 reports, another 3 were handed out at conference

and 4 were never heard of. The RVP CAR was replaced by Mr. Hanenberg from Suriname. The Treasurer was provided by Sweden, Mr. Gustavsson is the new treasurer. Our proposed new president-candidate, Mr. Green of U.K. did not make it. As president of IFATCA Mr. Eric Sermijn of Belgium was elected.

The "Controller" magazine will continue as it is, it makes profit nowadays. An appeal is made to members to take subscriptions and find advertisers. A working paper on new executive board titles, which we were against, that was expected to give lots of discussion was handled and accepted in 23 secs. We abstained. A Working Paper from the Irish Guild was rejected by us. The recommendation in the paper charged the E.B. to see that a talk between the GATCO and IPCS (union in G-B, representing controllers) was initiated.



We, however, consider this an internal affair and according Constitution GATCO is a true representative of the area and only one representing MA is permitted. Paper was not discussed but it took more than an hour discussion to get this done. Another decision was that in case of a positive budget at the end of the year, (which is very probable as last year finished with a Swfr. 58.000 positive result) the Committee chairmen, secretaries, RVP's and Standing Committee chairmen will be reimbursed. As Philippe was Committee chairman in C some money is bound to flow back in the EGATS account.

The 1987 venue is Kenya, Nairobi, for 1988 Brasil is candidate and the year after it will probably be Germany.

Financial arrangements were made for Nigeria, Mexico and Yugoslavia (all currency problems). Arrangements accepted by all.

All in all a good conference.

committee B

by R. Hölscher

Assisted by his Secretary A. Cauty, chairman E. Green (GATCO) started the Committee B sessions in a brief and efficient way. He proposed to go through the traditional reports first and to spend some more time on the forthcoming studies and work programmes.

A. IFATCA Contributions to ICAO

The first lively discussion was about "SSR Improvements and Collision Avoidance Systems". IFALPA representative Capt. C. Denke queried which policy IFATCA was adopting with regard to ACAS? Canada would prefer IFATCA to promote the advance of ATC systems in general rather than to support ACAS, Canada feared that IFATCA might join the view that ACAS has the potential to replace ATC! IFALPA, however, requested ACAS to be considered as a last chance system for the use of the pilot and suggested that both IFALPA and IFATCA should jointly support an independent system using new or future technology.

B. "Future Air Navigation Systems" (FANS)

The IFATCA E.B had presented a 7 page progress report based on ICAO material; important items were proposed for further study and development in the near future such as:

- reduction of the vertical
- separation standard at and above FL290;
- Airborne Collision Avoidance
- Systems (ACAS);
- SSR Mode S data links;
- DME systems;
- SSR without primary radar, etc...

The ICAO representative completed the available info by announcing that more FANS Meetings were being scheduled by ICAO (April and June).

C. Review of New ICAO Phraseology

During the Athens 1985 Conference SCI was instructed to assess the impact of the new RTF phraseologies and make further recommendations in the light of experience gained.

Neither great difficulties were experienced after the implementation of the revised phraseologies in 1985 nor

adverse comments had been received.

Switzerland (Mr. Ruthy) pointed out that:

- the present phraseology (English) should be fully implemented and changes should only be introduced when sufficient experience is gained;
- training and standardization are essential.



It was furthermore decided that IFATCA would withdraw policy statements relating to radar procedures and also that RTF phraseology would only be studied in case there would be a specific problem.

The Executive Board will be asked to convey IFATCA's concern about other than the English versions of the RTF phraseology and ask ICAO to specifically review the French and Spanish translations.

Another Capital item was undoubtedly the discussion that took place about "Alphanumeric Callsigns". The UK had introduced a paper based on IFATCA's 1985 recommendation: "that IFATCA supports an alphanumeric callsign system which is suitable as an option for inclusion in ICAO Annex 10, Vol II. The Air Navigation Committee of ICAO had in the meantime studied and tested (via an Ad-Hoc Study Group) the present callsign system and will in the near future propose a modified system. Recommendations of IFALPA (and also those of IFATCA) were apparently not taken into account. IFATCA awaits the final result of the ad-hoc working group and consequently recommends that

alphanumeric callsigns should be kept on the SCl programme but in a "monitoring role" only!

Updated information was then delivered by IFALPA's representative Capt. Denke who was well informed about the present state of the new ICAO proposal and he described ICAO's intentions using recent publications which were later distributed to the participants.

ICAO is under a deadline to implement some changes: in November '87 three letter designators will replace the current two letter design. Annex 10 presently allows five types of callsigns out of which 4 may be abbreviated; this results in the potential use of 9 different callsign types!

To eliminate all callsign associated problems it is proposed to reduce the number of callsign types from 5 to 3; furthermore should the present distinction between 5 characters registrations and longer ones be removed.

Examples:

A full RTF callsign shall be one of the following types:

1. the characters of the registration working of the aircraft : N357826 or GCFXD;

2. The name of the aircraft manufacturer, or

the name of the aircraft model;

the telephony designator of the aircraft's operating agency followed by the last 4 characters of the registration marking of the aircraft:

BEECH 7826; or

BONANZA CFDX; or

SHAMROCK IASJ.

3. The telephony designator of the aircraft's operating agency plus trip number followed by the last letters of the operating agency's three letter designator : CLIPPER 1525A.

It should be noted that most companies will use 4 character trip numbers in future.

The abbreviation method is also being regulated. As common method the

1. first letter of the registration or
 2. a/c type/manufacturer or
 3. a/c operating agency
- plus the last three characters of the callsign shall be used.

To overcome the problem that ATC would not know which identification the pilot will use it was suggested that the full RTF callsign be entered on the ICAO flight plan in item 7 (ex. JAL

123) and item 18 (JAPANAIR 123 LIMA).

Captain Denke concluded with a strong appeal to IFATCA to oppose this ICAO compulsory system and to ask ICAO to maintain the actual regulation, allowing each operator to make his own provisions within the laid down rules. The following discussion brought forward that the ICAO proposals were not considered to be a solution to the problem.

The chairman concluded the discussion by announcing that IFATCA is in principle not opposed to future alphanumeric systems as proposed by ICAO but only to this particular one. The Committee finally decided, by majority vote, that the existing IFATCA (1985) policy on alphanumeric callsigns be deleted!

D. Air Traffic Flow Management (ATFM)

There were 2 working papers on this subject and both were represented by SCI.

The SC representative outlined the need for IFM: there will always be problems of excessive traffic demand and capacity limitations. This is where ATFM should come in but as a prerequisite the ATC system should be improved to cope with all traffic load models.

How can this be achieved?

- By correctly assessing the density of traffic;
- by comparing the traffic demand with the ATC capacity;
- the OPS personnel should be involved in this process;
- the ATC system should be envisaged in this process: it should be able to meet the demand and, if necessary, alterations should be made;
- adequate training should be available;
- ATC procedures should be in constant review and take into account traffic demand and ATC capacity features, as a consequence the best possible equipment should be made available to meet the demand;
- one should consider that the totality of the airspace cannot always be used (military activity) and efforts should be made to use the maximum of the available airspace;
- the necessary equipment at aerodromes is to be foreseen (cat. 3 landings, etc...) to better meet the demand.



SCI consequently proposed the insert into ICAO Doc. 4444 a statement of general IFATCA policy on the assessment and improvement of ATC systems containing the above data. This was approved (moved by EUROCONTROL and seconded by ITALY). It was also recommended that a new policy statement regarding ATFM and Flow Control be adopted. This document, which was reproduced in toto in the Conference report, is a remarkable effort to describe all aspects of ATFM ranging from the definitions via the aims of ATFM to ultimately summarize all implementation characteristics of the service. During these discussions EGATS was asked for comment and we pointed out that with the present layout of 12 Flow Cells in Europe one could hardly expect a common efficiency and smooth operation! Chairman Green therefore requested EGATS to prepare an information paper on this subject for the 1987 Conference. IFALPA reacted by announcing that the actual policy in Europe is not always aiming to solve extreme air traffic loading but rather seeks to charge a pilot with the critical burden of trying to adhere to an assigned slot time.



Beij Mieke Close



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E. Longitudinal/Lateral Separation - Development and Guidance Material

This subject was again introduced by SCl, Israël referred their Athens 1985 comments on longitudinal/lateral separation minima versus airway planning and navaid performance. According to subject studies (ICAO, FAA, UK, etc...) and also based on own experience Israël was of the opinion that the accuracy of both ground navaids together with airborne equipment is much better today than 10 years ago and therefore separation minima could be reduced in the benefit of aviation especially in heavy traffic areas.

IFATCA's V.P. Technical acknowledged Israël's viewpoint but he also referred to ICAO's caution with regard to non-radar separation. The Israeli theory was then discussed and following important recommendations were made:

- separation standards should not be reduced below ICAO minima;
- published separation minima are to state that they contain an element of separation and should be able to allow for track- and time keeping errors;
- it is recommended that publications promulgating separation standards also include guidance material on practical application methods and associated phraseology;
- ICAO should define procedures to always make ATC aware of a known divergence from track;
- it is recommended that ICAO should define the terms "crossing tracks" "diverging tracks" "converging tracks"

and the definition should contain a stated angular value between tracks;

- it is recommended that ATC are required to establish the involved traffic on the appropriate tracks

before the track separation is to be applied.

F. Review of ATS Planning Manual

SCl with the much appreciated support of EGATS had complete the review of the ICAO provisional ATS planning manual.

G. SCl Work Programme 1986/1987

SCl will have to deal with following tasks:

- participation in (= monitoring and support) ICAO study groups and panels;
- surface movement guidance and control system;
- elimination of ambiguity in RTF callsigns;
- visual flight operations panel;
- helicopter operations panel;
- SSR improvements and collision avoidance systems panel;
- simultaneous operations on parallel instrument study group;
- future air navigation system.

Also participation in IFALPA's Committee is foreseen. SCl will prepare a 1986 issue of updates and will review the existing policy.

H. Work Studies

All associations present were asked to contribute to the following list of scheduled work studies and in some cases individual contributions were asked.

1. Developments in and implementation of RTF phraseologies (all associations).
2. Review of policy on alphanumeric callsigns (all).
3. Surface movement guidance and control systems, development of policy (all).
4. Visual approaches by IFR flights (Italy).
5. Review of policy on airborne collision avoidance systems and airborne traffic monitor displays (Canada).
6. Development of policy on regional transition altitudes.
7. Operation of SSR procedures and code allocation (all).
8. ATC aspects of interception of civil aircraft (SCl + Scandinavia).
9. The operation of data entry devices at a ATC position (EGATS).

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committee C

by F. Lenoble



In Committee C most papers were accepted as they were presented. A more extensive discussion took place with regard to the following items which I will describe in more detail.

1. Progress report on the questionnaire (1979, ILO Meeting of Experts).

By means of various diagrams the Committee was informed about the implementation of the conclusions, of the 1979 ILO Meeting of Experts, in the various IFATCA regions. Noteworthy is the fact that with regard to the answers to this questionnaire EUR. scores high whereas the developing countries lack in responding. It was generally felt that the implementation of the conclusions is of a greater importance to the developing countries than to the industrialized ones since in a good number, if not all, the working conditions of the industrialized countries are better than specified in the conclusions.

2. Sub-Committee IHB SC IV.

In the newly edited IHB has not been received at Conference it will be sent in the very near future. The editor of the IHB, E. Schodts, was voted the IFATCA scroll of Honour on a motion of the members forming SC IV. In order to avoid unnecessary confrontation EGATS joined the vote in favour.

3. Sub-Committee Medical SC IV.

The study on night-shift paralysis will remain, without action, on the

SC IV work program until the University of Sussex present their conclusions of the survey. The papers on VDU-s and stress were accepted and to further the study on the subjects the 2 articles from INPUT were handed to SC IV and I suggested to the Committee that EGATS could take action in this respect. I suggested that contacts could be made with e.g. the University of Limburg to see if the medical faculty would be interested to undertake a study on those subjects.

4. Sub-Committee Recruitment and Training SC IV.

The study on the provision of scholarships continued and led to a discussion in which I suggested that if a scholarship fund was to be established it had best be used to train ATC instructors in stead of controllers. Also the I.A.L. observer stated that his organisation knows where money is available and suggested that IFATCA and the countries in need use this to their advantage. After this discussion the Austrian delegate approached me with a question about prices of ATC instructor courses in Instilux. They were considering to study the possibility to have 1 or 2 Kenians trained at Instilux at their expenses. In this light I suggest to the EGATS E.B. to study the possibility to join the Austrian Association in this and see what sort of financial support EGATS can offer and contact Instilux about prices and whether they can be waived.

5. Standing Committee VII.

Important information by the Italian and Austrian associations with regard to insurance schemes against costs of legal council of members involved in courts.

AUSTRIA : 15.00 US dollar per member p.a. Covers 35.000.00 US dollar with a limit of one case per member per year.

ITALY : 6.00 US dollar per member p.a. Covers 22.000.00 US dollar and maximum 6 cases per year.

All members of the association have to be declared.

EGATS resp. 3.750.00 US dollar, 1.500.00 US dollar.

A lengthy discussion took place on a working paper on incident/accident investigation prepared by Canada for SC VII. After a break and consultation with the EGATS delegation it was

decided not to accept this paper as a late paper since the recommendations contained in it were too important to be proposed and accepted by delegations without consultation of the members.

After reopening this item later it was decided that the paper be discussed for information only and that the MA-s would hand in, in writing, suggestions as to alter the recommendations, to Canada to be considered for incorporation into next year's working paper which has to lead to IFATCA policy. I discussed the EGATS suggestions with A. Bonne and E. McCluskey (see photocopy).
6. Implementation of Air Safety Reporting Systems.

During a vivid discussion I explained that the EGATS membership is, at present, still divided over this subject. Reason being that confidentiality is not guaranteed if the official investigation officer were to participate in CORP. (Confessing with the devil) Australia stated that their system worked to the full satisfaction

of the controllers. It was confidential with respect to third parties, but all details had to be reported, names, dates, places, etc... Thus avoiding the quick and easy report. Details can be obtained from Australia.

7. Study on the provision of ATC services by independent authorities.

Since R. Soar, VP.PAC, is resigning from IFATCA work this study is presently stopped. When a volunteer to continue the study was asked both ITALY and EGATS asked the information available to be given to them in order to see whether either of them would be in a position to continue the subject. The information can be obtained via the IFATCA Secretary.

Further working papers were discussed briefly without major changes or alterations.

Under any other business Capt. C. Denke made some remarks about ACAS. A short discussion showed that delegates favoured that a proper legislation be developed side by side with the technical aspects of the system.

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Whilst you might have seen on your data display this strange aircraft type AP2S, corresponding to something flying 250 Kts at FL200 or 210 with Mode C read-outs moving up and down 2 or 300 feet, but do you know what is behind all this?...

Of course you know it is a Super Guppy used by Airbus Industrie to carry pieces of fuselage and wings of A300 and A310, but it is in fact far more ...

Only four of these have been built. The one I flew in was FBPPA, built in 1973 from a Boeing 377 Stratocruiser Airliner. The B377 first flew in 1947 and was the biggest airliner in its time and it was very popular with passengers because of its bar and lounge in its lower deck. Only fifty five Stratocruisers were built, the last one in 1950. Aerospacelines, a U.S. Company, modified two such B377's into an

outsized cargo aeroplane, replacing the original piston engines by 4 very powerful turboprops, the same type used for the Lockheed Orion (P3) Marine aircraft. Yes, a 35 years old hull was cut in two, then a disproportionate upper deck and turboprops were added. But if this was not enough, they added complexity by having the complete nose, including the cockpit, movable from the rest of the aircraft.

Of course a 1944-designed aeroplane does not have hydraulics. So all the controls (engine, flight ailerons, tailplane, trims, etc...) are done by cables which run from the cockpit to the rear of the aircraft. The forty or fifty cables, together with a few electric-end brake hydraulic lines and some pressurization ducts (only the cockpit is pressurized) have to be disconnected by hand every time the door is opened. Jacks have to be lowered and a special

engine-wheel looking like a grass mower is lowered under the cockpit, in order to open the nose away. This nose-door is connected to the fuselage by a single hinge, and it takes a well-trained team of four less than 30 minutes to open it. But the door cannot be opened like this: first the aircraft must be parked with the wind blowing from the left (the side the door opens too) and the wind must not exceed 26 Kts which is also the maximum permitted crosswind for taxiing. Wind is a constant problem for this aircraft because of its huge lateral surface. Landing is only possible with a crosswind factor of less than 20 Kts, and a tail-wind of less than 10 Kts. With stronger winds the fuselage acts like a tail. The flying speed is limited to 250 Kts despite the fact that the engines will allow much more (an Orion with the same engines cruises at 350 Kts, and the world speed record per turboprop aircraft of 435 RM, achieved by an Orion in 1971 is still unbeaten). Above 300 Kts, the partition above the cockpit of the Guppy tends to pop inside like a can. The aircraft is always flying close to the limits with a cruising speed always very close to the stalling speed and to the maximum never-to-exceed speed. You must realize that a Guppy is also a very unstable aeroplane reaching immediately to turbulence or wind changes, this is understandable when you know that more than half of the aeroplane's lift is due to the fuselage itself. As a pilot says "flying a Guppy is like controlling something hanging on the top of a needle. You never know what time or what side it is going to fall. You have to be alert all the time". Proper loading is also a problem for an aircraft where a passenger in the cockpit is enough to affect the balance. To land the machine is quite a sport. The nose cannot be lifted too much, otherwise the tail-plane will be hidden by the fuselage and directional control might be lost, nor must it be flown too "flat" either, otherwise it will create an air cushion between the fuselage and the runway, preventing the aircraft from touching down. In the original designs, the Americans used to land it frankly on the nose-wheel, causing numerous "incidents" involving nose-wheel brake-ups. But the more delicate handling of the Europeans with a small

round-out just before touch-down (despite the steep nose-down approach) saved numerous hours of maintenance. Well, already this sounds quite different from the flying conditions of a DC10 but it is not finished, I kept the best part of the end!

This machine has no servo-controls and no auto-pilot. Everything must be controlled by hand, and I can assure you by experience that flying straight and level on a steady heading within the narrow limits of the critical speeds, needs your complete attention. The pilots who fly these machines are absolutely fantastic. There are only nine of them (five captains and four co-pilots) and five flight engineers, without whom the four aircraft could not be flown. To fly this aeroplane within 300 ft of a FL as the regulations stipulate, steady on a VOR needle (no fancy gadgets like OMEGA's or INS available) in turbulence, within 20 Kts of stalling speed, for up to seven hours in a day is an achievement indeed.

So, next time you have an AP2S on the frequency, and you see the mode C moving 2 or 300 feet or straying a few degrees off-track, avoid the usual "what is your flight level?" or "confirm on course to NIK?". That's fine for our Airbuses and Boeing 757's but have a thought for the guy up there fighting with bare hands (no white gloves in Aeromaritime) the elements mother nature invented to remind us than man was never meant to fly in the first place, and certainly not in aeroplanes looking like pregnant fish.

Philippe Domogala



Guppy ♀
poecilia reticulata
origin: South America. Length Male: 3 cm
Length Female: 6 cm. gives birth to live fish



Super Guppy (A.P.2.S)

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Trump Card:

efficiency by independance and market
orientated in its operations

by Jo Florax

INPUT intends to report on various European regional carriers, currently expanding in aviation, due to a profitable market in offering flights on a favourable return basis. This market, which cannot adequately be supplied by the national airlines, due to their different fleet structure and the serving of feeder routes between small airfields and international airports, is larger than one may expect.

January 6th, 1986: At 07.45 a.m. we take off (SE160) and looking around we ascertain 42% of occupied seats, not bad for a new scheduled service between Rotterdam and Paris Orly. The ATR42 offers a smooth, excellent board service for the principal customer, the business man, whose time is money. The choice is the best type of aircraft for this operation. This was an impression of one of those on board Tulip 160, PH-HWJ, hired from Air Littoral for three months. And he made a "profit in time" of two or three hours with further en-route connections by Air France.

When in 1977 the American aviation market was deregulated, Europe soon liberalized. This easy going aviation policy, amongst other things realised by a change of attitude by the civil service, gave way to the regional carriers for a rapid expansion. Up to now those carriers normally functioned as airtaxi companies, leasing commuter aircraft to businessmen, as was the case with Holland Aero Leasing, recently named Holland Aerolines. Those activities still continue in the company, that started its services in 1977 with seven employees, stationed at Zestienhoven Airport (now Airport Rotterdam). In 1984, Mr. Scholts took over the company and with him a period of regional scheduled services was started by applying for the permits necessary from the aviation authorities. At the end of 1984 three Nomads N24A were delivered to the company (PH-HAL, PH-HAG, N5579M).

The first scheduled service with the Nomad took place on February 4th, 1985, to Southend, followed by Norwich in May 1985. In the new summer timetable, there are fifty two such departures and arrivals between Norwich/Southend and Rotterdam, with in 1985 a total number of 12,864 passengers. As of September 1st, 1986, some 34 departures and arrivals Rotterdam-Groningen can be added to this. In 1985 three ATR42s were ordered, twin turboprop commuters, a product of Aerospatiale and Aeritalia (forming the consortium "Avions de Transport Régional") in the Holland Aerolines configuration of 46 seats. The last ATR42 will be acquired in November of 1986. The PH-HWJ returned to Toulouse on March 5th, 1986 and delivery of the PH-ATR took place on March 4th, 1986. On January 13th, 1986, the company began scheduled flights to Frankfurt (flying time 70 minutes), also using ATR42. At the same time, the cargo night flights by Nomads belong to the past. The air-taxi business is still going on, operated by three Twinotters PH-ALA, PH-NTR. Meanwhile the staff have increased to 56 employees.

During a meeting on March 10th, 1986, at the Holland Aerolines office in Rotterdam with Mr. Peter Kerckhoffs, Manager Scheduled Services, one could feel the great enthusiasm this young company revealed and the optimism towards future developments: twice a day a scheduled flight to Paris de Gaulle, scheduled flights to Lyon, Copenhagen, Zurich and Groningen.

Nomad N24 A Commuterliner in a configuration of 16 passengers, powerplant: 2 ALL 250-B17C, wingspan: 54,2 ft, max. length 47,1 ft, max. height: 18,2 ft, max. speed 200 Kts.

Meanwhile permits have already been issued for Zurich, Copenhagen, Lyon and Groningen (thrice a day) by the aviation authorities. Holland Aerolines holds all the trumps, according to



Peter Kerckhoffs, with the introduction of scheduled services to the new London Stolport by ATR42 mid. 1987. This airport is situated in the heart of London in the former Docks area. That means a considerable gain in time to businessmen. Aircraft types which are allowed to operate there must conform to noise regulations and they must be able to meet the take-off and landing specifications, posed by the short 2,500 feet runway. And because the ATR42 needs a take-off field length of 3,315 ft, Holland Aerolines have to reduce the number of passengers to 38. The London Stolport utility will be equipped with the Microwave Landing System, the standard precision approach landing aid being introduced as compulsory after 1995 by ICAO (a system that can handle more traffic at the same time from various directions, and provides more frequencies than the 40 of ILS, so putting a heavy burden on ATC).

A number of things need be clarified, in the genre of the company nature e.g. with regard to the choice of the Australian aircraft Nomad, a rare choice, and to the ATR42 instead of let us say the Fokker 50 or the Dash 8. As far as we know Holland Aerolines is the only regional carrier in Western Europe operating this Nomad. Mr. Peter Kerckhoffs emphasizes, the Nomad being in use for more than one year, "we do not encounter major problems with this aircraft and are in fact very satisfied, not only by its configuration enabling us to give an excellent on board facility in service". However, the Nomads will probably be replaced in 1987. For the time being, there is a shortage of Nomads (one was in Singapore for some modifications and repair works).

The question why Holland Aerolines

does not go for the Fokker 50 can be answered by considering the following criteria meeting Holland Aerolines demands:

1. the late time of delivery of the Fokker 50;
2. Holland Aerolines consider their ATR42s more efficient and economic to the route structure network they exploit;
3. moreover, the F50 take-off weight (gross) amounts to 6,257 lbs higher than is the case with the ATR42 (important for fuel consumption).
Gross weight F50 : 41,865 lbs,
Gross weight ATR42 : 35,608 lbs.
Note: the reason of this increase of weight is in the fact that the F50 has been constructed with potential for long-term development, e.g. with the aim at a possible stretch. Accepting a higher maximum take-off weight refers to propeller systems (2,700 s.h.p.) for cruising at 287 Kts and the strengthened wing to meet foreseeable requirements;
4. The F50 break-even factor is higher. In comparison with the Dash-8, the ATR42 has two more seats for breaking even.

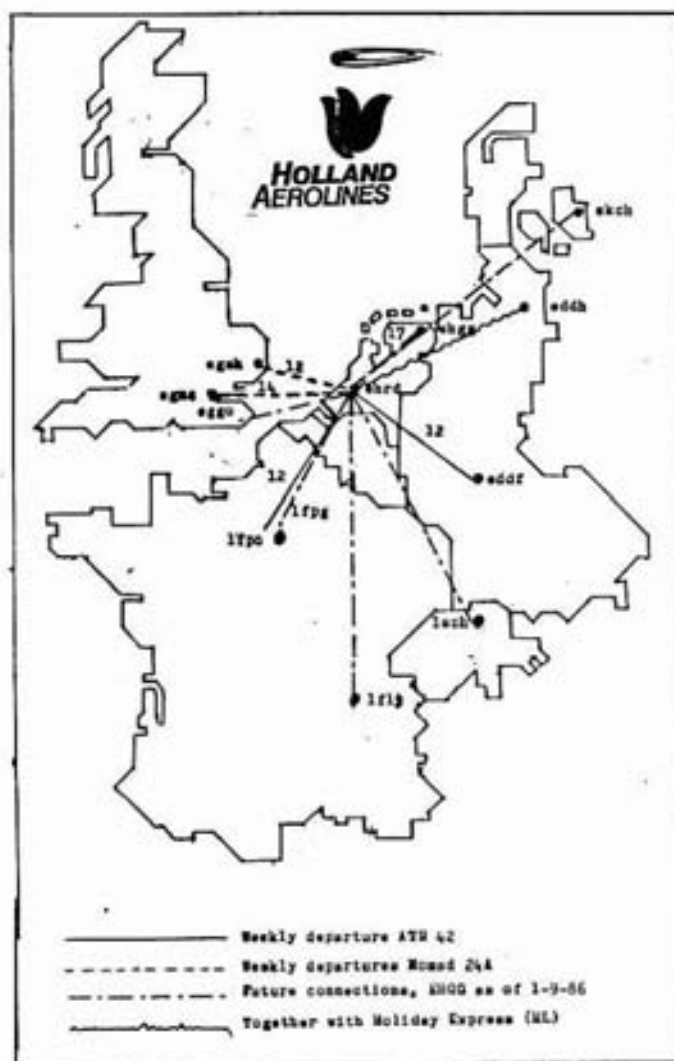
Added to these factors Holland Aerolines are very satisfied with the service rendered by Aerospatiale. Concerning the Fokker 100, this aircraft will possibly be of interest to the company in future.

The ATR42 (this aircraft also operates with Cimber, Finnair, Brit Air, Air Guam, Alitalia, to mention a few) is pressurized.

The continuous growth of Holland Aerolines, not functioning anymore as a typical freight forwarder, calls up the question: what makes this carrier different from others such as Netherlines? Peter Kerckhoffs confronted with that question puts forward a typical Holland Aerolines advantage: "We are fully independent and keep the maintenance in our hands, thus we can carry out a flexible policy with respect to market needs, reducing the cost-factor by efficient operations, unhindered by anybody". As evidence of that, the big maintenance hall was shown to me, where at that moment a Nomad happened to undergo a periodical maintenance test. In this light one could think of Netherlines, taking over a number of

non-profitable N.L.M lines with smaller aircraft in order to be cost-effective. Netherlines' maintenance is done by K.L.M. But Holland Aerolines do have the interline agreements with some other airlines, primarily based on acceptance of each other's transport documents, tickets, etc... For the flights to Hamburg the company cooperates with the German Holiday Express (H.L.), twice a day by Metroliner or Dornier 228. Also travellers other than businessmen deserve the attention of Holland Aerolines as they offer weekend-fares to Frankfurt (f 327,--). Per rates to Paris Orly Z(f 314,--), day return flights to Norwich (f 350,--) and Eurobudget tickets to Southend (f 498,--).

Holland Aerolines recruit their pilots from the Nationale Luchtvaart-school (NLS) at Beek. Furthermore there is an internal training and a number of pilots were recruited from abroad. About eight or nine pilots are in the service of the company (April 1986).



No plans exist for possible establishments at other regional airports in the Netherlands. Holland Aerolines will always operate from Rotterdam Airport, in spite of the political problems in the past (the municipality of Rotterdam intended to build houses on the field), as seen the more than 60 locations of the company there. Those problems have been solved and Rotterdam sees the importance of this airport in a dense industrial area. Plans exist even for the prolongation of the present runway and studies are going on for the construction of a second runway at right-angles to the present one.

Holland Aerolines taken their place in the regional carrier market, operating from the industrial heart of Holland "de Randstad". Where time is money, Holland Aerolines pick up their share of an increasing shorthaul market.

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AIR TRAFFIC SERVICES: DEVELOPMENT AND APPLICATION OF LEGAL RULES

by Rob Bootsma

This paper was presented to the Royal Institute of Navigation - Netherlands Branch on 25th April, 1986. It formed part of a joint paper with Mr. K. Polderman of the Directorate General of Shipping and Maritime Affairs. Its main objective was to investigate whether the experience gained in ATS can be utilized in the development of a vessel traffic system for the approach areas to a harbour and the harbour waters.

In the past air traffic services (ATS) have been compared with vessel traffic services (VTS) in quite some articles, in particular from a technical and operational point of view. Generally emphasis was laid on existing technical differences between air navigation and shipping, which in brief are related to the speed of aircraft and ships and the medium in which these craft move on.

To a smaller extent - not to say too small - attention was paid to those aspects where air navigation and shipping bear a large resemblance. Here we may think of the equipment of the means of transport and the competency of crews, but also of the provision of traffic services - this paper's topic.

In this respect it is undeniable that VTS is in arrears to ATS, which partly can be explained as a result of technical-operational and historical developments. Besides, the impression exists that in the area of public law (that part of the law that regulates the relations between States, and between States and individual persons) differences occur which (still) prevent similar developments with regard to VTS. Here it regards in particular international rule making and the institutional framework within which rules come into being. This fundamental difference has also been emphasized by Edgar Gold in his article "Vessel Traffic Regulation: the Interface of Maritime Safety and Operational Freedom" (1983).

From this point of view I wish to show how legal rules and procedures regarding ATS are developed and applied. As a matter of course the procedures applied in ATS (an accepted system) cannot be put directly into operation in shipping.

The experience gained in air navigation should, however, be utilized to establish an efficient VTS system.

Not long ago air transport claimed its own place in world transport. Subsequent rapid developments in air navigation and the continued increase in speed, capacity, range and above all the number of aircraft required a satisfactory solution on a world wide basis. This implies that air law is mainly found in acts and regulations and lacks customary law. Prior to the adoption of rules in an international code, there were extensive discussions on what status should be assigned to the airspace. Acceptance of freedom of the air, as a rule similar to the principle that the high seas are open to all countries, would open magnificent prospects for the progress of air transportation. By saying this we regard particularly our economic activities-trading!

The principle of freedom, however, does not take account of reasons of public security and does not protect the economic interests of each individual State. Ultimately such considerations have led to recognition of the principle of "complete and exclusive sovereignty" of each State over the airspace above its territory (including territorial waters). This implies that each State can impose different restrictions and conditions on foreign aircraft, including the possibility to prohibit them to navigate at all over its territory. The airspace over the high seas, however, can be crossed freely.

The principle of sovereignty has been included in the Convention on International Civil Aviation concluded

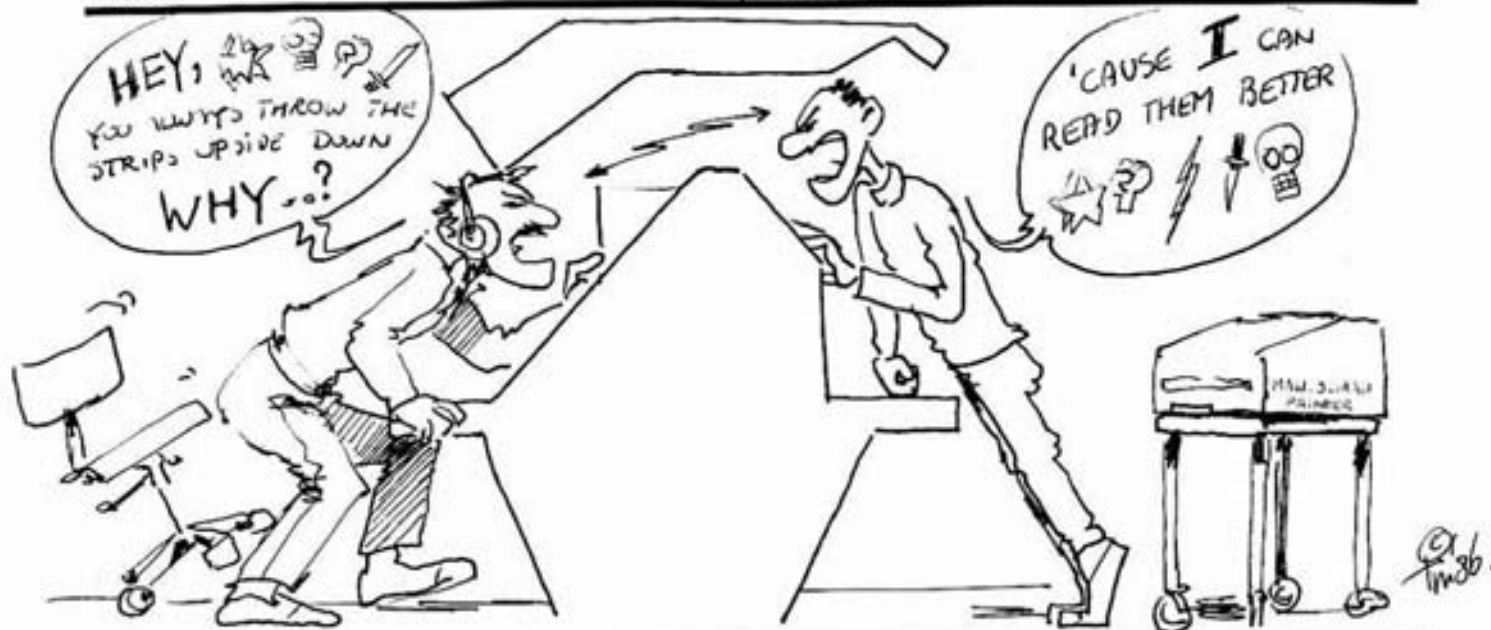
in Chicago in 1944. In addition the conference has tried to carefully delimit some freedoms of the air. Consensus could not be achieved in this area, as too much depended on the political will of States. Indeed, the Convention grants such rights to non-scheduled flights, but in practice things have developed in such a way that no free economical regime exists for either scheduled or non-scheduled air transport.

The privilege to fly across a territory without landing is in principle obtained by a permit given by the aviation authorities, whilst commercial rights to transport passengers and cargo are granted in bilateral agreements.

From this brief reflection on the commercial and economical side of civil aviation we may learn that no satisfactory solution has been reached in this respect. However, the opposite is the case regarding the technical and operational aspects. To get more insight we have to investigate in what manner rules are developed in air navigation. Every State has ratified the Chicago Convention - approximately 145 at present - has undertaken to collaborate in securing the highest practicable degree of uniformity in regulations and procedures. To reach this goal extensive rule making authority has been assigned to the International Civil Aviation Organisation (ICAO), established by the Convention. Whenever considered necessary the Council, the executive body of the ICAO, will from time to time adopt or amend international standards and recommended practices.

These so called SARPS deal amongst others with airworthiness of aircraft, the competency of flight- and ground personnel, the rules of the air and the procedures to be applied in the provision of air traffic services. The composition or modification of such rules has been left to the Air Navigation Commission (ANC). Apart from its fifteen members any other contracting State is free to participate and make proposals. Moreover, each draft regulation is to be sent to all States for their comments before it can be recommended to the Council for adoption, which ultimately requires the vote of two-thirds of the Council prior to inclusion of a standard or recommended practice in an Annex to the Convention. The earlier mentioned requirement to secure a high degree of uniformity is met by States by keeping their own regulations to the greatest possible extent uniform with the international standards. Therefore more or less identical regulations are given in national laws, but, if any State finds it impracticable to comply with any such standard, it shall notify each difference between national and international standards to the ICAO without delay. Here we see that the parties concerned have a certain discretion. In most cases, however, one conforms to these standards.

In virtue of article 28.a of the Chicago Convention it can be assumed that each contracting State has undertaken to render air traffic services, as far as it may find practicable. The actual procedures to be applied in the provision of these services are con-



tained in Annex 2 and 11 and specified in greater detail in the Procedures for Air Navigation Services (PANS). These procedures are in fact complementary to the SARPS and as such they are particularly designed to assist the user in the application of same. PANS do not have the same status as SARPS, as their approval does not need a two-thirds majority of the Council. Their implementation is the responsibility of contracting States. There is no obligation to notify differences or non compliance to the ICAO, nevertheless States are required to publish a list of significant differences between their procedures and the related ICAO procedures.

With a view to an efficient regional organization the world has been divided in eight Air Navigation Regions. An Air Navigation Plan is developed for each region by the Regional Air Navigation meetings and comprises a third type of regulations, the Regional Supplementary Procedures (SUPPS). These SUPPS give subsidiary procedures which, after approval by the Council, are exclusively applied in specified areas.

This set of international rules has been implemented in a great number of national rules. SARPS do not find direct application as they are annex to the Convention. The implementation of international adopted standards in national laws is only compulsory in so far as found practicable. This escape clause provides the contracting States with discretionary power and precisely this not-binding character has contributed to a notable international uniformity in the technical and operational field. Moreover, as a simplified procedure has been prescribed for the adoption of SARPS (it does not concern an amendment of the Convention itself!) one operates independent of political and economical influences. It is therefore easier to amend procedures in a short time and attune them to the changing circumstances.

It has also been mentioned that the aviation authorities of various States may freely participate in the development and compilation of rules which are to be incorporated in the Annexes. The same authorities (and individuals) are responsible for the implementation of

international rules and, if that is impracticable, they should closely coordinate with the ICAO to reach another solution. This climate sufficiently guarantees an optimum cooperation and the striving of any individual for compliance with the SARPS.

In the Netherlands the regulations of the Chicago Convention are contained in the Aviation Act and administrative regulations based thereon, such as the Civil Air Navigation Regulations and the Air Traffic Regulations. In many cases the establishment of detailed procedures is thereby left to the Minister of Transport and Public Works and the Director General of Civil Aviation. At national level we therefore find a great number of decrees which comprise supplementary rules and procedures. Following this explanation regarding the way in which technical and operational rules are established we will direct our attention to the air traffic services itself. For the air-space above Dutch territory we have to refer to the Air Traffic Regulation, a



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General Administrative Order which mainly relates to the Annexes 2 and 11. It provides for the organization of air traffic services the functions to be performed by these services and the rules of the air to be applied over Dutch territory.

Each State has undertaken to render air traffic services. However, it remains to be considered to what extent there is a need for air traffic services. Compared with areas which are crossed by aircraft in transit at high altitudes, areas in close proximity to an aerodrome with a relatively greater density of traffic and areas with a mixture of various aircraft types, all with different performances, might necessitate the provision of a different type of service. In determining which type of service is to be provided many factors are involved, such as the types and density of air traffic as well as meteorological conditions. Therefore a differentiation is made between flight information service (FIS), alerting service and air traffic control (ATC) service. Each of these services meets various traffic requirements in a different way and has, as a matter of course, its own objectives. From this it will be clear that the airspace will be divided in various ways. Each portion of airspace presents different problem areas.

The complete air route structure of the world is served by so called flight information regions (FIRs), which join

each other and which are established at the regional meetings of the ICAO. Here it is noteworthy that a FIR of a coastal State may comprise both the airspace above its territory and part of the airspace over the high seas. For the Netherlands this implies that it has also assumed responsibility for the provision of ATS in a part of the airspace over the North Sea. Although such a portion of airspace does not fall under its sovereignty, a coastal State may establish rules over the high seas relative to ATS! Within a FIR flight information service is provided to all aircraft which are likely to profit by obtaining advice and information useful for the safe and efficient conduct of flights.

In addition alerting service is provided to notify (and assist if required) appropriate organizations regarding aircraft in need of search and rescue aid.

In consequence of the enormous increase of air traffic the ATC service has gained importance. This service is provided in order to prevent collisions between aircraft, and on the manoeuvring area of an aerodrome between aircraft and aircraft and obstacles. It also endeavours to expedite and maintain an orderly flow of air traffic. In pursuing these objectives ATC contributes to safety and expedition in air navigation. The portions of airspace in which ATC service is provided are designated as controlled airspace; the flights which obtain ATC service (often an obligation!) are referred to as controlled flights. It should be emphasized that controlled airspace is part of the FIR. The unit providing ATC service therefore also provides flight information service and alerting service.

The provision of ATC entails that controlled flights (except some) may expect to be separated from other controlled flights. Such a separation is obtained by application of various separation methods, the minima of which differ dependent on the circumstances. In the horizontal plane for instance, an aircraft may be instructed to lose time so as to arrive over a geographical location at a specified time, thus ensuring that a minimum separation is maintained between the estimated positions of the aircraft.

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The availability of radar, however, may result in a considerable smaller minimum safe distance to other aircraft.

Conversely controlled flights have to fulfil a number of requirements. In this respect ATC expects a consistent behaviour of each controlled flight. As such each controlled flight has the obligation to submit a flight plan, which contains all relevant information regarding an intended flight (e.g. call sign, place of departure and destination, flight altitude, route of flight, etc...) in a standardized form - the flight plan message (FPL). Prior to the operation of a flight to be provided with ATC service, one has to obtain an ATC clearance. Such a clearance authorizes an aircraft to proceed under the conditions specified therein and may amend a FPL as necessary. From this it follows that ATC provides clearances and instructions which are to be complied with. In addition to these obligations an aircraft is required to report its position at specific points and/or times in a predetermined form and to maintain two-way radio communication with the appropriate ATC unit. Pilots shall maintain a continuous listening watch at the designated fre-

quency and shall communicate on such frequency in a prescribed manner using a standard phraseology. In order to provide an adequate service it is essential for ATC to dispose of all information on the intended movement and on the actual progress of each aircraft. For that purpose the flight plan is sent to all ATC units concerned. All current details, such as estimated time over a geographical location, flight altitude and amended clearances, are communicated between the various units serving different FIRs. Traffic loads usually require a subdivision of the airspace in sectors, which also implies that flight details have to be communicated between one or more air traffic controllers operating different sectors within one FIR.

To conclude the above description of ATS, it is worthwhile to look in greater detail at some examples which show how the different needs for ATS are provided for at regional level. Whenever the air traffic services are inadequate for the provision of ATC service portions of airspace may be designated as "advisory airspace". Air traffic advisory service is normally implemented as a temporary measure

until such time as it can be replaced by ATC service. Its objective is to make information on collision hazards more effective than it would be with the mere provision of flight information service. It does not afford the degree of safety and cannot assume the same responsibility as ATC in respect of avoiding collisions. Air traffic advisory service forms part of the FIS and provides only "advisory information"; it does not deliver clearances! Therefore this service uses the words "advise" or "suggest". For instance it may suggest a course of action by which a potential hazard may be avoided.

An even more outstanding example is the establishment of an Air Traffic Flow Management (ATFM) service. Approximately a decade ago traffic density in the European region had reached a point where the ATC system was unable to cope with traffic demand during certain periods. At local and national level corrective action was taken (e.g. by imposing restrictions) which, although effective at that level, had consequences for the ATC systems of other States. Because capacity of ATC systems cannot be expanded indefinitely, a regional ICAO meeting has agreed to establishing an ATFM service, which should avoid an overload of the ATC system. Its objective is to ensure an optimum flow of air traffic to or through areas within which air traffic demand at times exceeds the available capacity.

These practical solutions show that a multitude of services exist.

The types of services vary widely and each of these services is attuned to an existing situation and entails responsibilities of their own or both controller and pilot-in-command. The primary responsibility for the operation of the aircraft and the safety of the aircraft and its occupants is placed on the shoulders of the pilot-in-command (after all he has superior knowledge of the condition of the aircraft and its capabilities). This seems consistent with the functions and authority given to the flight information service, but apparently it is less evident when instructions are issued. Then the burning question is often posed who can be held liable if something goes wrong. As always there is no clear-cut answer. Responsibility and

liability have much in common and follow quite naturally from each other.

In performing their duties (responsibilities) both the controller and the pilot-in-command have to act with utmost care. It is not inconceivable that an ATS unit is held liable (either in total or proportionally) for damages sustained following an advice or instruction in which no reasonable care was taken. Regardless whether information, advice or instructions are provided, both the controller and the pilot-in-command have a duty of care toward each other and have to rely on each other. Their responsibilities may differ for each individual case. It is important to face that the relationship between the unit providing traffic services and the person in charge of the aircraft is characterized by dependency. Cooperation is a first requirement for safe operations.

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DEVELOPING EUROPEAN REGIONAL AIR TRANSPORT THE NEXT TEN YEARS

Courtesy Aeropa - collected by Jan Gordts

The very venerable "Royal Aeronautical Society" organized an international conference in Manchester from April 11 to 13 on the development of regional air transport in Europe over the next ten years.

Five final recommendations were formulated at the end of the conference by Sir Peter Masefield. These are going to be examined in the following paragraphs with the most significant extracts from some of the 20 speeches followed by debates which the participants heard during this conference-marathon.

Competition without frontiers.

The first recommendation is to maintain and even increase pressure on the political world for the true application of the Treaty of Rome and the accelerated creation of a large and single internal market for the 12 Member States of the European Community.

From the beginning of the conference, United Kingdom Aviation Minister Michael Spicer and European Commissioner responsible for Competition Peter Sutherland set the tone.

Mr. Spicer reiterated his desire to see progress made when he presides over the European Council during the second half of 1986. In his view, the liberalization package must include market access, multiple designations, capacities and air fares. There cannot just be a simple facelift. Real competition is involved and if it cannot be obtained through negotiation, the matter will be brought before the courts.

Mr. Spicer also stated that the debate on European air transport has up until now mainly been the affair of the aviation establishment. Yet, genuine new ideas or the encouragement of competition cannot be expected to come from those who represent the vested interests.

The European Commissioner - whose personal good intentions cannot be called into question - stated that the main concern of the Commission presided

over by Jacques Delors was the completion of the single internal Community market. The absence of such a market, he went on to say, is the principal cause for Europe's delay in numerous areas, including air transport. In response to "conservative" forces which are opposed to the opening up of the market to competition in the name of employment, Mr. Sutherland repeated the Commission's desire to increase competition in order to increase employment. A hopeless cause?

In any case M.I.T. Professor Richard de Neufville was clear when he said that American deregulation would be exported to Europe within 10 years if Europe does not create the conditions for its own liberalization. Medium-range jets operating on our continent under the colours of large American airlines are there to remind us of it everyday.

Avoiding the abuses of dominant position

In his logical and convincing speech, Professor de Neufville superbly ignored the European "reality". Even if the single internal market is completed in the end, Europeans will never accept American-style "savage liberalism".

This is why instead of deregulation or even liberalization, former expert at the UK aviation Ministry and currently independent consultant John Loder speaks of the "commercialization" of air transport. It is true that European national legislations all include commercial legislation adapted to our cultural and social reality whose simple application to air transport would enable adopting an innovative approach and avoiding harmful excesses.

Among examples of abuse of dominant position or "predatory behaviour" in regional air transport there are numerous cases of routes created by small airlines against the view of the large national airlines which took them over as soon as they turned to be profitable.

A case related by Aer Lingus Commuter Ltd. President E.C. Murphy was particularly enlightening. With a certain candor, Mr. Murphy explained that his regional airline could only be marginally profitable in the best of conditions since its only aim was to serve the interests of its parent company Aer Lingus and prevent another firm from operating the commuter routes.

The second recommendation by Sir Peter Masefield concerning the implementation of measures aimed at preventing "predatory behaviour" turns out to be particularly relevant for regional air transport!

Access to category 1 airports

The third recommendation is to remove restrictions on access by regional or interregional airlines to large national airlines for fear of "traffic diversion" and goes against the interests and expectations of consumers.

Reviewing the demand for regional air travel, Mr. R.E. Caves from the Loughborough University of Technology underlined at the conference in Manchester that airports played a determining role in the "visibility" of an air service offered to the public and that access to category 1 "hubs" was indispensable if a region was to be offered a real economic opening at the European level.

Size of planes

Discussions are still going on over the number of seats allowed in regional planes. Whether the limit be 30, 50 or 70 seats, regional airlines do not have much say in the decision. Maximum limits are imposed on operators of regional routes but minimum limits for trunk airlines have never been foreseen.

Whatever the case, the conference in Manchester revealed that the only real solution consisted in letting the market decide and removing all limits, provided the natural regulation mechanisms of this market (safeguards against abuse of dominant position, fares linked to real operating costs etc...) are applied.

In direct relation with the aircraft types, the demand from the clientele for pressurized planes capable of smoothly flying at high altitude clearly appeared. Mr. Murphy, mentioned above, stated at the conference that his 4 Shorts 360 received a relatively poor welcome despite their spacious interior.

The customer comes first

The fifth and last recommendation made in Manchester was to never forget the customer!

As Minister Spicer said when opening the conference, it is not even mentioned in the current debate on air transport in Europe and this must change.

In the speech by Lars Enkler from SAS, the interest of governments was all that mattered. When Mr. Murphy from Aer Lingus Commuter spoke, all that mattered were the strategic interests of the parent company ...

One of the rare moments when the voice of consumers was heard was when the head of Transavia-Holland and President of the ACE-Association of European independent airlines Peter Legro intervened.

He pointed out that the 14 members of his association existed only because they had correctly satisfied a market need and had met the demands of a certain clientele. These 14 members have together 180 of the most modern jets in Europe (the first Boeing 727-200, 737-300 and 767, for example) and transport over 55 % of the passengers. Mr. Legro noted that when the customer is left to decide, national airlines become supplementals and independent charters become the main airlines.

Mr. Loder, mentioned above, was right in using the term "commercialization" of air transport. True consumer service, which is therefore aimed at the market, is the only hope that one day regional and interregional air transport worthy of the European Community (now the first commercial power in the world) will develop.

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WHAT TO DO WITH 4000 SURPLUS AIRCRAFT?

by Arnold Booy

Ask an aviation enthusiast where he wants to make his pilgrimage to and 99% of the answers will be : Davis-Monthan. Located southeast of Tucson, Arizona one finds Davis-Monthan Air Force Base (AFB) where the US military made the largest aircraft store in the western world. It is difficult for anyone, even remotely interested in aviation, not to be overwhelmed by the sight of vast numbers of aircraft, lined up in neat rows, especially when that view is enhanced by the fascinating scenery of the surrounding Sonora-desert and mountains.

The history of this boneyard begins in 1945 when, following the end of World War II, large numbers of military aircraft began returning to the USA where it was decided to store them in the Southwestern part, pending a decision on their future.

Many aircraft were scrapped but it was decided to keep in store other war surplus aircraft which could perhaps be used again at a later date. Therefore a permanent storage center was needed. After some evaluations, Davis-Monthan AFB was chosen for the obvious reasons, a low rainfall, low humidity (10-20%) and a soil which has a very low acidic content, necessary for long-term storage conditions.

The sun had done its job as well by baking the soil so hard that aircraft could simply be parked on the unprepared desert-floor, eliminating the need for vast platforms or hardstands.

During the first year of operation, 1946, about 1000 aircraft were parked in the sun. All the stored aircraft were cocooned. This being the spraying of 4 layers of plastic to form a cover which should last for about 10 years.



Long rows of B-52's dominate the area. As these stored bombers are still part of the SALT-I and II agreements, after scrapping the remaining have to stay in place some months to allow for verification by Soviet satellite.

Bags of silicagel were placed inside the fuselage and engine nacelles in order to absorb any moistures that could have been trapped inside when cocooning. This was a relatively easy job but removing the plastic created great problems. Stripping the plastic envelope was impossible due to the 40 degrees C temperature outside which made the cocoon very brittle. The problem was overcome by placing the aircraft in a hangar at a temperature of 60 degrees C, when stripping became possible. To overcome this time-consuming problem 'spraylat' was invented, a coat of vinyl plastic compound. This non-hardening stuff keeps out dust and water, prevents sandblasting of the canopies by sandstorms which occasionally happen in the desert, and keeps the inside temperature approximately the same as the outside one. The bottom half of the aircraft is not sealed by the easy to peel off spraylat so that circulating air can prevent condensation.

The first time the air base had to remove aircraft from storage was in June 1948 when the Berlin blockade started. Around 300 C-54's (military Douglas DC4's) from units all over the world were reassigned to Germany. The storage center had to deliver many C-47 Dakotas to bolster the depleted transport units until the summer of 1949 when the blockade was lifted.

When aircraft are no longer needed by the Department of Defence they may be assigned for storage at Davis-Monthan Air Force Base.



C-121 Constellations dip on their tails when the engines are removed. These aircraft were once based at Keflavik, Iceland as airborne early warning aircraft until the AWACS took over their jobs.

On arrival, all classified material, ejection-seat charges and weaponry are removed. Then the fuel is drained from the aircraft and an oil-film is put inside the fuel system to protect it from corrosion. Any corrosion already on the aircraft is removed and it is further sprayed with a fluid designed to inhibit corrosion. When the aircraft is dry again the engine intakes and exhausts are covered with paper and any gap or crack (in the upper half of the aircraft) is taped. Then the paper, tape and the fragile parts like radomes and canopies are covered with a coat of spraylat. With this preservation process complete, the aircraft can be stored for many years. Aircraft inspections are carried out every 6 months for Air Force and Army aircraft, while US Navy/Marine aircraft are inspected each 3 months due to most of their lives being spent in a saline environment.



Lateral amounts of spraylat are visible on this F-100D Super Sabre which was later converted into an unmanned drone.

For many aircraft Davis-Monthan AFB is not their final resting-place. The US Navy and the US Marines occasionally store their surplus aircraft here instead of keeping them on their own bases, most of which are near the coast where humidity and the salty air are hostile to their aircraft.

Other planes find their way to foreign governments who receive their requirements via the US Military Assistance Program. The A-7 fighters, recently obtained by Portugal for example were stored at Davis-Monthan several years before being handed over. Other aircraft go to US civil authorities such as NASA, the Foresty Service,

Police departments, etc... Especially many light aircraft and helicopters have followed this road.

Again others are donated to schools, universities or museums for use as instructional airframes or memorials. Within the Defence Department donations are made to installations for targets on gunnery ranges or gate-guards.

Large numbers of aircraft are sold on a regular basis to the general public by sales and auctions. Aircraft which can only be used in a military role such as fighters must be demilitarised and sold as scrap. Demilitarisation is a process which makes the aircraft useless for its original military purpose. This is normally done by cutting the tail (and sometimes the wings) of the fuselage.

Non-combat aircraft can be sold intact, in spite of the removal of



One of the F-111 prototypes, once used by the NASA, in a very sorry state while in use as a reclamation airframe.

components, are often classified as still flyable. Many are refurbished for civilian use. By far the largest number of these aircraft go to the various scrapyards that surround the air base.

Many fighter-planes such as the F-4 Phantom, F-100 Super Sabre and F-102 Delta Dagger were made flyable again and were flown to Lichtfield Park near Phoenix, Arizona where Sperry is converting them into unmanned drones. These are then used as targets by the military for missile testing and air defence training.

When all this is not happening to an aircraft it ends its life in the spare parts reclamation area. Reclamation is the process of recovering components and materials from selected stored airframes, in order to support active units with urgently needed parts or other departments requirements. Quite often Davis-Monthan is the only source for spare parts as production lines for the aircraft still on the active inventory were closed long ago and manufacturing spare parts for special requirements in small amounts is both expensive and time-consuming. When aircraft are stripped of all usable parts the hulks, consisting of aluminium mainly, are sold to scrapyards who melt them down for recycling.

The storage center, originally called the Military Aircraft Storage and Disposition Center was renamed the Aerospace Maintenance and Regeneration Center during October 1985. Officially the name change is designed to 'accurately reflect the current mission of the center'. But one can assume they were not too happy with the image that the Center was just a giant boneyard or scrapyard for old aircraft. It is indeed a fact that the AMRC is both one of the very few moneymakers in the US Defence Department and a stockpile of auxiliary air power able to respond to unforeseen operational requirements.

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The TC of EGATS realises the fact that a great deal of the control staff is not aware of the TC activities and the work done by its members. To keep you better informed and so to stimulate the interest and positive cooperation of operational staff, the TC will present in each following Input a summary of items; recently achieved, pending or to be worked out in the near future. The appreciation and cooperation with Operations' Management is at an encouraging level and we try to motivate you to bring forward your proposals to our members, mentioned below.

Some of the items achieved in the recent past:

1. standing microphone;
2. alternative label;
3. dynamic collapse/decollapse;
4. improved TID reaction-time;
5. repositioning of TID functions;
6. XIFL as RBL/CS function.

Pending items.

1. Results of polling on "XECM includes HOP":
14% to continue with present situation.
69% in favour of "XECM includes HOP".
12% in favour of "XECM includes HOP and dim label".
5 % answered, "we never use XECM".
So the proposal "XECM includes HOP" as an Operational Request has been sent to Headquarters Brussels.
2. EFL presented in label as IFL if PFL is different from EFL.

3. Improved quality of forecast "Upper Winds".
4. Each sector its own input operator (= strip distributor).
5. Confidential Occurrence Reporting Procedure (CORP). The info- and polling letter has been handed out to all control staff and results will be presented shortly.
6. Callsign "MAASTRICHT" change to "EURO" control/radar.
7. Weakness of telephone lines between Brussels Sector and Brussels Lower.

Items to be discussed:

1. A/C callsign confusion.
2. WX info on SDD's of Brussels Sectors.
3. KDS warning "PSSR already used" in all cases and procedure than to be followed.
4. An improved presentation of "Alert" and "ALT label" at same time.
5. Possibility of manual ACT exchange prior to automatic ACT.
6. Parameter change of automatic HOP for traffic between ADAM Upper and Brussels West Sector.
7. DCP selection for ALT label "OWN" and "OTHERS".
8. Strip reduction in Hannover Sectors.

For detailed information and for new proposals (please written) you should contact one of the TC members: Jan v. Eck, John Doyle, Ralf Hölischer, Ernst Vreede, Dieter Busch, Urs Schöke, Paul Hooper (FD) or Chairman Henk Van Hoogdalem.

FIRST IMPRESSIONS

by Paul Hooper

I admit that I had wanted to visit Costa Rica since reading a National Geographic article about the country back in 1981. I also admit that I was more than a little curious as to what EGATS members were getting for their money in financing delegations to IFATCA Conferences. Thanks to the membership I was able to satisfy both ambition and curiosity during my week in Costa Rica.

As much as I love arriving at new destinations I am not a great fan of the travelling that has to be endured to reach them, and I certainly was not looking forward to the tedious overnight journey that was necessary on this occasion. The after midnight departure from Madrid was unique for me in as much as it was the first time I had made a westbound transatlantic flight at night. Providing you grab as much sleep as possible during the flight you can plan quite a normal itinerary for the following day. The first night's sleep at your destination, having theoretically reduced your age by several hours (important to some of us!), will invariably be a restless one. My own cure for this is to watch TV for an hour or so when you awaken at 2 a.m. Should the hotel not have TV and your partner/travelling companion remains snoring it is up to your own inventiveness as to how you pass the following insomniac hour or more! This of course only applies to westbound journeys.

A novel feature of this flight was the serving of a hot breakfast prior to landing at San Juan, Puerto Rico, followed by a second one on the San Juan - San José leg. I was convinced by a certain EGATS president that this second breakfast would be incomplete without a cognac. Those close to me know that I don't drink anything - unless it's with vodka! Nevertheless, on this occasion I succumbed. On arrival at our hotel, at 0530 local, breakfast was not on our list of priorities, therefore, having performed the ablutions necessary after a long flight, the gang of four got together to plan the day ahead. The city's rush hour was in full swing as we boarded the 0800

bus for downtown San José.

Just like a number of Mediterranean cities San José is a bustling hive of activity which, while not exactly setting new standards for cleanliness, exudes an air of charm and Latin character that will never cease to fascinate me. Vendors lined the kerbsides selling fruit, potato chips or newspapers, while others pestered in their efforts to sell what I took to be lottery tickets. I must confess that a large part of my attention was centred upon the girls; so many and so beautiful, they fair took me breath away! By 10 o'clock we were seeking our third breakfast or a very early lunch. The day was long. The remainder of the day was spent exploring the city to the accompaniment of clicking camera shutters.

Our only commitment over the weekend was attendance at a reception on Sunday evening, we therefore took the advantage of the leisure time available to rent a car and see as much of the country as was feasibly possible. Lest the Membership get the wrong impression all our free time activities were at our own expense; our EGATS allowances covering little more than our accommodation expenses during the Conference period.

Navigating the highways of Costa Rica was not the simplest task that had ever befallen us and our route to the Pacific coast resort of Jaco Beach was circuitous to say the least. Nevertheless it allowed us to see features of the countryside that would otherwise have been missed. A very welcome feature was the one of the many roadside shanty cafés that were to be found in the remotest of areas; that cool beer did much to combat the hot humid conditions.

The Pacific surf incessantly pounded the dark sands of Jaco Beach leaving a permanent mist hovering in the air. The water was warm and inviting and the word paradise quite easily slipped off the tongue as we ambled along the shoreline.

The following day's plans called for a visit to the Poas volcano. The trip was marred by the blanket of dense cloud that shrouded most of the peaks that day; standing right on the edge of the crater the anticipated spectacle was hidden by this dark grey wall of moisture. Despite that disappointment we were able to discover the lush vegetation at these altitudes and the beauty of the accompanying tropical flowers. Once again the cameras saw plenty of action. Our day was none the less a successful and enjoyable one and we arrived back at the hotel in time to commence the week's formalities.

By Sunday evening most of the delegates had arrived and were in attendance at the reception. I must be forgiven for imagining I was present at an old school reunion because this was certainly the impression gained. Everybody seemed to know everybody else and I felt quite the intruder among the members of this elite club. This feeling declined considerably over the next few days as I became better acquainted with the people around me.

Monday morning saw us boarding the buses for downtown San José where the opening plenary was to take place at the National Theatre. The welcoming ceremony was headed by the President of the Republic of Costa Rica, Mr. Luis Alberto Monge, whose brief but warming speech reflected the already discovered hospitality of the Costa Rican people. I think I speak for all those gathered when I say just how impressed I was by the President's presence at this function with no more than a chauffeur in attendance. No guard of honour, no burly and obvious security men and no pomp and ceremony; just the polite respect that this leader so obviously deserves.

Formalities concluded, we returned to our hotel, the conference venue. The first committee sessions took place that afternoon and my interest in operational matters required that I observe the activities of Committee B. Details of these sessions are reported elsewhere in this issue therefore further comment from me is unnecessary, save for one or two observations. It was quite clear that a number of delegates, whose mother tongue was English, were unused to addressing themselves to an international audience. I am firmly convinced that their oft used colloquia-

lisms, and frequent garbled mutterings, were incomprehensible to the majority of those present, including on occasions myself. The Canadians regularly brought forward interesting and, indeed, valid points, but the apparent hostile manner in which they did it did little to endear them to their international colleagues. I found it most satisfying to be among a group of professional people whose principal aim was to enhance already admirable standards of safety within their sphere of aviation. Nevertheless I could not help thinking that sizeable amounts of this discussion and policy making would end up as meaningless words when placed before the powerful one that wields the big stick - ICAO.

Part of my free time was taken up in conversation with various delegates in order to ascertain their attitudes toward assistants, taking care to avoid certain nationalities whose hostility was already a known entity. I must admit I was quite pleasantly surprised by some of the comments I heard. Many countries of course have no assistants and the flight data tasks are effected by trainee controllers. Although this generally seems to work satisfactorily one Greek delegate stated that he felt this country's ATC service would be far better served with career assistants. I agreed with him - naturally! I discovered that the Italian administration plans to phase out its assistants in the not too distant future in favour of the trainee controller solution. Certainly automation is taking its toll and will continue to do so at the expense of assistants worldwide. My deliberations produced some valuable information on which I am already taking follow up action.

The week passed all too quickly and our party of four was obliged to depart before the final plenary. For me the experience had been a professionally satisfying one and one which I should be most happy to repeat. It taught me that ECATS commands a great deal of respect in the international environment and that to maintain that credibility our Guild should endeavour to ensure continued attendance at IFATCA Conferences.