Aer Rianta Review of Alan Stratford and Associates Ltd. Dublin Airport Capacity Study
Final Report
27th August 2004

Dublin Airport Capacity Study – Final Report

Introduction

In September 2002 Aer Rianta applied to the Commission for Aviation Regulation to reassess the existing co-ordination status of Dublin Airport and instead designate Dublin Airport as "fully coordinated" under Council Regulation (EEC) No. 95/93.

The Commission wrote to Aer Rianta in May 2003 stating that, in accordance with Article 3 of the Regulations, it intended to undertake a new capacity analysis for Dublin Airport commencing in the first quarter of 2004. This would allow for a decision on the future coordination status of Dublin Airport prior to the Summer 2005 scheduling conference.

In March 2004, Alan Stratford & Associates in association with the Air Transport Group of Cranfield University were engaged by the Commission to undertake the Capacity Analysis and a draft report was issued for comment from interested parties on the 22 June 2004. Aer Rianta has reviewed both the draft and final Capacity Study Reports and rejects the consultants recommendations as inappropriate and ill-founded. Aer Rianta believes that Dublin Airport should be fully co-ordinated from summer season 2005.

The company's response to the draft report is set out in this document, which is structured as follows:

Section 1 provides a summary of Aer Rianta's views regarding the Final Report, in particular the concerns that the company has with respect to the methodology adopted by the consultants and their subsequent findings.

Section 2 reviews the extent to which the consultants fulfilled the brief set out for them by the Commission for Aviation Regulation. It is important to note that the Irish aviation industry – airports and airlines, pays the cost for slot co-ordination, including the costs associated with this capacity study. Therefore it is important that the industry can be confident that, at a minimum, the consultants fulfilled the brief set for them. Ultimately, it appears that ASA failed to address many key issues and dealt inappropriately with others.

Section 3 sets out a detailed technical analysis of ASA's draft report. Aer Rianta has approached this analysis in a methodical manner and all elements of the report are thoroughly reviewed. As a result of this detailed exercise, Aer Rianta concludes that ASA has arrived at an incorrect recommendation in respect of the coordination status of Dublin Airport. The analysis undertaken by ASA was neither rigorous nor comprehensive and was based on a number of unsubstantiated assumptions. Ultimately, some of the solutions advocated by ASA are predicated on carrier requirements that are very different to those observed currently.

The requirement for full coordination – A summary

What is Coordination?

- **Coordination is the process of matching airline demand and airport capacity.**
- **At a Fully Coordinated* airport in order to land or take-off, it is necessary for an airline to have a slot at a time agreed by the coordinator. It may not operate at a time other than this.**
- **At Dublin, airlines do not have to accept the scheduled flight timings offered by Dublin's Coordinator, regardless of how busy the airport is.**
- **Dublin Airport is the largest airport in Europe that is not fully coordinated*.**
  - **Of the 25 member state capital city airports, only 4 are not fully coordinated: Dublin (16 million passengers per year), Malta (2.7 mppa), Warsaw (5.2 mppa) and Budapest (5 mppa).**
  - **Stansted Airport in the UK became fully coordinated when its annual passenger throughput reached 7 million passengers.**

Why is this a problem that Dublin Airport in not Fully Coordinated?

- **Airlines can operate flights over and above the numbers agreed by the airport, airlines, the coordinator and the IAA.**
- **It increases operations in the peak periods and leads to congestion for passengers in the building and for aircraft on the airfield**

What would full-coordination provide for Dublin Airport?

- **The Coordinator would ensure that airlines operated within and did not exceed the airport's capacity limits.**
- **Aer Rianta could provide check-in, baggage, stands and other resources to meet the demand from the airlines within these capacity limits.**
- **Aer Rianta could plan to use these resources in the most efficient way and improve the level of service for passengers by reducing congestion at peak times**
- **Airlines would improve punctuality and the number of delays due to congestion would reduce**

* Terminology used for the purposes of this report, in line with EU Regulation 95/93. Note – These terms have been superseded with Regulation 793/2004.

1. Summary

"We do not believe that the airport has, or will have an unacceptable level of congestion…" *ASA July 2004*

The results of the draft capacity study report conclude that the current levels of congestion experienced in Dublin Airport's terminal building and airfield are acceptable, despite the contrary experience of:

Passengers:
"Dublin Airport is overcrowded and stressful",
" I had to struggle through the crowds to get to the exit".

Our Customer Airlines:

"Over the past number of weeks we have encountered severe congestion in check-in areas 1 –8", "Aer Lingus continues to operate under constrained conditions due the airport infrastructure". *Aer Lingus – Station Manager*

"Continental Airline's customer service has been heavily impacted by the congestion problems within the concourse". *Continental Airlines - Station Manager*

" The congestion in the area of gates A17-A19 was unbearable yesterday. Boarding was very slow as passengers could physically not get through the crowds, despite using queuing barriers….Several passengers complained about the congestion in the area." *Ryanair – General Manager – Dublin Ground Operations*

"These gates simply cannot cope with such high volumes of passengers". *Ryanair – General Manager – Dublin Ground Operations*

"This congestion causes significant problems for our operation and indeed much inconvenience for our passengers." *Ryanair – General Manager – Dublin Ground Operations*

The National Press:

THE IRISH TIMES
Congestion at Dublin airport needs priority action

THE IRISH TIMES
Dublin airport buildings go into terminal decline

By implication, the study recommendations mean that these levels of congestion (or worse) will obtain for at least three more years, by which time passenger traffic through the airport will have grown from current levels of circa 17 million passengers per annum to in excess of 20 million passengers per annum.

The report also acknowledges that during the three-year timeframe referred to by ASA, there will be no significant increases in terminal or runway capacity. As demand for the current resources grows, the availability of facilities becomes more scarce and the airport system relies on the ability of its airport coordinator to schedule any additional airline activity into periods were capacity is available. Under the current voluntary system airlines are already disregarding the coordinator and operating within the existing peak periods. Any increase in this will exacerbate availability problems for other airlines and further reduce levels of service for passengers travelling at this time. Only if Dublin Airport is designated as fully coordinated would the airport coordinator have the powers to refuse slot applications when capacity limits are reached and thereby enable the maintenance of reasonable standards of comfort and service that would be expected at an international airport.

Dublin Airport is now the largest airport in Europe that is not fully coordinated. Of the 25 member state capital city airports, only Dublin, Malta, Warsaw and Budapest do not have fully co-ordinated status under the current EC Regulation 95/93. Of these four, Dublin is by far the largest airport in terms of passenger throughput. In contrast, an airport such as Stansted in the UK, became fully coordinated in 1998 when its annual passenger throughput reached 7 million passengers. Like Dublin, Stansted has a large low cost customer base, focussed around similar operational requirements and constraints, although it is not required to balance this with the quite different

service requirements of a growing number of transatlantic airlines and their passengers. In the context of international approaches as set out above, it is difficult to understand how ASA could consider it appropriate to recommend that Dublin's current status be maintained.

The following key points illustrate Aer Rianta's serious reservations about the ASA study:

- Independent consultants appointed by Aer Rianta have identified the current departure concourse 'pinch-point' as operating in excess of its capacity of 12 million passengers per year. ASA has adjusted the assumptions used and revised the capacity of this area to 22mppa. Current annual throughput is around 17 mppa and the attached photograph shows the experience for passengers on the weekend of 19th June 2004.

- Every effort has been made by all parties involved at Dublin Airport to address capacity issues in an effort to facilitate the voluntary process and explore methods of maximising both terminal and runway capacity. However, there is a finite point beyond which voluntary methods are not successful. Aer Rianta is of the view that the evidence supports that we are currently at this finite point and on some occasions beyond it.

- The report assumes that current levels of cooperation with the coordinator are likely to be maintained. However, the consultants have ignored the fact that the airports second largest carrier has not accepted the majority of schedule adjustments suggested by the coordinator since April 2004. Other carriers will not accept a situation that places them at a competitive disadvantage for a further three years. The consequences of this will be that compliance with the voluntary system will reduce further and the system will break down.

- Regarding a change in the bilateral agreement, ASA suggests that any increase in transatlantic traffic could be accommodated on remote stands, without airlines having access to INS facilities for their passengers. No evidence from carriers is provided to support this solution and in fact there is considerable evidence to the contrary.

- The ASA report concludes that there is no shortage of contact stands at Dublin Airport and the use of remote stands for long and short haul operations will need to increase in the future. This solution does not address the service level requirements of the airline users for 100% contact stand usage and no bussing. To date this year, the Dublin Airport Stand Allocation Manager has received over 100 written complaints from carriers objecting to the towing of aircraft and the use of remote stands for their operations.

- The possible effects of a change in aircraft fleet or the impact of a new low cost carrier at Dublin are not considered within the report. Examples of both have materialised in recent seasons with significant impact on the operation.

- The consultants appear to have undertaken a series of discrete analyses of the various components of system capacity without ensuring that it is possible to integrate the various components to ensure a functioning overall system. For example, even if one could accept ASA's suggestion that an additional 10 arrivals and departures per hour could be accommodated within the existing stand capacity, the associated traffic flows could impact negatively on congestion levels within the terminal. Such consequences, however, have not been considered by ASA.

- No information on the timetable or 'trigger points' for full coordination is included, despite the requirements of the original brief to identify 'timescales of major eventualities'.

- The above points are all in addition to a number of factual and technical errors, the exclusion of any interview or questionnaire findings and the inappropriate direction of questions to local station staff rather than airline scheduling experts.

Aer Rianta concludes that ASA has arrived at an incorrect recommendation in respect of the coordination status of Dublin Airport. The analysis undertaken by ASA was neither rigorous nor comprehensive and was based on a number of unsubstantiated assumptions. Ultimately, some of the solutions advocated by ASA are predicated on carrier requirements that are very different to those observed currently. Aer Rianta believes that Dublin Airport should be designated "fully co-ordinated" from summer season 2005.

2. Analysis of Adherence to Terms of Reference

The Commission for Aviation Regulation set out a brief for the consultants to follow in preparing the Capacity Study. However, the draft report issued by ASA has not addressed a number of key elements of the brief. Due to their significance, Aer Rianta deems it important that they be considered and so a discussion of such issues forms the focus of this section of the report.

Terms of Reference:

Terms of Reference - Issue 1: The Commission requested consultants to conduct a capacity analysis of Dublin airport in accordance with established principles and commonly recognised methods.

Aer Rianta is of the view that ASA has not, in fact, conducted a capacity analysis in the manner required in the Terms of Reference. In this section , we discuss the ASA approach:

- In terms of problems of detail,
- In relation to anomalies in the overall approach

1. Problems of Detail

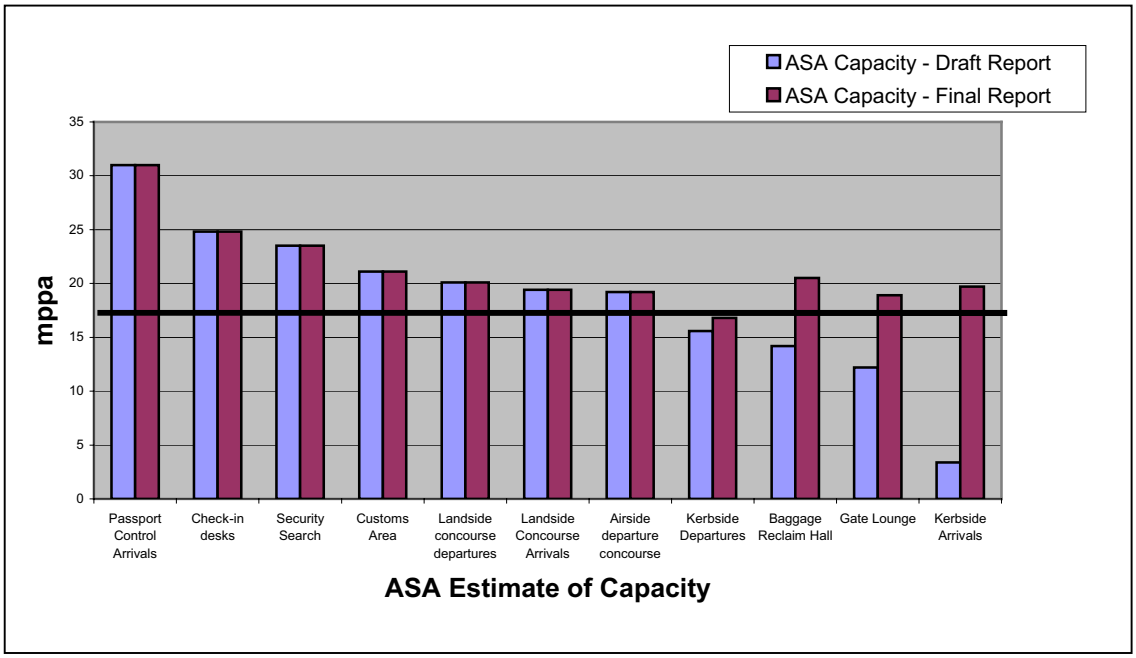
Despite the consultants' assertion that the analysis undertaken adheres to the BAA methodology, our assessment of the practices adopted by ASA highlights the following specific issues where individual parameters or assumptions have not been derived in accordance with standard practice.

No	Issue	Terminal Area Affected	Effect
1	Misinterpretation of industry standard Busy Hour Rate	All Areas.	The incorrect definition by the consultants of one of the basic key components of this methodology must raise concerns as to the level of expertise involved and the results produced. Lead to incorrect calculation of terminal capacity in draft report.
2	Adoption of non-standard approach	Check-in desk processing Gate Lounges Arrivals Level Kerbside	Change to input variables used Use of own calculations and revised assumptions leading to increased capacity Reworked BAA capacity figures leading to increase in capacity

3	Unsubstantiated assumptions (The consultants use a number of assumptions within their analysis that differ from those produced by independent survey data, or benchmarked assessments.)	Landside Concourse Check-in desk processing Airside concourse Gate Lounges Baggage Reclaim Landside Arrivals	Change dwell time 30 to 20 minutes. Increased capacity. Escorts per passenger revised Incorrect number of desks used Revised proportion of pax in non-commercial areas (90 – 70%) Revised space, gate utilisation and peaking factor. Increased capacity. Revised detuned area & % defined as through routes increasing capacity. Higher average dwell time of 12 mins.
4	Assumptions not documented (ASA appears to have replaced an assumption based on quantifiable survey data with an unsubstantiated and arbitrary figure. Aer Rianta does not consider this to be good practice.)	Gate Lounges Security Screening Check-in Desks Baggage Reclaim	Not detailed in Appendix A Assumptions not updated in Appendix A Incorrectly specified in Appendix A. Assumptions not updated in Appendix A
5	Reworking of capacities	Kerbside Departures Baggage Reclaim Hall Gate Lounges Kerbside Arrivals	Increased Capacity in area. Increased Capacity in area Increased Capacity in area Increased Capacity in area

To illustrate the significance of the issues that have been raised in the table above, since ASA assesses that (the) **"*overall system constraint appears to be centred on the terminal area*",** we will discuss the terminal related issues in terms of the effects of unsubstantiated assumptions (3), undocumented assumptions (4) and reworking of capacities (5) on the terminal capacity analysis.

Figure 1 ASA Initial and final capacity estimates



Note: Black Line denotes Dublin Airport current annual passenger throughput.

- In the initial draft report four areas of capacity were calculated by ASA to be below the current traffic throughput level of around 17 mppa, ie. that we are currently at, or in excess of, our capacity limits.
- In the final report it is noticeable that the capacity of these four areas, and only these four areas, has been increased.
- These questionable increases, however, have not been justified or supported within the report.
- Hence, it is unclear whether or not the changes made reflect errors in one or other report or methodological changes.

It is clear from the above that the type of unexplained deviation from standard practice outlined in the table above has significant implications and seriously undermines confidence in the ASA conclusions.

2. Anomalies in the overall approach

The next step for ASA was to estimate the overall terminal capacity and specifically, to identify the weakest links.

"Under a parametric approach…..we estimate the capacity" of the terminal at Dublin "is around 18 – 22 mppa. This is based largely on the 'weakest links', which we feel are the landside departure concourse and gate lounge capacities".

ASA Final Report – Executive summary

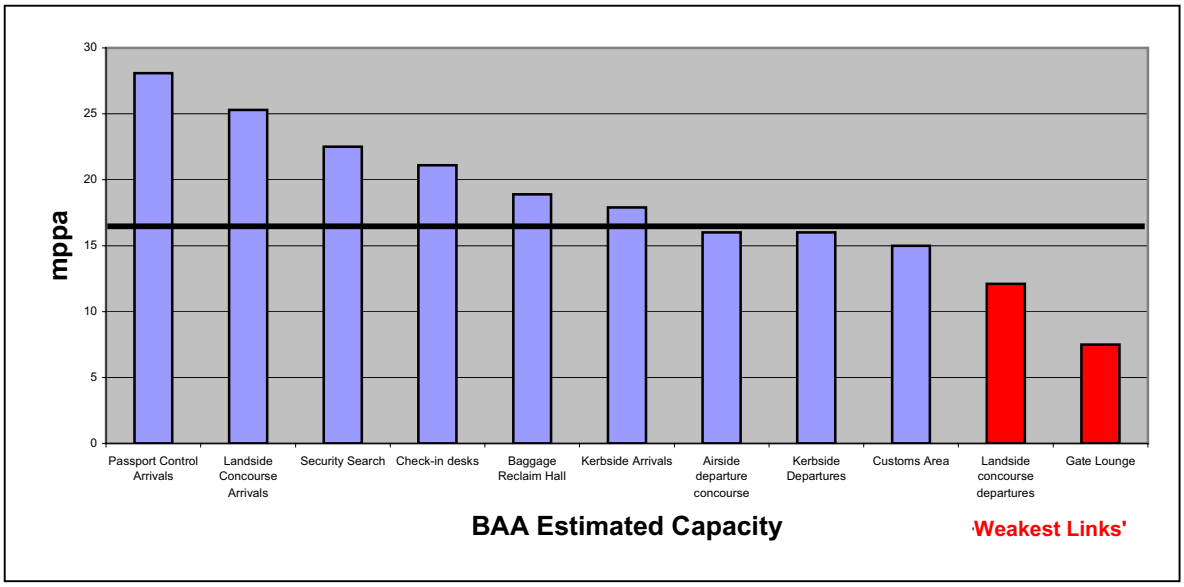
In this section, we show (a) how the effects of deficiencies already discussed combine to produce an overall capacity limit, which is very different to that which would be obtained if standard methodology and values were applied. Secondly, in (b) we illustrate the inconsistencies in the methodology used to identify the weakest link. Finally, focusing more closely on the discussion of the weakest link. In (c), we discuss the impact of the additional traffic flows not included in the ASA analysis on the capacity of the landside departures concourse.

(a) Terminal Capacity Assessment:

An independent assessment, undertaken on behalf of Aer Rianta, based upon industry standard BAA methodology, assessed the capacity of each area and therefore identified the 'weakest links' in the capacity chain.

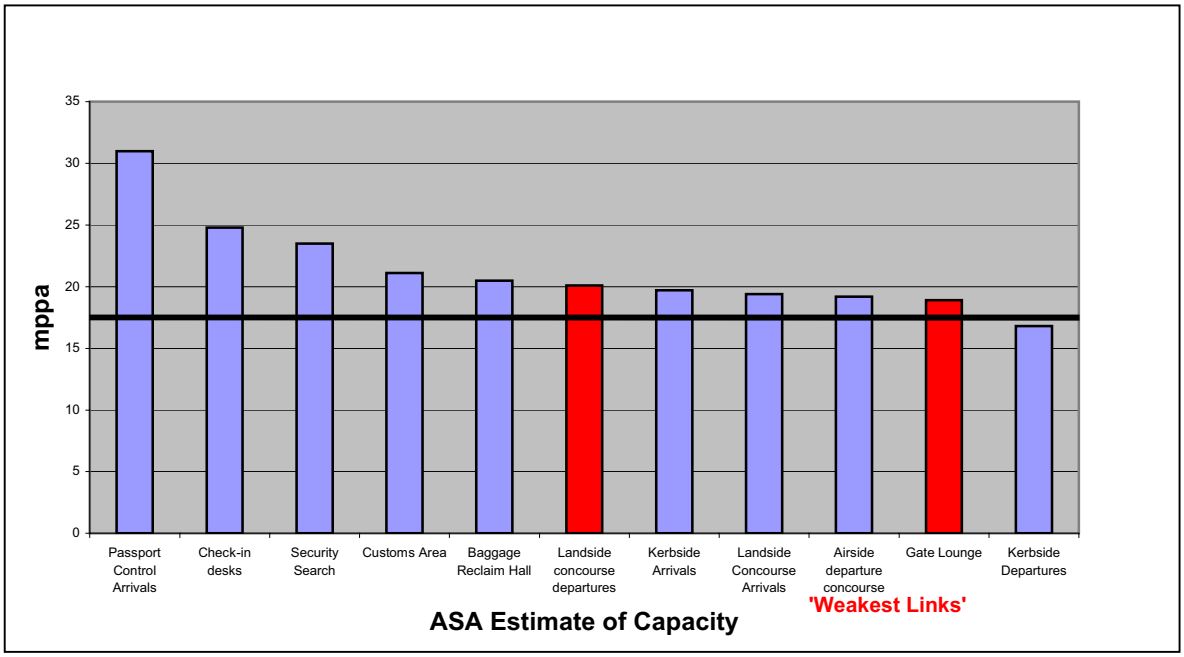
The results are presented in Figure 2 (on the next page) with the largest ('strongest') areas on the left to smallest ('weakest') on the right.

Figure 2 Terminal Capacity by Area – Aer Rianta Estimates using BAA methodology



Note: Black Line denotes Dublin Airport current annual passenger throughput.

Figure 3 Terminal Capacity by Area – ASA Estimates using 'adjusted' BAA methodology



Note: Black Line denotes Dublin Airport current annual passenger throughput.

- The two graphs above show clearly that ASA's capacity assessment is consistently higher than that which has been derived by Aer Rianta's

consultants using the standard BAA methodology, which ASA has indicated it was using.

- ASA believes that there is no area in the terminal that can currently be considered to be congested. Aer Rianta disagrees with this opinion.
- The ASA results run contrary to the experience of passengers, airlines ground handlers and staff, as articulated regularly in the national press.
- Our conclusion is that the ASA analysis is flawed and therefore is not robust.

(b) Identification of the weakest links:

Aer Rianta is unclear what approach ASA has used to identify the weakest links. The standard approach would to be that, once an assessment of the individual areas has been completed, the areas would be ranked in order of decreasing capacity, and the areas with the lowest capacity would be thus clearly identifiable as the weakest links. Figures 2 and 3 show the outcome of the study undertaken by the Aer Rianta consultants, and the corresponding results in the ASA study, with the weakest links shown in red in both cases.

Capacity is ranked from the largest on the left to the smallest on the right. In both graphs.

- What is surprising about the ASA results is that it is clear that there are no less than 5 other areas of the terminal where ASA has estimated capacity to be less than the departures concourse capacity. However, the departures concourse area has nonetheless been identified by ASA as a pinch-point.
- Furthermore, the kerbside departures area is shown as having a lower capacity limit than the Gate Lounges, but despite this, the Gate Lounges has also been selected as a pinch-point.
- In fact, we fully agree with the pinch-points so identified, but it is clearer to see why these areas have been selected by reference to our consultants' analysis. However, given the different profile advanced by ASA, the rationale underlying its choice of these same areas is very unclear, and is not elaborated in the report.

Once again, we have a situation where the methodology used is a non-standard one, and the conclusions reached are not supported by the analysis detail.

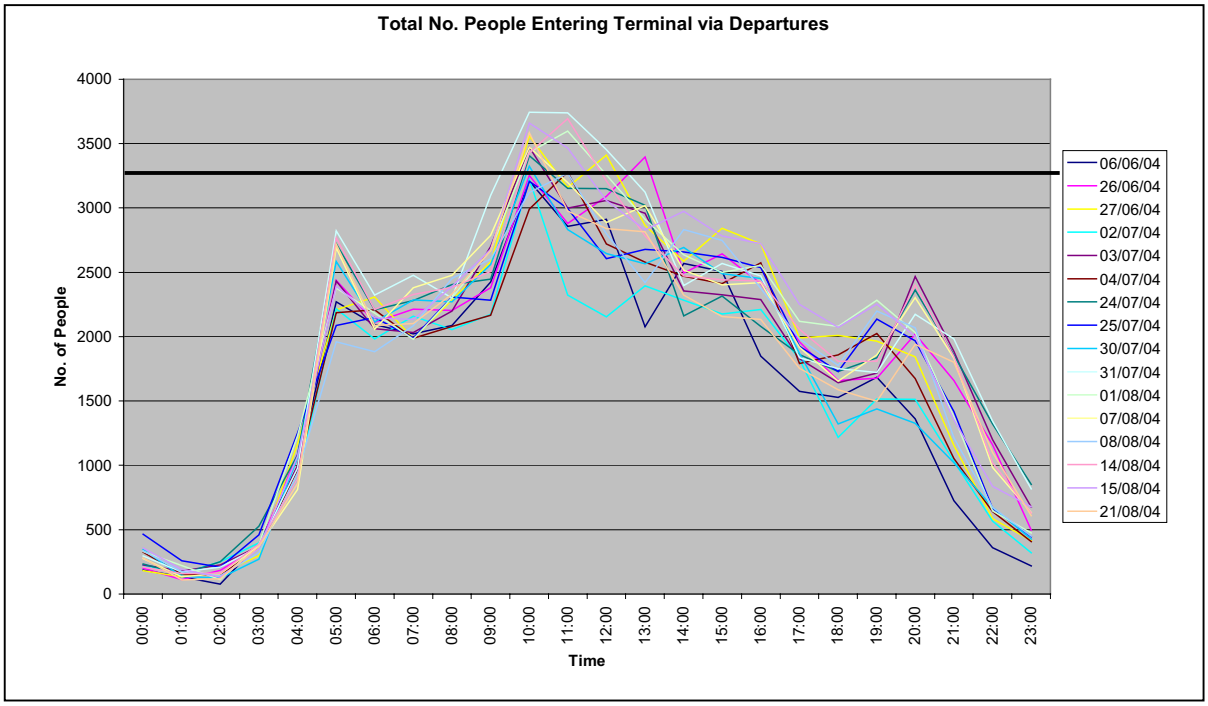
(c) Use of Busy Hour Rate (BHR) does not account for all traffic in departure concourse, as flows in this area exceed 3250 per hour on a regular basis.

Analysis of busy hour rates does not take into account the presence of escorts, staff and other airport users in this busy functional area of the

building. Aer Rianta monitors the flows of people in these areas on a constant basis, via a 'Footfall' system installed throughout the terminal.

Figure 4 shows the busy day passenger flows within the departure concourse area between June and August.

Figure 4 Departure Concourse Passenger flows (June – August 2004)



Source: Footfall system

Summary :

The above sections (a)-(c) have clearly shown that both in terms of the detailed assumptions and in terms of the overall approach adopted by ASA, the report fails to comply with the standards required in the terms of reference. As a result, the conclusions drawn by ASA are not robust.

Terms of Reference – Issue 2:
It was requested that the consultants fully consult with interested parties, including Aer Rianta, airlines, ground handlers and the IAA.

The consultation exercise was regrettably brief and key parties, including three of the Ground Handling providers at Dublin were not interviewed and members of the Coordination Committee, whose role it is to advise on scheduling capacity matters at the airport were not involved in the process. On this basis it may be that the responses received were, in fact, of limited practical value.

Terms of Reference – Issue 3: The Commission requested that the consultants review the current coordination status of the airport and make recommendations as to whether or not it was appropriate to maintain its current status in the future.

In its assessment, ASA failed to address the processes that are already in place to resolve the scheduling issues that have arisen at Dublin since its designation as coordinated in September 2000. It was necessary to implement these processes, which are similar to those adopted at fully coordinated airports, since congestion issues at Dublin Airport, were already of a magnitude requiring solutions such as those applied at fully coordinated airports:

- **Development of the Dublin Airport Coordination Committee**
  Following designation, a Dublin Airport Coordination Committee was set up. This is standard practice at fully coordinated airports to address the congestion issues that arise, but is not usually considered necessary for coordinated airports. The Committee has met twice a year since the formation of its constitution in December 2001. Its members have reviewed and agreed the declared capacity limits and have been instrumental in the development of the following processes:

- **The derivation of runway 'flexing' options**
  As a solution to the volatility of demand at Dublin and the requirement to make available every possible runway 'slot' to satisfy demand in peak periods at Dublin, the coordinator is provided with 15 different 'flexing' options to match supply to demand, all of which have been tested and evaluated independently by NATS. This solution is also now being considered at some fully coordinated airports within the UK. However, the flexing options are not always able to provide for all the capacity required. For example, demand in the 1000 hour UTC has grown by 9 movements to exceed the

capacity available of 42 movements. Currently, 6 additional services in excess of this capacity operate as refused moves during this hour.

- **The development of ad hoc slot clearance procedures within the terminal**
  New procedures have been developed to facilitate the maximum utilisation of a series of scheduled timings during peak periods by the later allocation of carriers requiring a single ad hoc operation.

- **The development of slot 'overage' procedures**
  Where demand exceeds capacity within the terminal, a set of resource plans are evaluated to assess whether a carrier could be accommodated within the remaining resources available. This provides a small amount of flexibility to accommodate additional demand.

- **The adoption of a "Prior Permission Required" process for General Aviation Traffic at Dublin**
  The requirement to coordinate general aviation traffic usually only exists at fully coordinated airports. The Coordination Committee requested in April 2003 that a process be introduced to require general aviation traffic, some 5.5% of total movements, to also be subject to the requirement to apply to operate at Dublin at timings where spare capacity is available. This process is managed by the Dublin Airport Airside Duty Manager.

- **The formation of a Dublin Airport Runway Capacity Group**
  To progress the following initiatives aimed at maximising or increasing runway capacity at Dublin:
    - The capacity enhancement programme was produced following Aer Rianta's commissioning of a series of NATS studies and providing the short-term programme of work for the IAA.
    - A Runway Occupancy document was produced to encourage pilots to make the most efficient use of the runway and maximise capacity.
    - There is ongoing engagement with carriers regarding options for maximising runway capacity.

All of the above processes, normally associated with operations at fully co-ordinated airports, have already been implemented to address the issues that have arisen to date, as a result of there already being insufficient capacity to meet demand. They offer a means of 'fine tuning' existing capacity, rather than providing the significant increases in capacity required to meet demand over the next four years, and are already fully utilised with current traffic volumes. However, ASA failed to take into account that all of these measures were already both

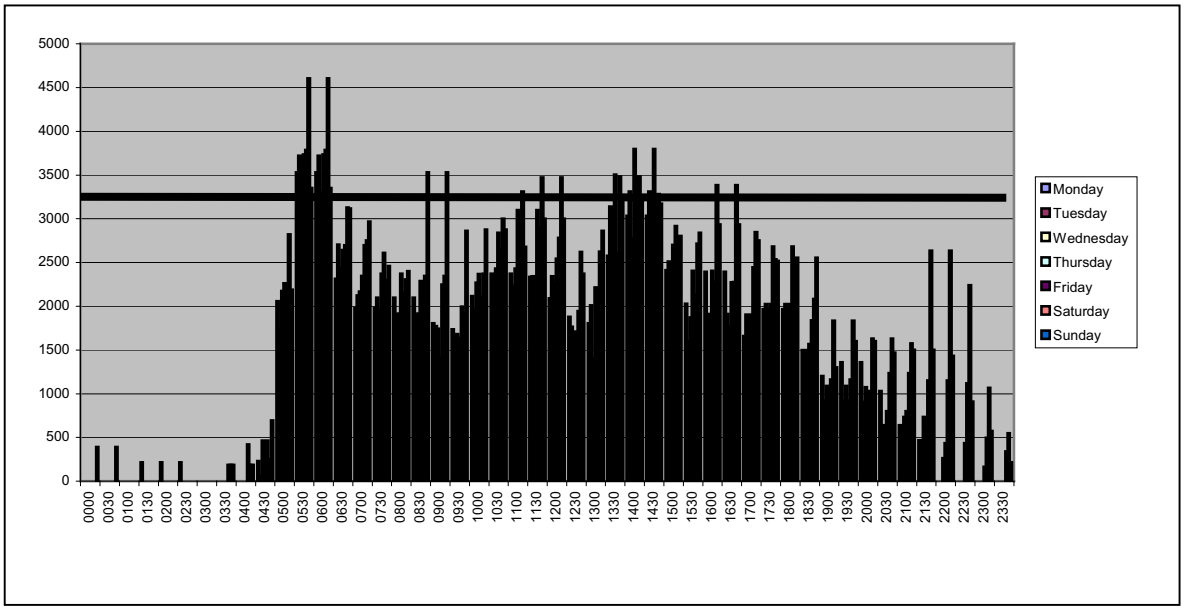
necessary and implemented, indicating that there were already congestion issues, and these were already being dealt with as effectively as possible within the current situation.

Terms of Reference – Issue 4: The consultants were asked to examine all existing infrastructure and determine whether it is adequate to meet actual and reasonably anticipated passenger and operational demands, and if not to make recommendations as to how these demands might be managed.

- **Terminal Capacity and Demand:**

No examination was made by ASA of the current level of demand or of the capacity available to the coordinator to allocate to new 'slot' requests. The attached histogram shows, for the main hourly terminal constraint that initial unconstrained demand exceeded the terminal capacity on each day of a typical busy week during the summer season and at several periods during the day.

Figure 5 **Hourly Demand for Terminal Departures - Typical busy week 26th July to 1st August 2004 (Times UTC)**



The table below illustrates the current levels of peak demand experienced in each season and the number of periods where capacity was reached or exceeded. Without the provision of additional capacity the number of periods exceeding demand will increase, as traffic levels and aircraft size increase.

Season	Capacity limit	Peak demand (passengers per hour)	Number of hours at or around capacity per week
Summer 2004 (unconstrained demand)	3250	4600	12
Summer 2004 (adjusted demand)	3250	3950	4
Winter 2004 (unconstrained demand)	3250	3250	4
Winter 2004 (adjusted demand)	3250	3250	4

- **Runway Demand and Capacity**

Considering the equivalent picture on the runway, figures 6 and 7a & b show histograms of the demand for slots in a typical summer week at Dublin.

Figure 6 **Hourly Runway Totals - Demand for typical busy week 26th July to 1st August 2004 (Times UTC)**

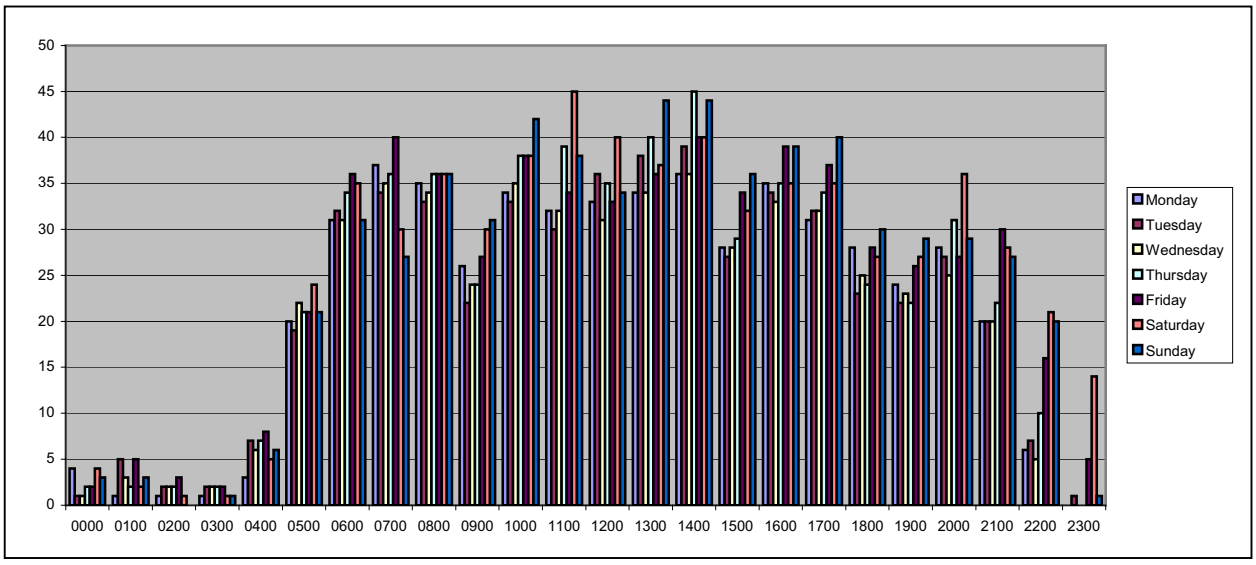


Figure 7 a **Runway 15 minute Totals 0000 - 1300- Demand for typical busy week 26th July to 1st August 2004 from 05:00 to 13:00 (Times UTC)**

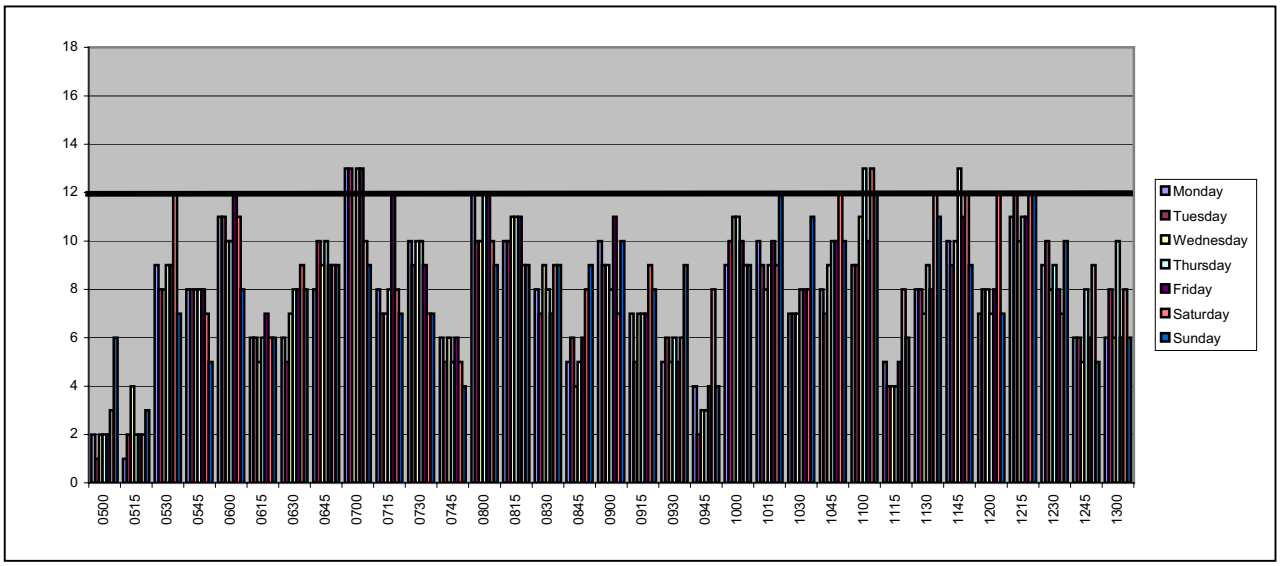
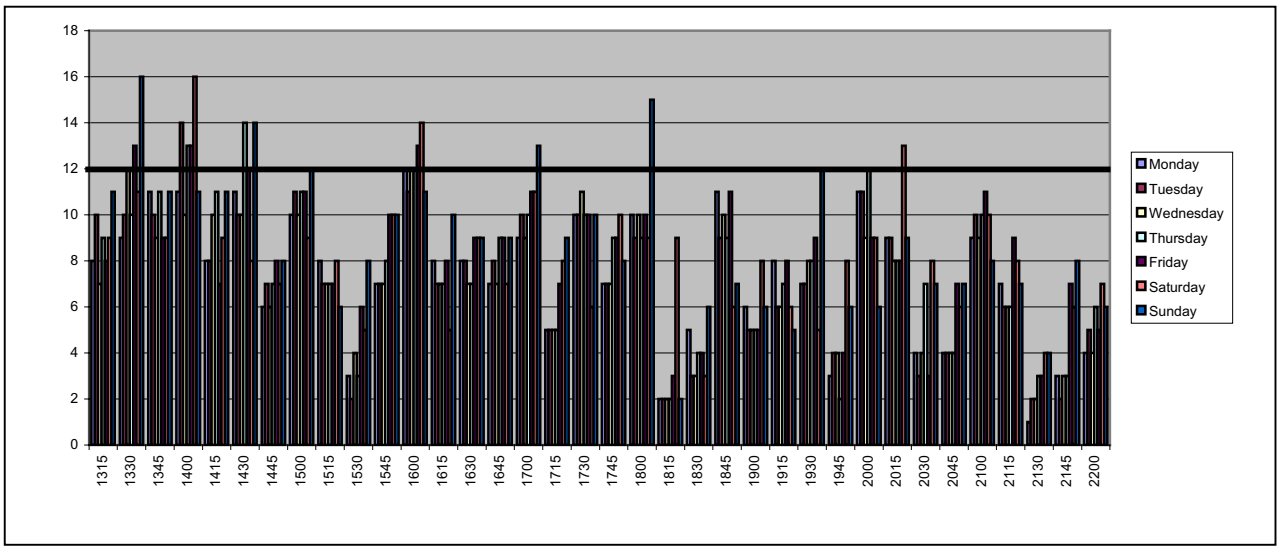


Figure 7b **Runway 15 minute Totals 1315 - 2200 - Demand for typical busy week 26th July to 1st August 2004 from 13:15 to 22:00 (Times UTC)**



They illustrate that the demand for slots in the peak hours has already exceeded the current runway declared capacity. The picture is particularly pronounced for the 15-minute scheduling limit.

The table below shows that demand for slots in the Summer 2004 season exceeded capacity by 33% during peak periods. The demand peaks are repeated for several days of the week and the pattern is consistent throughout the season.

Season	Capacity limit	Peak demand (ATM's per 15 minute period)	Number of 15 min periods at or around capacity per week
Summer 2004 (unconstrained demand)	12	16	22
Summer 2004 (adjusted demand)	12	16	14
Winter 2004 (unconstrained demand)	12	13	10
Winter 2004 (adjusted demand)	12	13	10

The current runway capacity limits have been based on the independent assessment work of NATS and have been accepted by all interested parties.

The Dublin Airport Runway Capacity Group is progressing with the IAA a programme of minor increases in capacity but as the ASA report concludes "no significant increase to existing peak hour runway capacity may be possible in the short term".

It is also worth stating that within the work programme defined for the IAA, no opportunities exist to increase the number of movements within the 15-minute period outlined above.

It is difficult to avoid the conclusion that runway capacity will be constrained within the three-year timescale set by ASA.

Terms of Reference – Issue 5: The consultants were asked to make recommendations regarding the future status of the airport, giving likely timescales of major eventualities

Very significantly, the consultants completely failed to comply with this element of the brief. No information on the timetable or 'trigger points' for full coordination is included in the draft report. Instead two caveats are offered as conditions for full coordination:

- **A change in the bilateral agreement between Ireland and the United States**:
  No further information is provided by the consultants regarding estimated timescales for this change or its potential impact on the operation at the Airport. This is surprising in light of the fact that it purports that it has had "extensive" consultation with customer airlines including Aer Lingus which has repeatedly put on record its views that significant expansion on US routes will follow the elimination of the dual gateway regulations. At a minimum, ASA should have indicated that if there were changes to the existing regulations within the time frame of its analysis, the position regarding coordination would have to be reviewed as a matter of urgency.

  It is likely that any revision to the agreement will be conducted on a phased basis over a number of years. Observers suggest that some relaxation of the current regulations could commence as early as 2005.

  This will raise the following operational issues at Dublin:
  - The requirement for additional Immigration and Naturalisation Service (INS) lounge and processing capacity
  - The additional demand for wide-body stands on Piers B and C during peak periods
  - Departure concourse capacity to accommodate the additional FAA security requirements at check-in

The solution offered by the consultants suggests that capacity issues would be overcome by the use of remote stands and the restriction of access to INS facilities. The basis for these solutions is not set out in the report. However, when Aer Rianta contacted transatlantic carriers for their views on the ASA proposals, all expressed dismay that such "solutions" were being advocated. The removal of INS pre-clearance facilities for some operations, which would be strenuously resisted by US Authorities, would be considered a serious deterioration in service quality and an erosion of competitive advantage. The costs and practical difficulties inherent in bussing passengers to and from a

remote stand for a Boeing 777 operation (circa 277 passengers) would be considered prohibitive and might affect whether or not a route to Dublin would be viable.

This change in the market may come about within the timescale considered by ASA and the solution proffered by ASA lacks support as a viable option for addressing capacity limitations.

Secondly, ASA identifies a "significant increase" in the level of refused moves as a mechanism to move to full coordination.

The trigger point is defined only as a 'significant increase', and the level of this increase has not been discussed. ASA should have elaborated further on this point. Aer Rianta believes that refused moves have already reached an unacceptable level, due to the concentration of their occurrence during the peak periods.

Impact of other market changes:
In addition to the points above, an assessment of the impact of other market changes on the availability of capacity is also required. It is not clear from the study whether the consultants tested their conclusions with reference to the potential for accelerated development or step changes in operating profiles of airlines at Dublin, thereby necessitating a move to full co-ordination. In light of the three-year timescale adopted in the study, we would have expected the report to have indicated how such effects were incorporated.

Summary

This section has outlined in detail five key areas where ASA has not adhered to the terms of reference set for it by the Commission for Aviation Regulation. In addition to a number of important methodological deficiencies, it has omitted to identify the trigger points beyond which full co-ordination will be deemed to be necessary, or specify the procedure to be followed if this occurs. As a result, Aer Rianta does not consider the analysis to be robust, and disagrees with the conclusions reached in the report.

3. Technical Analysis

The text below details Aer Rianta's comments regarding the technical and factual corrections for each section of the report. Questions regarding the basis for the consultants' opinion, sources of data, explanation of analysis and areas of missing information are also raised here. Each paragraph within the report is referred to by number.

Note: For the purpose of Aer Rianta's comments, the term "coordinated" is used to refer to the current status of Dublin Airport, in line with EC Regulation 95/93, which was in place at the time that the report was commissioned. It should be noted that the term has now been revised to "schedules facilitated" with the advent of EC Regulation 793/2004 on 30th July of this year.

Executive Summary

i) The identification of a three-year time period supersedes the original four-year time period specified within the draft report. Although, we welcome the fact that the time scale for review has been reduced, it is noteworthy that no more supporting information is provided to justify the new figure than was provided in the original report in relation to the selection of the previous four-year period.

ii) Though ASA states that it has engaged in a consultation exercise with stakeholders, it is apparent from Appendix B that three of the six ground handlers at the airport were not interviewed. In addition, the consultants made contact with station managers who would have no involvement and less appreciation of the slot allocation function than scheduling staff. In this context, it is most surprising that ASA did not contact key members of the Dublin Airport Co-ordination Committee.

iii) The report states that *"The assessment excludes the possibility of adding a new pier to the existing terminal or the construction of an additional passenger terminal or second runway as these are outside the time horizons within the study brief*".

The timeline in the Capital Investment Programme (CIP) for the various projects named above is as follows:

	Commencement Date	Completion Date
Pier D	2002	2005
Runway	2001	2009
Terminal Extension	2001	2006

Since the production of the CIP Aer Rianta has informed the Commission that the runway project would be a deferred start due to changes in the forecast

and the underlying airline business drivers, therefore ASA would be correct in claiming this was outside their 3 year time horizon.

Similarily, though Aer Rianta would like to have had terminal capacity in place by 2006, we have been unable to commence the project due to financial constraints imposed by the current stringent price cap. The delivery of this project will also therefore be outside the time horizon.

The situation with respect to Pier D is more complex. The design is finalised, planning permission is obtained, the public procurement process is complete and management is ready to recommend a contractor to the Board. However, towards the conclusion of this process the company received a statutory direction from the Minister (dated 11th March 2004), in accordance with his powers under the Air Navigation and Transport (Amendment) Act 1998, that the company refrain from entering into any contractual or other irrevocable commitment in relation to the proposed Pier D development until further notice. The Board is still in correspondence with the Department of Transport regarding this matter. Given approval, to proceed, however, it is likely that a new Pier could be operational within 2 years. In this context, it would appear that it is inappropriate for ASA to have discounted the possibility of Pier D being constructed within the time horizon.

v) The ASA report is incorrect in its statement that, “The capacity for Runway 10 is similar to Runway 24”. It should read “similar to Runway 28”.
Correction: “crosswind runway 16/24” should read “crosswind runway 16/34”.

vii) The Runway Capacity Group is targeting an additional movement per hour from 2005, however it should be noted that this process is expected to continue for no more than two years. Indeed the suggestion of a continuation in future years has not been carried through to the main text of the report, shown in Section 4, which has been corrected to reflect Aer Rianta feedback on this issue. It is certainly correct however, to assume that any increase will place additional pressure on the existing terminal facilities where current scheduling constraint limits will still apply.
It should also be noted that a key conclusion of the study from section 4 regarding runway capacity, namely that “no significant increase to existing peak-hour runway capacity may be possible in the short-term”, does not feature in the Executive Summary. Aer Rianta is of the view that this is a key point which should be reflected in this section.

viii) Since the ‘detailed analysis’ work undertaken by ASA in its draft report, of the 11 areas of capacity assessed by ASA, the estimates for 4 areas have in fact been revised upwards (and 2 others corrected). For example ASA’s capacity limit for the Gate Lounges has increased from 2318 in the June version to 3593 passengers per hour in the report issued in July. That is an increase of some 55%, without any explanation for the adjustments. The capacity of the Baggage Reclaim Hall as assessed by ASA has increased by 44% from 2584 to 3728 passengers per hour. Such a wholesale revision to

the original figures highlights the level of uncertainty regarding ASA's results and raises our concerns regarding the robustness and accuracy of the work and the appropriateness of the assumptions made. It is important to note that figures have been re-worked for those areas without exception, where annual capacity was originally calculated to fall beneath the current expected annual passenger throughput level of circa 17.1 million.

It is also interesting to note that, based upon its analysis, ASA defines the capacity of the terminal building as between 18 and 22 mppa. It stresses that this is based on the 'weakest links' within the building, one of which is the main departures concourse capacity. This is at odds with the capacity calculation in section 5 of the report, which estimates annual capacity for this area as between 20.1 and 22 million, an estimation we do not agree with.

Based on the ASA annual revised capacity estimates contained in section 5, the following areas all have annual capacity levels of less than that noted for the departures concourse:

- The airside departure lounge, (ASA estimated capacity of 19.2-21.0 mppa)
- Gate Lounges, (ASA revised estimate of 18.9 – 20.9 mppa)
- Landside concourse-arrivals (ASA estimated capacity of 19.4-21.1mppa)
- Departures (ASA new revised estimate of capacity of 16.8 – 18.3 mppa) and arrivals kerbside (ASA new revised estimate of capacity of 19.7 – 24.7 mppa).

The conclusion should therefore be made that there are a number of additional areas of the terminal where capacity levels are an issue.
Ultimately, it is impossible to reconcile this information with the statement made by ASA regarding total terminal capacity. This suggests that the consultants believe that key processing areas within the current facilities will be at, or in excess of their design capacity before 2007 when the expected passenger throughput will be circa 20 mppa[1].

ix) Aer Rianta strongly disagrees with the view of the ASA consultants that they "do not believe that the airport has, or will have an unacceptable level of congestion". The current terminal limits are in place and the demand for facilities exceeds capacity for the departure concourse in particular. Feedback provided to Aer Rianta from passengers, staff and users and commentary in the national press certainly portrays a very different picture of the experience in the terminal.

x) ASA's analysis of stand availability has been substantially corrected following their earlier June report, however the solutions proposed regarding the increased use of remote stands are still in direct conflict with the well documented demands of our customers.

[1] Forecast 2003

- The recommendation regarding the investigation of a single independent supplier for airside bussing was followed up with the Airport Operators Committee some three years ago. Presentations by a number of potential providers were arranged, but the representatives at the AOC did not wish to consider the matter further because at the time they wished to reduce the level of bussing and not consolidate it.

- In 2002, in discussions with Aer Lingus, Ryanair and the chair of the AOC regarding the provision of a 'temporary facility', all were opposed to bussing and required the use of contact stands.

xi) Correction: The term coordinated should be replaced with fully coordinated based upon the use of terminology set out by ASA in Section 2.

xiv) The load factors referred to in the report, and endorsed within the earlier June report, have been based on peak load factor estimates provided by carriers at the airport.

xv) Airlines at Dublin will obviously wish to maintain the option to refuse slot adjustments if possible, but it is inaccurate to infer that it is only Aer Rianta who holds a different view. The resource operators, the ground handlers, a number of airlines who feel that other carriers will exploit the unfairness within the system, together with passenger service bodies who represent the views of both the passenger and Irish businesses, all advocate a change in status.

Aer Rianta, in addition to these parties, completely rejects the preliminary recommendation made by ASA regarding the continuation of the voluntary process for three years as inappropriate and ill founded.

xvi) The report proposes that changes within the market are best dealt with by a further annual review. However, the associated scope, timetable or additional costs of this process are not apparent within the report.

The solution offered by the consultants suggests that capacity issues caused by an increase in transatlantic traffic would be overcome by the use of remote stands and the restriction of access to INS facilities. The basis for this solution is not stated. When Aer Rianta contacted transatlantic carriers for their views they objected strongly that such "solutions" were being advocated.

xvii) ASA notes that "certain air carriers have not been particularly cooperative" to date with the voluntary process, but following on from this, does not see that this trend may well continue. It suggests that a "significant increase" in the level of refusals may lead to a possible change in status. The terms of reference for this study require the consultants to specify trigger points beyond which full co-ordination will be necessary. Clarity on this issue was therefore a required part of the brief that has not been delivered.

Section 1 - Introduction

Paragraph 4

The report does not explain the basis for the now revised selection of a three-year time period. ASA suggest it is "based on the expected traffic growth over this period in relation to assessed capacity and future infrastructure requirements", but this does little to explain why 3 years is appropriate rather than 2 or 4.

The period was not defined within the original brief documentation, although the Commission requested that the consultants identify 'likely timescales of major eventualities' in relation to the future coordination status.

Paragraph 5

With reference to the details within the Capital Investment Programme provided by Aer Rianta it is important to stress that the consultants should not assume any significant capacity/infrastructure improvements in the short term. This is due to the fact that a very low level of capital expenditure has been factored into the derivation of the current price cap.

Paragraph 6

ASA notes that it believes that the "consultation process was as extensive as possible within the time constraints of the study itself", although it is apparent from Appendix B that of the 6 handling agents at the airport only half were afforded an interview.

Paragraph 8

The report notes that information presented by PM/TPS has been supplemented by more recent survey data and other information provided by Aer Rianta to form the basis for the ASA study. It should be noted that ASA has indicated that some additional material has also been used as a basis for the consultants' terminal capacity work. The source of this information is not clear and the survey basis, sample size and associated standard errors are not identified within the report.

Section 2 - Slot Coordination

2.1 Legal Framework

This section of the report paraphrases the current regulation, however, there are a number of inconsistencies to note:

Paragraph 2

The consultants note that they elect to adopt the terms 'coordinated' and 'fully coordinated' for the purposes of the report, however this is not applied on a consistent basis throughout the report. It is important that the difference between the two terms is appreciated.
Aer Rianta uses the term coordinated to describe Dublin Airport throughout this response for the reasons stated earlier.

Paragraph 5
It should be noted at this point that the process of monitoring the use of slots, changes with the advent of the new regulation when the "schedules facilitator", as he now becomes, "shall monitor the conformity of air carriers' operations with the schedules recommended to them".

Paragraph 6
The paragraph referring to the requirement for the formation of a Coordination Committee at fully coordinated airports now acknowledges the establishment of such a Committee in Dublin since 2001, with the agreement of the airline operators. The Committee has been very actively at work to optimise existing procedures and increase operating efficiency at the airport. Development of such a committee in advance of its being a mandatory requirement shows that all parties recognised that congestion has become a more significant issue requiring a concerted effort from all concerned, and have been committed to utilising existing resources as efficiently as possible. The Committee has met twice per year since it was established. Representatives with scheduling expertise from the main based Irish airlines and UK and European operators, together with the Airport Director and his Operations Planning team, Air Traffic Control and a member of the General Aviation Community sit on the Executive Committee. Scheduling staff from all airlines that fly into and out of Dublin are invited to the Committee's Annual Meeting in October each year. Airport Coordination Limited provides a large amount of factual data to inform members regarding the progress of the scheduling process and raise any issues that should be addressed. The Commission also regularly attends these meetings as an observer.

Paragraphs 8 – 12
The above paragraphs serve to paraphrase sections of the regulation without providing any analysis and further assessment of the impact or application to Dublin.

Paragraph 14

Only one paragraph is devoted to the main issues covering the implications of a change in status at Dublin. It is certainly correct to state that the process will allow Aer Rianta to plan more efficient use of their resources, which will allow them to deliver "higher standards of service and comfort to the passenger", although the assessment of the impact on each party is only given a cursory mention.
In Aer Rianta's view the assessment should focus instead on:

- An examination of the differences between the two scheduling levels,
- The additional work requirements for the coordinator
- The resulting implications for airlines, the airport authority or the passenger.

Instead, little valuable assessment is undertaken regarding the required changes to the process and their application at Dublin.

2.2 Process of slot coordination

Paragraph 2
The concept of historic precedence as used by ASA is not applicable to coordinated airports.

Paragraphs 2 - 7
This section of text focuses on a description of the current IATA process, with which most parties within the industry are familiar. It is more important to address the current position at Dublin and to note the point made in Paragraph 7 that "the airport has been managing voluntary scheduling with most of the administrative infrastructure associated with full coordination since ACL were appointed in 2000". However, it is not made clear from this statement that the additional processes required have been introduced following work with ACL and the agreement of the Coordination Committee to any new procedures introduced.

Paragraph 8
The consultants emphasise the efforts that have been made by the airport and the coordinator to adapt the capacity available to meet the demand from the airlines. These measures, which are "over and above the basic requirements of a coordinated airport", have a finite limit as the demand for peak slots increases. They have undoubtedly improved the coordinators ability to provide the schedule timings required by the airline operators, but as capacity is full in the peak periods (notably for the fifteen-minute runway limits as well as the terminal) the only option the coordinator has available to him is to offer alternative timings within the off peak periods. Airlines are currently at liberty to choose instead to continue to 'grow' the peak periods. It is for this precise reason that coordinators require the tool of 'full coordination' to make the best use the capacity available. Without it the coordinator is unable to ensure that this alternative capacity is used.

2. 3 International Comparisons

Paragraph 1
The section relating to international benchmarking is useful in that it places Dublin in the context of other European airport operations and scheduling practices. The consultants note Dublin's position as the largest Coordinated airport in Europe. Dublin is some 13.5 million passengers per annum larger than smaller co-ordinated airports such as Aberdeen and there are very many airports with far lower annual passenger throughputs that are already fully co-ordinated e.g. Rome Ciampino at 1.8mppa.

Stansted airport, the most recent UK airport to transfer from coordinated to fully coordinated status, was re-designated in 1998 when it reached 7 million passengers per year. Its similar customer base is focused on quick turn operations and is also coordinated by ACL. Regardless of whether passenger throughput is deemed to be the key determining factor in defining coordination status, it is important to note that every other national gateway airport in Europe (except Warsaw, Budapest and Malta) does so on the basis that its operating schedule is fully coordinated. It is surprising that ASA finds precedents elsewhere so easy to ignore.

Paragraph 2
The consultants refer to the 2000 PriceWaterhouseCoopers report, but do not provide the 'instances' referred to where other designation criteria appear to have been applied, so that the relevance of the observation is unclear.

Section 3 – Traffic Growth and Projected Demand

3.1 Historic Data

Paragraph 1
Due to the consistent increase in the number of passengers travelling through Dublin Airport, traffic levels at the end of July are currently 9% higher than last year. Annual passenger volumes are therefore predicted to reach levels of around 17.1 million for 2004, rather than the estimate shown within the report of 16.6 million. This additional growth will place the terminal under increasing pressure and further highlight that the continuation of operations on this basis for a further 3 years, as advocated by ASA, is unsustainable.

3.2 Aer Rianta Traffic Forecasts

Paragraph 3
In assessing the capacity of the airport, ASA suggest that it has "looked at the implications of the fleet upgrades proposed by Ryanair and Aer Lingus over

the next three years". However, despite the importance of the consequent effects on terminal, airfield and stand requirements, there is no additional information within the report to suggest what analysis was undertaken or how this supported any conclusions that were drawn.

3.3 Capacity implications

Paragraph 1

The consultants have analysed the passenger and aircraft movement levels in terms of the 95th percentile peak day. Aer Rianta was somewhat concerned to see that ASA, in its draft report, defined this period as being "where 5% of days record higher traffic levels". This definition was clearly incorrect and inconsistent with the industry definition of this standard. The BAA defines the standard as:

"The hourly flow rate at or below which 95% of annual passengers passed through the terminal".

Following Aer Rianta's feedback, this has now been corrected within the final report although, obviously, the use of non-standard terminology or methodology has implications for the quality and robustness of the analysis produced by the consultants, and its comparability with other analyses.

Paragraph 2

The busy hour rate used by ASA is based upon data which reflects the number of passengers departing or arriving within a one-hour period. However, in many cases, passengers and their escorts arrive more than two hours in advance of their scheduled time of departure. The figures used by ASA thus take no account of the cumulative effects of passenger build up in key areas within the building, or the additional people (in the form of passenger escorts) present in the landside areas of the building. This is a serious omission as these cumulative traffic effects exacerbate the situation at the main pinch points within the terminal. Thus the ASA analysis misses or underestimates the level of congestion at some of the busiest periods.

In Aer Rianta, actual flow data is gathered via a system of automatic counters installed throughout the building. The system is calibrated and monitored independently. Hence comprehensive and robust data is available on the overall level of activity in the terminal. Analysis of the flows into the departure concourse show that levels have exceeded the 3250 declared hourly capacity level for at least three days each week since May of this year. To date, hourly flows have reached a peak of 4020.

As expected equivalent flows within the arrivals hall more closely match the clock hour figures (based on runway times) illustrated within the report, however peak hours in excess of 2,800 were noted on four occasions over one weekend (17th to 19th June) alone.

The previous sections outline how the analysis undertaken by ASA is flawed and does not adequately reflect the level of congestion in the terminal

As part of this assessment it is also important to address the difference between planned capacity levels within the scheduling process and the actual flow levels experienced in the building. As part of the normal coordination process standard load factors are applied to schedule submissions to allocate capacity within the terminal building. As planned load factors are required to accommodate scheduled loads during peak periods they may over rather than under estimate loads during other periods. A small buffer is therefore created within the declared capacity figure to ensure that sufficient resources are retained to accommodate peaks in demand, in light of the schedule disruptions and delays that occur routinely during day-to-day operations. This however has not been considered by ASA in its analysis.
All load factors parameters used are endorsed by the Coordination Committee.

Section 4 – Runway usage and potential capacity

Sections 4.1 to 4.3

These sections outline factual aeronautical data for the associated runways and conditions for their operation and are taken from AIP Ireland.

4.2 Runway 16/34
It should be noted that multiple runway operations are currently not permitted.

4.3 Runway 11/29
Runway 11/29 is due to re-open in early September 2004. Its likely use when reopen is noted.

4.5 Runway Capacity

Paragraph 1
The NATS studies have been commissioned and funded by Aer Rianta following consultation with the IAA and airline operators. The analysis supporting the capacity declaration and the ongoing work programme to increase runway capacity at Dublin has followed a benchmarked approach and it has been noted in the report that it has been accepted by all parties involved.
The details contained within the paragraphs that follow in the ASA report are taken from the NATS study findings.
Paragraph 4
The time periods associated with the maximum number of 8 departures are quoted incorrectly and should read “(0000 – 0459 UTC….”, rather than “(0000 – 0449 UTC”.

Paragraph 6
Correction: Gatwick have a maximum of 32 departures not 28.

4.6 Options for increasing Capacity

Paragraph 6
It is important to reiterate the point made that the future use of runway 11/29 for circuit training would have a detrimental effect on runway capacity.

4.7 Taxiway infrastructure and operations

Paragraph 1
Correction: A parallel taxiway is in place for Runway 16/34. This is depicted in Figure 4.2 within the ASA report.

4.8 Conclusions

Paragraph 2
Regarding the statement that "a small incremental annual increase to the runway capacity is being targeted for 2005 and this process is expected to continue for no more than two years". This point should be carried through to replace the existing text in section vii) of the Executive Summary which is incorrect.

Paragraph 3
Aer Rianta supports the finding that "no significant increase to existing peak hour runway capacity is likely to be possible in the short term". The consultants go on to suggest that the spare capacity available will be in the "off-peak (shoulder) periods". However, in order to utilize this capacity, carriers must opt, when the peak capacity is full, to move their operations to off-peak periods. The coordinator has no mechanism to ensure that this happens at Dublin under the existing coordination status, and therefore the solution that spare capacity during the off-peak periods could always be utilized this way is erroneous and misleading. The conclusion should therefore be added that runway capacity at Dublin, particularly with reference to the 15-minute periods will be constrained within the next three years and this needs to be considered in the analysis.

Paragraph 7
Further to the points addressed in paragraph 3 above, the conclusion that as "off-peak capacity" is available it negates the case for a change in status at Dublin, misses the point of this assessment. In order for such off peak capacity to be used carriers must be willing to choose to use it when:

a) It is not at a time that is suitable for their aircraft utilisation, crew hours, block times, optimum passenger scheduling or connecting times.
b) Their competitors are electing to refuse to move and to operate instead in the more commercially advantageous peak periods.

This is already the position for 14 separate 15-minute periods per week in summer 2004 on the runway.

The runway section of the report concludes that the "overall system constraint appears to be centred on the terminal area rather than the airside infrastructure". This is at odds with the conclusion of the terminal assessment work in Section 5, which whilst it is incorrect suggests that constraints within the terminal can be alleviated by the opening of more check-in desks.

Section 5 – Terminal capacity and congestion levels

5.1 Background

Paragraph 2
The process of removing unusable space from the calculation of the capacity of terminal areas is referred to in this section by the consultants as going beyond "commonly accepted principles". However, references to the acknowledged experts within the industry (which were supplied to ASA) support this element of the capacity calculation process.

Once again, it must be a requirement that the consultants include the source of the supporting evidence for the statements they make. Without this information, the reader is left with the view that it is simply the researchers own view of the process rather than an adopted industry approach.

Paragraph 3
We have informed the Commission in the Capital Investment Programme (CIP) document that we were assuming a B/C hybrid for the purposes of estimating our future capital expenditure.

In light of the company's constrained financial circumstances and following consultation with airline customers (some of whom are anxious to have a "minimalist" approach to the development of facilities), Aer Rianta has determined that needs would be adequately met by a quantum of capital expenditure which aims to facilitate a level of service between IATA levels B and C. This equates to the adoption of an approach similar to that of other commercially focused airport companies such as the BAA, which aims for a level of service that results in the company achieving its agreed standards for 95% of the time, and equates to an IATA level B/C hybrid.

The capacity analyses carried out on all main processors within the terminal complex as part of the detailed PM/TPS baseline study at Dublin Airport clearly indicates that the terminal is already operating substantially below IATA level of service standard B for most of the main processors. This means that passengers and airport users are experiencing reduced service levels at various times and that operational efficiency is being hampered. This is particularly true of the gate lounges, which, due to the increasing size of short haul aircraft, in general fall below level of service D. Addressing these

deficiencies requires additional capital investment as set out in this programme.

Paragraph 4
To supplement their assessment, the consultants note that they have made use of the various surveys undertaken by independent parties on behalf of Aer Rianta. However, at times, the consultants make assumptions differing from such independent survey data or material provided to them without reference to any quantitative or methodological analysis to support such parameter revisions. Given the significant adjustments made to some parameters from the initial to final drafts, such supporting material is essential in a situation where ASA chooses to substitute well-documented and substantiated values with quite different values.

Section 5.2 Conversion Factors

Paragraph 1
ASA suggests that: "a key aspect in evaluating the overall capacity of an airport is the conversion of hourly passenger flows…into annual capacity figures for the airport as a whole". It is however, important to point out that the declared capacities associated with the coordination process, which should form the central focus of this analysis, are based on hourly and not annual figures. The precise figure chosen to convert these hourly scheduling limits into an annual total can be debated academically, but the practical capacity used within coordination is the hourly figure to which the coordinator is required to work.

ASA has, in fact, acknowledged later that the value of the multiplier itself may not necessarily be crucial for the study. Despite this, however, it has discussed the conversion factor at some length, and on this basis Aer Rianta is responding to several points raised.

Paragraph 3
In its draft report, ASA had acknowledged that passenger multipliers at Dublin Airport are much higher than would be expected using the FAA Recommended Relationships. As we pointed out in our initial response, this clearly implies, at a minimum, an efficient use of capacity at the airport, and would indeed suggest that there may be congestion issues at times. It was therefore somewhat internally inconsistent that ASA subsequently concluded that there is more capacity available than Aer Rianta currently declares, by suggesting that the design hourly flow rates are considerably higher in some areas than the IATA C or BAA standards would suggest. We note that this section has been dropped in the final report.

ASA has described how an increasing multiplier over time suggests that the distribution is tending to get flatter, and hence that for a given constraint "the annual overall capacity is tending to increase". In this regard, Aer Rianta

suggests that, where there are no changes to capacity constraints, the increasing multiplier (or decreasing conversion ratio) reflects either a changing profile in traffic, as more traffic moves into previously off-peak periods, or decreasing standards of service during peak periods, or - more likely - a combination of both effects. It is thus important to differentiate between traffic throughput and the declared capacity of the airport.

ASA discusses the changing annual BHR/annual multiplier profile in a manner similar to the discussion of the Peak hour/annual ratio change, as outlined in a previous document[2] issued by Aer Rianta's consultants PM. As mentioned above, ASA states that that the "values of these multipliers may not be crucial for this study as the key issue in relation to slot coordination is whether a specific hourly (or three hourly) capacity constraint is appropriate…" Aer Rianta tends to concur in broad terms with this view, which, it is interesting to note, is quite different to the view expressed in another study commissioned for the Commission for Aviation Regulation[3]. In the latter, it is suggested that there is much greater need for 'realistic' conversion ratios. In relation to both analyses, however, it is worth pointing out that implicit in the use of a 'realistic' ratio is an assumption that the service standards experienced at the time at which it was derived are acceptable. In the context of the Baseline study which outlines in detail how certain service dimensions at Dublin Airport are currently well below Aer Rianta's target service levels, it is hard to understand how it could be suggested that development of capacity based on the use of current achieved ratios would be acceptable to airport users. At a minimum, it seems unusual that the service standards in recent years, which have recently been so derided in media reports, should be regarded as a reasonable basis for capacity planning for the future.

While accepting that ASA's view that the significance of the multiplier is less crucial than the constraint levels to which it is applied is a more reasonable position that that adopted by WHA, it is still noteworthy that the precise multiplier levels used by ASA are advanced without specific justification. On such a crucial issue as this, a more quantitative analysis would, in the opinion of Aer Rianta, be as desirable for a capacity analysis study requested by the Commission as for one commissioned by Aer Rianta.

It is clear that if the conversion ratio is not the most critical element in the capacity definition, the hourly design flow rates are most important. Hence the precise levels used need to be developed in a robust and realistic manner. Aer Rianta is of the view that ASA's decisions on the capacity limits for various capacity dimensions are deeply flawed, as outlined in subsequent sections.

[2] PM response to CAR queries (01042224 RP 0005)
[3] "Critical appraisal of Dublin Airport Baseline Report E" by Dr. William Hynes

5.3 Spatial layout and terminal facilities

Paragraph 1
The 75,438 square metres floor space quoted excludes plant rooms and includes only the facilities that are central to the operational functions of an airport.

5.4 Core terminal – Departures Level

5.4.1 Landside Concourse

Description - Paragraph 1
In addition to the six longitudinal check-in islands referred to, there is a further bank of check-in desks located along the wall at the northern end of the terminal building.

Capacity Assessment – Paragraph 2
Aer Rianta notes the consultants' acceptance of the validity of the detuned figures within the PM/TPS study.

Paragraph 3
The dwell times used within the PM/TPS study were based on independent survey data. The ASA consultants note that they feel that "from their own experience" dwell time figures should be half of those set out by PM/TPS in their analysis. Given the erroneous effect of ASA's adjusted dwell time figures on the overall capacity of this key pinch-point within the building, Aer Rianta would expect to see details within the report regarding the alternative survey information, sample sizes and standard errors associated with the revised figures, and/or, the industry sources on which the revised assumptions are based.

Paragraph 4
As noted above, independent survey data produced by TNSmrbi regarding passenger dwell times within the departure concourse was supplied to the consultants during the course of the study. If this study is to provide a robust evaluation of the levels of capacity associated with each area of the terminal it is important that it is based upon substantiated figures or industry benchmarks rather than observations taken during an off peak period during May, the results of which do not form part of the contents of the report.

Paragraph 5
The consultants note that they believe that "the primary cause of congestion in the landside area of the terminal" is the impact of an inadequate number of check-in desks open in key periods prior to departure. This raises two issues:

1. The Handling Agents, who are responsible for opening the desks on behalf of the airlines at Dublin, will undoubtedly have explained when

interviewed that they are bound by the service level agreements held with their respective airline customers. As no analysis of the questionnaires or interviews appears within the report it is difficult to ascertain whether the solution offered by ASA was explored with the service provider.

2. Unlike comparable airports within the UK, Dublin Airport does not have a contractual relationship with the handling agents operating on its site. The airport therefore has no basis on which to enter into a formal binding service level agreement covering the use of facilities or establishing minimum levels of service to be provided to the passenger. The Commission for Aviation Regulation licenses ground handlers in Ireland, but there are no conditions relating to service standards built into the license. To progress this process as far as currently possible, the airport entered into a voluntary service agreement with the members of the AOC in March 2003. Check-in desk opening times are included within this Service Level Agreement. Since the start of this process the AOC have stated that the results of each handler's performance against the standards should not be published and that attempts to do so will lead to a withdrawal of some parties from the voluntary process. Aer Rianta has, in fact, limited power to force the handlers to comply with target service standards without resorting to the courts. This is clearly an unsatisfactory position.

5.4.2 Check-in desks and associated queuing areas

Paragraph 4
For US security purposes Delta, Continental and US Airways have pre-screening positions in Area 13. It should be noted that congestion is an issue during weekdays as well as weekends.
ASA consider the effects of additional transatlantic flights on the number of check-in desks available, although in providing the suggested solution they do not address the cost and efficiency issues created for handling agents who would be required to locate staff in several different areas of the building. The impact of such traffic should also be considered with reference to the departure concourse area.

Staffing Procedures

Paragraph 2
Note: It has been requested by the AOC that handling agents are not identified by name in the information that is circulated regarding the Service Level Agreements (SLA).

Paragraph 3
Regarding Bye-law 51, Paragraph 13 (11) notes check-in desk requirements are applied "save where otherwise authorised by Aer Rianta."

Aer Rianta is endeavoring through the operation of the SLA to achieve a more efficient utilisation of desks and operation of check-in through co-operation. In an effort to facilitate the bedding down of the SLA and in the spirit of co-operation it was agreed that enforcement of the byelaw would be held off in the short-term. In the first quarter of 2004 an average of 95% of flights (with a capacity of over 50 seats) had check-in desks open two hours before departure.

Paragraph 4
It is difficult to comment on the variation in observed processing time when the sample size, structure and results are not detailed within the report.

Capacity Assessment

Paragraph 1
As the revised assumptions made by ASA are not based upon the independent survey data provided by Aer Rianta, and given the importance of the results of this assessment, it is essential that the source data underlying these assumptions is included within the report in order to justify the assessment.

Paragraph 2
Whilst it is likely that the percentage of desks open at peak times has increased since August 2002, when the original assessment was undertaken, once again, the basis for the revised figure should be stated here as part of the assessment.

Table 5.6
As this is a current capacity assessment the number of hand-baggage only desks is now zero, (as handling agents have reduced their requirement for these desks). This section should be removed from the capacity calculation. Instead the figures shown in the final report exclude any reference to hand-baggage desks in the table but still incorporate their capacity within the totals shown for each section.

5.4.3 Passenger search areas

Description – Paragraph 1
Note: Security search Area B has since been updated to incorporate 6 X ray screening devices.

Capacity Assessment - Paragraph 3
Further to ASA's statement that "any future increases in processing times (shoe searches etc) would significantly increase queuing times", shoe searches have already been introduced and the introduction of Threat Image Projection will also increase processing times. It therefore seems unlikely that,

within the current security climate and with “little area for expansion”, the area will accommodate three years additional traffic growth.

The figure for the additional staff recruited for this area has not been completed within the report. The correct figure is 105.

5.4.4 Airside Concourse

Paragraph 3
The consultants view the estimated proportion of passengers in non-commercial areas used by PM/TPS to be “too high”. In view of the effect that reducing this figure has on an area that is considered ‘at capacity’ within the terminal, it is important that ASA include the supporting data to substantiate this revision if the analysis is to be robust.

5.4.5 Gate Lounges

Table 5.9
ASA stats in section 5 that it has “also adopted the BAA methodology” to derive its capacity estimates, although with some revised input data. However, for the production of the final report they appears to have moved away from this and have adopted its own methodology for the assessment of gate lounge capacity.

However, this methodology too appears to have undergone some substantial revisions. In the report produced in June ASA estimated capacity in this area at between 12.2 and 13.5 mppa. One month later, using its own revised approach this has now increased to 18.9 – 20.9 mppa, an increase of some 55% in the estimated annual between the two reports. If this staggering increase in capacity is to be believed, the report must substantiate the basis for the input data used, and also clearly outlines the reason behind the change from the initial to the final draft report.

5.4.6 Passport Control positions

Paragraph 3
Note: The INS service is now referred to as the Customs and Border Protection Service
It is important for the consultants to visit this area at peak times during the day to appreciate the space constraints within this lounge. Dwell times are higher, as passengers are advised to allow enough time for the additional processing requirements. The flight ‘bunching’ is as a result of specific timing requirements of the customer airlines, aiming to maximise connections with services at their hub airports in the US. This pattern is likely to be accentuated following any change to the bilateral agreement. Given that ASA did not visit the site at a peak time it is clear that they cannot understand the magnitude of the problem.

Core Terminal – Arrivals level

5.5.1 Baggage reclaim

Within the ASA June version of this study the hourly and annual capacity estimates produced by ASA indicated that this facility was currently operating at, or above capacity at peak times. The annual capacity was assessed by ASA as 14.2 – 15.5 mppa. However, the picture is very different within the July report, where ASA's estimate has increased to 20.5 – 22.4 mppa. This is an increase of over 44%. It is not clear what additional information came to light between the two reports, but it serves to highlight how easy it is to substantially adjust the results produced. It is for this reason that the input variables used should be substantiated clearly within the report as a matter of standard practice.

5.5.3 Landside Arrivals Concourse

Table 5.13
The consultants' estimates suggest that capacity in this area is even more limited than shown within the PM analysis. It also forms an additional item on the list of weak links in terms of the capacity of the passenger flow system at Dublin.

5.5 Kerbside

5.6.1 Departures Level

Table 5.14
The ASA estimate of capacity in this area was defined in the draft June report as 15.6 – 17.2 mppa. This is yet another variable that has been increased significantly in the final draft to 16.8 – 18.3 mppa. As the ASA analysis is based on the same BAA methodology in both reports and the assumptions stated in Appendix A are noted as being the same in both reports, it is not clear why the capacity has increased. It will therefore be assumed that the figures stated are incorrect in one of the reports.
It must be noted that as this assessment progresses there is increasing concern regarding the validity of the results produced. The changes to the estimated capacities differ greatly from those initially produced and there is little or no clarity regarding the basis for the assumptions used.

5.6.2 Arrivals Level

Table 5.13
The reworked results shown in the final report serve to illustrate the effect of the variance in the conversion factor employed by ASA in their analysis. This factor alone increases capacity from 17.9 – 20.6 to 19.7 – 24.7 mppa. It should be noted at this point that the decision to exclude private cars from the arrivals level was made precisely because of the lack of capacity in this area.

5.6 Baggage Handling System

Paragraph 4
The capacity issues in this area arise as a result of space constraints within the baggage hall areas. Work is being undertaken at present to streamline operating practices within this area to best utilise the capacity available.

Paragraph 7
ASA notes in paragraph 2 that, due to the limited time available, it was not possible to undertake an assessment of the capacity of the baggage system.
Aer Rianta reiterates that the health and safety aspects are addressed and will continue to be addressed in accordance with good management practice.

5.7 Conclusions

Paragraph 1
The IATA range quoted within the report is incorrect and should be adjusted to “10.1 – 34.4 mppa”. The lower figure represents the security area and not the departure concourse as stated.

ASA's own estimates are also reported incorrectly within the document and should read " 18.9 – 33.8". The smallest capacity represents the gate lounge areas and not the departure concourse as stated.

In conclusion it is interesting to note that, based upon its analysis, ASA defines the capacity of the terminal building as between 18 and 22 mppa. It stresses that this is based on the 'weakest links' within the building, one of which is the main departures concourse capacity. This is at odds with the ASA's estimated capacity calculation of 20.1 and 22 million.

Based on the ASA annual capacity estimates contained in section 5, the following areas all have annual capacity levels of less than that noted for the departures concourse:

- The airside departure lounge, (ASA estimate 19.2-21.0mppa)
- Gate Lounges, (ASA estimate 18.9 – 20.9 mppa)
- Landside concourse-arrivals (ASA estimate 19.4-21.1mppa)
- Departures kerbside (ASA estimate 16.8 – 18.3 mppa) and arrivals kerbside (ASA estimate 19.7 – 24.7mppa).

The conclusion should therefore be made that there are a number of additional areas of the terminal where capacity levels are an issue. Ultimately, it is impossible to reconcile this information with the statement made by ASA regarding total terminal capacity.

It is also difficult to understand how each area with a previous capacity (as calculated by ASA in their June Draft Report) of less than, or close to, the current terminal throughput levels of circa 17 million passengers, has been reworked and revised upwards to exceed this level. This has increased capacity levels by up to 55% in some previously 'low scoring areas'. The capacities of areas previously in excess of this figure have not been subject to any 'adjustment'. Thus, not only have adjustments been made only to those areas where the consultants own methodology suggested that traffic was close to or exceeding capacity, and to all such areas; but in addition, these adjustments have been made without any explanation, either of errors, or of a revised methodology.

Section 6 – Aircraft Stand Capacity

6.1 Existing Infrastructure

Paragraph 4
"The principle users of Pier C are those other airlines serving Dublin, excluding the named principal users of Piers A and B". This is not an accurate statement as Aer Lingus are a principal user of Pier C.

Footnote 41
Correction: The project will commence in 2005. This will provide for 14 B737-800/A320 and 1 B737-400 aircraft.

Footnote 44
Correction: Should read "2 A321".

Footnote 46
Correction: Should read "would be modified to accommodate 4 wide bodied stands in mixed mode".

6.2 Demand Analysis

Paragraph 1
Following the acquisition and implementation of a new stand allocation system Aer Rianta considers the process of stand allocation to be highly efficient in terms of the use of contact stands at Dublin. Considerable effort is required by all involved to maximise the use of these facilities and the results compare very favourably to those of other similar European airports.

However, customer airlines are very clear as to their requirement for contact stands for their operations, and cite the following reasons (which are acknowledged in the ASA report) for this requirement:

- To maximise operational efficiencies required during 25- minute turnarounds. These operations form the main part of the customer base at Dublin.
- Expectations of business passengers for flag carrier operations and high yield services
- High volume passenger loads for charter operations
- Long- haul services requiring INS provision
- Access requirements for disabled passengers requiring airbridge provision and often on ad hoc services, to Lourdes for example

These strong views on service requirements are reflected in the number of complaints received from airlines, despite the current levels provided. To date this year, the Airport Stand Allocation Manager has received over 100 written complaints from carriers at Dublin stating that they have not obtained a

contact stand, or have been required to bus their operation and that this has had a detrimental effect on their operation.

In light of such repeated and consistent objections to the use of remote stands, it is difficult to understand ASA's confidence that customer airlines will in the future be far more willing than currently to accept remote stand service. It is not clear if ASA's discussions with airlines regarding their views on full coordination highlighted the implicit but critical assumption that ASA has made that airlines will have to accept such routine remote stand usage. An analysis of the ASA questionnaires distributed to airlines referred to in the appendix is not included within the report, but the issue of expected service levels should be considered as essential and addressed within this report.

In terms of current protocols regarding remote stand usage, as there are insufficient contact stands to accommodate all movements, Aer Rianta instigated a process to involve the AOC in the development of a set of priority allocation rules, according to best practice internationally. These are noted in paragraph 3.

Paragraph 3
With reference to point 3 that: "Aircraft passenger capacity (again, turboprops and General Aviation lose out)". The comment in brackets is not appropriate. Firstly, turbo-props generally have a low seating capacity, for example 50 seats and would not have priority over an aircraft with seating in excess of 100.
Secondly, it is not the best use of capacity to have business aviation aircraft parked on remote stands close to the terminal building.

Paragraph 4
Correction: Aer Lingus should be included in the list of users of contact stands.

Paragraph 5
Allocation data was provided to ASA by the Dublin Airport Stand Allocation Manager for a peak day period in September 2003 and a busy week period in August 2003. However, the consultants elected to evaluate an off-peak day during an off-peak month (Thursday 13th May 2004) to assess the picture of demand over the summer season. As a result the figures produced within the draft report are not representative of the summer season picture. Aer Rianta undertook the analysis of the information provided for August and supplied it to the consultants in the form of tables 6.3. this data, however, does not appear to have been used by ASA in its analysis.

Paragraph 6
Similarly, as specified by the Stand Allocation Manager, the stand allocation plan for the summer season addresses the period 28th March to 30th June. It is the following plan, from 1st July that provides an accurate picture for the summer season proper.

Table 6.2

Using the consultants' methodology, Aer Rianta was unable to recreate the results obtained in table 6.1 by ASA. The variances are highlighted within table 6.2.

In undertaking the stand occupancy analysis Aer Rianta does not use the consultant's non-standard definition of an aircraft movement. An aircraft movement is generally defined as an arrival or a departure.

The consultant's methodology of identifying the number of turnarounds per stand (movements) during the operational hours of 0530 – 2100hrs (UTC) to obtain the results in Table 6.1 completely fails to take into account first departures and last arrivals of aircraft on stand. This is a serious omission given the significant impact of overnighting aircraft. The following sections outline some of the movements that have not been incorporated into ASA's analysis.

The "first wave" of departures can be on stand after the 0530 hour, which, in the context of accommodating turnarounds during the day renders the stand unavailable until the stand is vacated. Examples of this include the following:

Monday through to Friday:	FR534 Departure at 0610hrs
(Time in UTC)	FR812 Departure at 0610hrs
	EI504 Departure at 0600hrs
	EI532 Departure at 0600hrs
	EI692 Departure at 0610hrs
	EI622 Departure at 0630hrs
	EI187 Departure at 0600hrs
	BD120 Departure at 0600hrs
	EI520 Departure at 0610hrs
	EI630 Departure at 0550hrs
	EI582 Departure at 0600hrs

If the approach is modified to base the analysis on aircraft movements (i.e. the number of arrival and departing aircraft movements per stand), the stand occupancy figures in column 5 of table 6.2 below (also reproduced within the ASA report) are obtained. The figures detailed have been converted to turnarounds per day. Hence the exclusive focus by ASA on the post 0500 period is a serious flaw in its analysis.

Similarly, it is important to extend the operational day to 2200hrs (UTC), as many aircraft across the three piers do not arrive until approximately this hour. The effect of this can be seen by comparing columns 5 and 6 of Table 6.2 within the table below.

Examples of flight activity at contact stands after the 2100-hour, in the context of the revised season plan include the following:

Monday through to Friday: (Time in UTC)	FR49 Arrival at 2130hrs FR559 Arrival at 2200hrs FR295 Arrival at 2155hrs FR157 Arrival at 2140hrs FR449 Arrival at 2210hrs FR177 Arrival at 2145hrs FR539 Arrival at 2200hrs EI549 Arrival at 2230hrs EI259 Arrival at 2215hrs EI183 Arrival at 2120hrs IZ921 Arrival at 2120hrs
Saturday:	FR49 Arrival at 2130hrs FR119 Arrival at 2110hrs FR449 Arrival at 2155hrs FR559 Arrival at 2150hrs FR229 Arrival at 2205hrs FR995 Arrival at 2200hrs FR177 Arrival at 2140hrs TY3401 Arrival at 2130hrs FH1223 Arrival at 2130hrs FH1147 Arrival at 2120hrs TY3245 Arrival at 2150hrs FH1217 Arrival at 2155hrs EI183 Arrival at 2120hrs
Sunday:	FR539 Arrival at 2200hrs FR559 Arrival at 2200hrs FR449 Arrival at 2150hrs FR995 Arrival at 2200hrs FR49 Arrival at 2130hrs FR295 Arrival at 2155hrs FR177 Arrival at 2220hrs FR157 Arrival at 2210hrs EI259 Arrival at 2215hrs EI749 Arrival at 2120hrs FH1143 Arrival at 2135hrs EUJ235 Arrival at 2130hrs ZU570 Arrival at 2205hrs

By focusing on a limited period of the day, ASA's analysis has failed to incorporate the effects of overnighting aircraft remaining on stand, and of late arriving aircraft. This is a serious deficiency given the level of overnight stand occupancy at Dublin airport. As a result ASA has significantly underestimated the existing level of utilisation, as documented below.

Table 6.2 below illustrates the effect that a reduction in the operating period to exclude movement waves has on the stand occupancy figures for Piers A, B and C. Using the definition outlined above, average movements increase by one per day on Pier A and in excess of one on some days for Pier C, up to a maximum of 9.8 movements.

As shown in the ASA Final report (page 49)

Table 6.2 Stand Allocation Guide – 28th March to 30th June
Typical week – Monday 31st May - Sunday 6th June

Pier	Weekday	Aircraft movements / stand – ASA Report	Aircraft movements / stand – Report Aer Rianta check	Aircraft turnarounds / stand – using Aer Rianta def. of movement*	Aircraft turnarounds / stand – using AR def. of movement and extra hour (0530 – 2200 UTC)
Pier A	Monday	7.7	7.7	8.2	8.5
	Tuesday	7.1	7.1	7.3	7.9
	Wednesday	7.3	7.3	7.9	8.1
	Thursday	7.3	7.3	7.9	8.1
	Friday	7.8	7.7	8.6	8.8
	Saturday	6.3	6.3	6.9	7.3
	Sunday	7.1	7.3	7.9	8.2
Pier B	Monday	5.9	5.9	6.2	6.6
	Tuesday	6.9	6.8	7.2	7.3
	Wednesday	6.0	5.9	6.4	6.6
	Thursday	7.3	7.0	7.3	7.8
	Friday	7.3	6.9	7.5	7.6
	Saturday	8.9	8.2	8.5	8.9
	Sunday	8.2	7.7	7.9	8.2
Pier C	Monday	6.7	7.2**	8.1	8.3
	Tuesday	7.5	6.9	8.6	8.7
	Wednesday	6.7	6.7	7.6	7.6
	Thursday	7.3	7.2	8.0	8.0
	Friday	7.8	8.5**	8.8	9.3
	Saturday	9.0	8.7	8.8	9.5
	Sunday	8.7	9.2	9.5	9.8

* An aircraft movement is either an arrival or a departure
** wide-body movements not taken into account by consultants

Table 6.3 shows the equivalent position for the summer guide showing the plan for the main body of the summer season. There is a further increase in movements on Pier A in particular. Contrary to ASA's contention, the figures show that there is limited additional capacity to be obtained from the existing layout.

As shown in the ASA Final report – Page 50

Table 6.3 Stand Allocation Guide – 1st July to 30th October (Typical week – Monday 2nd August - Sunday 8th August)

Pier	Weekday	Aircraft movements / stand – ASA Report (1st Season Plan)	Aircraft movements / stand – using ASA Consultants approach	Aircraft turnarounds / stand – using Aer Rianta def. of movement*	Aircraft turnarounds / stand – using AR def. of movement and extra hour (0530 – 2200 UTC)
Pier A	Monday	7.7	7.6	8.2	8.5
	Tuesday	7.1	7.1	7.9	8.2
	Wednesday	7.3	7.4	8.0	8.3
	Thursday	7.3	7.3	7.9	8.3
	Friday	7.8	7.4	8.3	8.7
	Saturday	6.3	6.7	7.4	7.8
	Sunday	7.1	7.7	8.1	8.4
Pier B	Monday	5.9	6.7	7.1	7.3
	Tuesday	6.9	6.2	6.9	6.9
	Wednesday	6.0	5.4	5.9	6.0
	Thursday	7.3	7.3	7.8	8.2
	Friday	7.3	7.4	7.9	8.4
	Saturday	8.9	7.9	8.2	8.7
	Sunday	8.2	8.8	9.0	9.2
Pier C	Monday	6.7	7.2	7.9	7.9
	Tuesday	7.5	6.5	7.3	7.4
	Wednesday	6.7	6.7	7.7	7.7
	Thursday	7.3	6.7	7.7	7.7
	Friday	7.8	7.8	8.5	8.7
	Saturday	9.0	8.7	9.0	9.8
	Sunday	8.7	9.0	9.7	9.8

* An aircraft movement is either an arrival or a departure

Tables 6.4 and 6.5

It should be noted that the data for these tables is extracted from the early season stand plan and not the allocation for the period from July 1st that reflects the position for the summer season proper. ASA notes that: " It would be expected that a greater use of remote stands is made during July and August", it is therefore surprising that ASA did not use this data, provided to them, for its analysis.

We have therefore completed this analysis and the following table shows the stand utilisation for Piers A, B and C for the week of 2nd to 8th August for each hour, during the 24-hour operational day. This is based on Aer Rianta's Stand Allocation Guide, 2nd Issue.

Table 6.4 Parked aircraft at Piers A, B and C (Aer Rianta Analysis 2nd August / 8th August 2004)

Pier / Day / Stands	A / Mon / 15 (Max)	A / Fri / 15 (Max)	B / Sat / 9 (Max)	B / Sun / 9 (Max)	C / Sat / 6 (Max)	C / Sun / 6 (Max)
0000 UTC	14	15	6	3	4	1
0100	14	15	5	2	4	1
0200	14	15	5	4	4	1
0300	14	15	5	4	4	1
0400	14	15	6	4	4	6
0500	15	15	9	9	6	6
0600	7	9	8	9	5	3
0700	4	6	7	7	3	5
0800	8	7	8	6	5	6
0900	6	5	5	7	3	4
1000	2	2	7	6	3	2
1100	12	9	7	8	4	5
1200	6	4	6	6	5	4
1300	7	6	8	6	3	4
1400	11	9	6	6	5	3
1500	6	5	5	6	2	5
1600	4	3	7	7	5	5
1700	7	6	7	5	1	1
1800	5	5	3	4	3	3
1900	4	3	5	4	0	3
2000	8	8	1	7	4	3
2100	9	9	8	8	6	5
2200	12	13	7	5	5	4
2300	15	15	4	7	0	4
0000 (+1)	15	15	3	9	1	4
0100 (+1)						

There is no explanatory note for the shading used in the tables within the ASA report.

ASA's Table 6.4 does not give an accurate picture of the stand demand, as many short turnaround flights can occur within each hourly period, for example 0915 to 0945 and therefore will not be captured.

It should also be noted that in both cases, this is a planned guide based on scheduled times of arrival and departure, which will change in reality. A block time of approximately 10 minutes either side of each clock hour should be included, which would better reflect these issues. Table 6.4b below depicts this adjustment. The results indicate the high demand placed upon all contact stands between the hours of 0500 to 1600hrs approximately, specifically at Piers B and C. This contrasts with the figures contained within Table 6.4 within the ASA report.

Table 6.4b Parked aircraft at Piers A, B and C (Aer Rianta Analysis 2nd August / 8th August 2004), including a 10-minute block either side of each hour

Pier / Day / Stands	A / Mon / 15 (Max)	A / Fri / 15 (Max)	B / Sat / 9 (Max)	B / Sun / 9 (Max)	C / Sat / 6 (Max)	C / Sun / 6 (Max)
0000 UTC	14	15	6	3	4	1
0100	14	15	6	2	4	1
0200	14	15	5	4	4	1
0300	14	15	5	4	4	1
0400	14	15	6	5	4	6
0500	15	15	9	9	6	6
0600	8	10	9	9	5	4
0700	7	8	8	8	4	5
0800	11	10	8	6	5	6
0900	8	7	6	8	5	4
1000	7	6	9	8	5	5
1100	13	14	9	9	6	6
1200	7	4	7	7	6	5
1300	10	9	9	9	6	5
1400	12	9	6	6	5	3
1500	6	6	6	6	2	5
1600	5	5	8	9	6	6
1700	10	10	8	7	2	3
1800	6	6	4	6	3	3
1900	6	5	5	5	1	4
2000	11	10	2	8	4	6
2100	10	11	9	9	6	6
2200	13	14	9	6	6	5
2300	15	15	4	7	2	5
0000 (+1)	15	15	4	9	1	4
0100 (+1)						

Paragraph 12

The demand for overnight parking exceeds supply every-night on Pier A. This results in aircraft towing off and back on after an early departure the following morning.

The demand for overnight stands on Piers A and C exceeds supply every night including Saturday and Sunday. It is common practise for aircraft to be towed off stand to accommodate charter flights. These aircraft are then towed back on stand after the charter activity has finished. It should also be noted that a stand / stands are kept free for Transatlantic arrivals which start arriving at 0455 UTC

Table 6.5

Using the stand numbers listed in Footnote 63 yields a maximum number of 18 and not 20 as indicated in the report.

Aer Rianta has reviewed Table 6.5 within the ASA report using actual stand demand data for the date range listed. The results of this assessment are included in revised Table 6.5 below.

Table 6.5 (Revised) Occupation of Remote Stands (Aer Rianta Analysis 31st May / 6th June 2004, actual stand demand)

Time / Day	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
0000 UTC	10	11	7	11	8	9	7
0100	10	11	7	9	8	9	7
0200	9	11	7	9	10	9	7
0300	9	12	8	9	10	10	10
0400	11	12	10	10	12	9	10
0500	9	14	12	11	11	9	10
0600	7	7	8	9	5	9	9
0700	6	5	6	8	6	5	7
0800	7	5	6	9	4	7	6
0900	7	4	8	7	5	5	9
1000	7	4	8	6	5	4	11
1100	6	4	8	6	7	4	11
1200	4	4	6	5	7	7	9
1300	2	3	4	5	3	2	6
1400	3	2	3	4	3	2	6
1500	2	3	3	2	2	2	8
1600	2	3	4	2	2	3	10
1700	4	4	4	-	2	4	8
1800	4	4	3	1	4	4	4
1900	5	3	3	2	5	3	1
2000	6	5	5	2	7	4	2
2100	5	5	4	4	8	5	7
2200	8	6	8	8	7	6	8
2300	8	9	8	7	8	7	9
0000 (+1)	11	7	11	8	9	7	10
0100 (+1)							

The figures obtained differ quite considerably from those contained within the ASA report. For example, occupation of stands on Monday from 0000 UTC through to 0200 changes from 3,2 and 2 to 10, 10 and 9.

The ASA analysis also does not include stands 63 – 69 on the South apron and stands 76A, and 115 – 135 on the Central apron. No reasoning is given for this omission which, when considered in the context of the actual number of remote stands available and used overnight and during the operational day does not give an accurate picture of current overall stand demand. Analysing actual demand on the 5th / 6th June for all remote stands yields the following 'snapshot' results:

5th June - 0000hrs: 18 (4 derived in table 6.5)
0600hrs: 17 (5 derived in table 6.5)
1200hrs: 18 (4 derived in table 6.5)

6th June - 0000hrs: 27 (7 derived in table 6.5)
0600hrs: 28 (2 derived in table 6.5)
1200hrs: 21 (2 derived in table 6.5)

The season plan does not give detailed information of remote stand usage, as aircraft towed to or from remote stands are not displayed on the charts. Business aviation movements are also not inserted onto these charts, as these movements occur on an ad-hoc basis. The consultants have therefore underestimated overall levels of stand usage.

6.3 Capacity Constraints

Paragraph 3
In the light of the statement that overnight parking and contact stand availability is "not strictly a capacity problem, as there are remote stand resources and buses available", it is important to remind the reader of the repeated and consistent objections to the use of remote stands by major operators. It is therefore difficult to understand ASA's confidence that customer airlines will in the future be far more willing than currently to accept remote stand service.

Paragraph 5
With reference to ASA's statement that: "a number of stands are unavailable on occasions (and therefore under-utilised) because neighbouring stands are designated for wide-bodied aircraft". This may be relevant for stands 21/22 with 33, but not for stands 12 and 14, 18 and 20, 41R, 43R and 45R, 50, 52 and 55 as listed.

6.4 Conclusions

Paragraph 1
Correction: Should read "net reduction of two contact stands to accommodate these two airlines due to aircraft size restrictions, one at Pier B and one at Pier A".

Paragraph 2
Major logistical problems would be associated with bussing 250 to 400 passengers travelling on charter and long-haul services to and from remote stands, especially when additional access requirements are involved for disabled passengers on numerous Lourdes flights, as well as service quality issues for at least some of the airlines concerned.

Aer Rianta strongly disagrees with the conclusions reached by ASA in its report. ASA concludes that there is significant spare capacity on contact stands during the normal operational day for the parking of flights with a short

turnaround. As outlined above, ASA's original methodology inadequately reflects the existing level of stand utilisation.

An examination of the latest season plan, which covers the peak months of July and August, indicates that this "spare" capacity on contact stands for short turnarounds is concentrated at Pier A. This pier is restrictive in its accommodation of passenger types, i.e. CTA, EU or non-EU. Due to the layout provided within the Pier, which does not allow for the segregation of arriving and departing passengers and the channelling of arriving passengers for presentation to Immigration officials, the Department of Justice will not permit any additional non-CTA flights to use this pier. Therefore, any additional EU and non-EU activity has to be accommodated at Pier B and / or Pier C. The spare capacity at these piers however, is not available throughout the operational day, with very limited availability between 0530 and 1400hrs UTC, Monday through Sunday.

From an operational viewpoint, an assessment of stand capacity has to take into consideration the following factors:

(a) Aircraft Stand Size:

There are currently 30 contact stands at Dublin airport. With reference to aircraft size, the following serves to illustrate the diversity of stand size around the three piers, a point that must be considered in the context of stand capacity and availability:

Pier A**	Maximum of 3 B737-800, 1 B737-300 and 11 B737-400
Pier B	Maximum of 1 B737-400, 2 A321, 1 B757-200, 1 B747-400 / B777-200, 1 B767-300 and 3 A330-300
Pier C	Maximum of 3 A321 and 3 B757-200 stands or 1 A330-300 and 2 B747-400 stands in a mixed mode arrangement

** *A stand realignment programme for Pier A will commence in 2005 to accommodate 1 B737-400 and 14 B737-800 / A320 aircraft. This is to accommodate the fleet changes within Aer Lingus and Ryanair.*

(b) Customer airline requirements and service levels:

As previously stated, there is an ongoing expectation, certainly among our home-based carriers that they should receive 100% contact stand allocation. It is not clear whether ASA's questionnaire clarified that continued coordination is possible only in the context of a significant increase in the level of remote stand activity.

One of Dublin Airport's largest operators, Ryanair currently demands contact stands for its entire operation at Dublin Airport. Written complaints are received on a daily basis if an aircraft is parked remotely, or required to be towed. Ryanair state that they will only use contact stands on Pier A for their passenger operation.

Aer Lingus has also stated that it expects to have contact stand service for its aircraft now that it has disposed of four of its fleet of six busses. This effectively leaves it with the capacity to serve only one small aircraft at a time, and could be seen as a way of attempting to exert pressure on the stand allocation unit to allocate contact stands for their aircraft. In practise, Aer Lingus will accept a contact stand at any pier (subject to operational rules), in order to avoid remote operations.

Cityjet / Air France which operates two routes from Pier C, also objects to its flights being allocated stands at Pier A and Pier B.

Aer Arann has made a number of verbal complaints regarding the level of remote operations it receives, in view of its position amongst the top five operators at the airport in terms of passengers carried.

(c) Ground handler preferences in relation to the allocation of stands and service standards.

In conclusion, it is important that any assessment is based upon a true picture of demand during the summer season and incorporates all of the constraints encountered, including pier configuration, control authority policy and user requirements. It is only then that an evaluation can be undertaken of the conditions under which stand allocation will need to take place over the next four years.

Paragraph 4
Correction required: American Airlines do not operate from Dublin Airport. ASA may be referring to US Airways?

ASA suggest that the number of questionnaires received was limited, although details of the use of this information compared to the sample size obtained are not addressed within the conclusions of each section of the study. The only extracts reported are contained within this section of the report.

Paragraph 7
Whilst ASA make comparisons with major European airports, all of which are fully coordinated, in terms of the predominance of 'quick turn' operators would be Stansted airport. Due to similar customer requirements Stansted operate to a similar percentage of contact stand usage to Dublin, although it is important to stress that Stansted achieves this level with 27 more contact stands and a comparable number of ATM's.

The consultants state that “the stand allocation policy at Dublin (Section 6.2) favours, amongst others, those carriers that operate regular scheduled services on a year round-basis, have short turnaround times and therefore are making best use of a scarce resource”. This contradicts the statement made in section 6.3 – Capacity Constraints, 1st paragraph.

Paragraph 8

In their assessment of the impact of full coordination on stand capacity the consultants have failed to consider the current and future impact of airlines operating over and above the established capacity limits. Regarding the comments made by First Choice concerning the levels of congestion experienced on the ramp, this position is exacerbated by the additional movements operating as ‘refused moves’ by some carriers, within the peak hours of operation.

It is these carriers, who refuse to cooperate with the coordinator, who increase the demand for stands and taxiway space during periods when others have been assigned a ‘slot’ by the coordinator. It will not be long before carriers see that they are being delayed and commercially disadvantaged by working within the coordination system. The implications of carriers who currently comply with ACL requests changing their behaviour would be serious, but ASA does not appear to have recognised and taken account of the underlying issue.

Section 7 – Review of slot coordination at Dublin Airport

Paragraph 5
Late re-plans have in recent years become a feature of airline scheduling practise, as carriers aim to maximise the use of their aircraft and react to moves by their competitors.

Both Aer Lingus and Ryanair have undertaken late re-plans at Dublin in recent seasons. As demand has already 'settled down' closer to the start of the season there are fewer opportunities for carriers to accept timing changes suggested by the coordinator. There is also less chance that 'slots' will drop out of the system leaving spare capacity at the times required. Given this position, it is likely that this will have a negative impact for future levels of conformity with a voluntary system. Hence Aer Rianta does not regard late re-plans as a once-off anomaly, but rather as a change in industry behaviour and an ongoing factor which will play an increasing role in the future and hence which must be considered.

Figure 7.2 is misleading in that its scale does not clearly illustrate the level of Ryanair refused moves during Summer 2004.

Figure 7.3 and 7.4
There is no reference within the legend to refer to whether the time shown is local or UTC.

Paragraph 6
The consultants state that "Ryanair's business model requires there to be a more intense utilisation of aircraft, which means that the carrier is less likely to cooperate in any voluntary re-scheduling request". Ryanair has refused the majority of schedule moves suggested by the coordinator since April 2004.

A large number of carriers also work towards the same business aim including, significantly, Aer Lingus. How long will it be before they feel that they are at a competitive disadvantage by conforming to a voluntary system to which a large home-based carrier does not? The consultants appear to accept the Ryanair position as a valid response to a business requirement, rather than acknowledging the consequences that this will have for the voluntary scheduling process. This suggests that it is acceptable for some carriers to refuse to comply, with the implicit assumption that all parties are likely to be satisfied with such inequitable treatment. We find this difficult to understand or accept.

The 2003 figures quoted for Aer Arann (405) in the text of this paragraph and the legend on figure 7.2 do not appear to match the results shown in Figure 7.2?

Paragraph 7

The table below illustrates, for the top 10 carriers at Dublin Airport – Summer 2004, the number of services that are arriving/departing to fully coordinated airports. It is immediately apparent that the overall level of 'flexibility' required is less appropriate for Ryanair than for Aer Lingus, who rejected just 62 moves from their total programme, compared to 1892 for Ryanair. Other airlines are thus being penalised in the current situation, whereas full coordination would ensure parity of treatment for all carriers.

No	Operator	Total ATM's	% of ATM's to/from fully coordinated airports
1	Aer Lingus	28532	79%
2	Ryanair	27481	39%
3	Aer Arann	9376	0.1%
4	Air France	4787	54%
5	British Midland	2782	99.8%
6	British Airways	2718	59%
7	Futura Airlines	2399	97%
8	Spanair	1751	97%
9	Air Wales	1366	0%
10	Flybe	1252	0%

Source: Superscore database @ 24/6/04

Paragraph 8

The consultants highlight the pattern of changing peak periods at Dublin. In an effort to address this and to most accurately match capacity to demand on the runway, a series of 15 different flexing options were developed by the airport (in conjunction with ACL and the coordination committee) for the coordinator to use in the event of shift in demand. However, demand has been so volatile and difficult to predict that the hourly period that has seen the largest increase in demand was one that was not identified by the coordinator at the start of the scheduling process as expecting any increase at all.

Figure 7.3 shows that an additional 1400 moves were requested in the 1000 hour alone. Given this situation and the current actions taken, it is unlikely that the airport authority can be any more proactive than it is at present in addressing the issue of capacity. If carriers feel that they are becoming more constrained in terms of the timings that they are able to accept then the levels of refusals will rise and a more robust solution will be required. Such analysis illustrates that relying on voluntary agreement on an ongoing basis is unlikely to provide for adequate capacity in the future.

Paragraph 10

Once again the consultants appear to conclude that refused moves are inevitable and should be accepted as part of the efforts made by a business to

be efficient. If all carriers adopt this approach at the outset, the system will reach breakdown well within the four-year period identified.

7.2 The case for and against coordination

Paragraph 1
This is, in fact, the only section of the report where the advantages and disadvantages of a change in status are actually discussed, albeit cursorily. It was essential that the study focused on a more robust assessment of the impact of these changes and an evaluation of the costs and benefits to be derived.

Paragraph 2
The purpose of undertaking a capacity assessment study is to plan ahead to meet the requirements of the scheduling process. As part of this planning process it is the role of the consultants to make a full assessment of the variables that will impact on the future number of refused moves. For example, the uncertainty caused by late re-plans is cited as key factor in the number of refused moves made by carriers, yet there is no assessment as to the role that late re-plans, the phasing of changes to the bilateral agreement, or any other variables are likely to play in scheduling over the next four year period.

Paragraph 3
The airport authority, coordinator and members of the coordination committee have worked hard to maintain the success of the current system by adjusting capacity as much as possible to meet predicted demand. Evidence, in the form of the recent refusals made by Ryanair indicates that this process is beginning to fail. It is clear from recent trends that future scheduling periods will contain increasing numbers of hours where demand exceeds capacity. More carriers will be faced with the decision to commercially disadvantage their company in order to comply with a voluntary system that their competitors have chosen to ignore. Despite this, ASA seems to think, or perhaps hope, that the existing situation will continue without worsening. However, it has produced neither robust analysis nor compelling evidence to support this view.

Paragraph 4
As examined earlier within this report, there is overwhelming evidence from airlines, customers and service providers to refute the statement made by the consultants that “the scale of congestion presently experienced and likely to be experienced in the next two summer seasons is not in our opinion severe or extensive enough to justify full-coordination”. It is however interesting to note that the consultants did not visit the airport and assess the situation during the busy summer, but instead confined their cursory observations to the off peak periods in May.

Paragraph 6
The statements regarding the focus of scheduling issues on one day of the week, namely Saturday, is surprising. In terms of refused moves Thursdays and Fridays also feature highly. Of the 20 busiest days for departures during 2003, 14 were Sundays and 6 were Saturdays. Peak flows within the building already this summer have spread to include Friday, Saturday, Sunday and Monday. This further demonstrates the dangers of relying on an incomplete and inadequate analysis in making such a fundamental decision.

Paragraph 7
As previously addressed, given that it is stated that "certain carriers have not been particularly cooperative with the schedules facilitator" it is surprising that the consultants do not conclude that levels of cooperation are starting to change for the worse, at least for one major based carrier.

Reference is made to a "significant increase in the scale of refusals" potentially compromising efficiency, although no assessment of what a significant level would be is offered. It is vital if the Commission, the airport and its users are not to find itself in an untenable position in the near future, that a clear quantified assessment be undertaken of the factors that would trigger a shift to full coordination and the likely timetable of such eventualities, as requested within the original brief document. This study does not deliver this necessary information.

7.2 Stakeholder views on coordination status

Paragraph 1
Though ASA states that it has engaged in an extensive consultation exercise with stakeholders, it is apparent from Appendix B that three of the six handlers at the airport were not interviewed. In addition, the consultants made contact with station managers who would have no involvement and less appreciation of the slot allocation function than scheduling staff. In this context, it is most surprising that ASA does not appear to have contacted key members of the Dublin Airport Co-ordination Committee.

Paragraph 3
The number of responses received does not provide a sample on which to draw any robust conclusions regarding the sections within the report. It is surprising to see that the report does not include supporting statements from the interview process or some details regarding the format of the interview or the structure of the questions asked.
It is also surprising to hear that only two direct responses were received as a number of parties have indicated to Aer Rianta that responses had been sent.

Paragraph 4
Despite the comments made by respondents that their main concern was the "general congestion in the terminal", ASA still assert that there are no congestion issues at Dublin Airport.

7.2 Conclusions

Paragraph 2
Aer Rianta does not agree with the statements made in this paragraph, for the reasons outlined earlier in this report.

Paragraph 4
The assertion that levels of congestion within the check-in area could be 'largely overcome' 'if airlines and handling agents opened up more desks at appropriate times', is operationally naïve. Whilst additional desks would assist the processing speed of passengers, it is frequently a function that the airlines do not wish to pay their handling agent to undertake. The 'weakest link', ie. the departure concourse area, will still be too small to accommodate the levels of passengers circulating within this area.

Paragraph 5
With reference to the comment that ASA is not clear how contact stand activity would be improved if the airport were to become fully coordinated. The demand for contact stands is greatest during the peak periods, if airlines are not required to spread out these peak periods, by accepting sub optimal timings the greatest use cannot be made of this resource and more carriers will be required to operate remotely during the peaks.

Paragraph 6 – 8
See comments made in Executive Summary section of this response.

Appendix A – Capacity Assessment Summary - Dublin Airport

Additional comments or clarification is required regarding the source of data to support the revised assumptions included in the capacity assessment summary table.

1. Check-in desks (no):
The number of desks used in the ASA assumption has not been revised to reflect the current position as stated in the text. The results of the analysis have not been revised, despite the reduction of 16 hand-baggage desks.

2. Self service check-in kiosks:
The number of kiosks is stated as 37 in the text, not 38 as shown here.

3. Peak proportion of pax using Security screening machines:
Requires correction to reflect 45/55% position stated in text. It should be noted that the Security search capacity figures derived remain unchanged, despite this adjustment to one of the key variables.

4. Baggage Reclaim Area – reclaim unit queuing area:
This figure has been revised from 1.25 m2 per person to 1.0m2 per person. No reference is included within the report to explain the reason for this revision.

5. Baggage Reclaim Hall -% defined as through routes:
This figure has been revised from 30% to 25%. No reference is included within the report to explain the reason for this revision.

Appendix B – List of Consultees

Personal Interviews
Regarding the personal interviews conducted by the consultants only three of the six ground handlers at Dublin were interviewed (2 of whom may have been approached in their capacity as airline operators).
The interviews were not structured in format and no information on the conclusions drawn was provided to the respondents or outlined within the draft report.

Questionnaire Recipients

Given that the information required within the questionnaire was based upon knowledge of scheduling issues at Dublin, it is clear that the recipients should have been those within the airlines with the required scheduling expertise and not the local manager. Copies do not appear to have been distributed to members of the Dublin Airport Coordination Committee. Questions regarding the consequences of an increase in the average delay criterion or the difficulties in obtaining slots from the coordinator would not come under the

remit of local staff. On this basis, the responses received were, in fact, of limited practical use.

Furthermore there is no information on the analysis undertaken by ASA on the responses or subsequent findings within the report.