



Irish Air Line Pilots' Association

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IALPA Submission to CAR Re: PACE Supplementary CIP projects.

"Response to Draft Decision on the Second Interim Review of the 2014 Determination"

1.0 Introduction.

IALPA Safety & Technical (S&T) welcomes the opportunity to respond to the Second Interim Review of the 2014 Determination relating to Supplementary DAA PACE CIP projects.

As a strong advocate of the CAR independent regulatory regime we are somewhat dismayed that the CAR failed in its Strategic plan 2017-2019 "Objective 2: Increase stakeholder involvement in decision making", whereby during regulatory oversight IALPA Safety & Technical were not invited to participate in the October 2017 DAA pre-consultation phase.

In the interest of transparency to all stakeholders, pursuant to the CAR publication of 28th Jan 2018 (in relation to the PACE programme) we sincerely appreciate the opportunity to brief the CAR (06th Feb 2018) and IAA SRD (28th Mar 2018) from a Pilots perspective to the proposed PACE CIP enhancement programme.

Consequently we advocate that improvements to the CAR/DAA consultation process which if adopted would yield significant benefits to the long term development of the Airport. Whereby in the past we could not critic comments attributed contained in the "Critical Taxiway review" carried out by independent consultants.

Therefore we respectfully request that in future the CAR ensures IALPA S&T and IAA SRD be included in the consultation process (on any future safety critical DAA airfield CIP projects) prior to progressing to the Determination phase.

Presently, to redress certain items tentatively approved by the CAR at Draft stage no doubt frustrates stakeholders. However the methodology applied in arriving at this Draft determination is not of our volition and we therefore make no apologies, nor seek to embarrass any stakeholder in our quest to uphold SAFETY within aviation.

1.1 Overview:

The CAR chaired DAA consultation meetings involving 12 stakeholders on 25th and 26th Oct 2017 at which 16 internal (DAA) pre-vetted PACE CIP Projects were presented.

Subsequent responses from four stakeholders on 13 Nov 2017 "expressed support for the proposed projects but there was also dissatisfaction regarding a number of projects that had not been included in the PACE Consultation document".

Member: Oneworld Cockpit Crew Coalition, European Cockpit Association and
International Federation of Air Line Pilots' Association

Branch of:

IMPACT

Consequently, “seven specific capital investment projects were identified by airport users/stakeholders as being a specific immediate capacity requirement at Dublin airport”.

These seven “specific immediate capacity requirements” were added to the DAA initial list of 16 resulting in the CAR making this Draft determination on 23 PACE CIP Projects.

The CAR draft proposal is to fund all 23 projects.

1.2 Master planning.

Ireland’s premier gateway currently lacks an Airfield & Piers masterplan, it’s somewhat evolving.

IATA, the global governing body representing airlines encourages “All airports to develop a master plan in order to guide future infrastructure and development programs in a logical and cost efficient manner.”

Airports whom lack a “master plan or vision of the future run the risk that their short to medium term capacity enhancements projects are ill –judged, misconceived, inappropriately sized or poorly located, thereby restricting their ability to attain the airfield’s ultimate potential”.

“The Master plan should allow for unfettered incremental expansion of all facilities until the ultimate capacity of the site is attained. No development should proceed until a master plan is in place.”

Whilst we await the outcome of the Government commissioned Irish Airport capacity review report during 2018 we acknowledge the insidious pressure placed on the DAA by airlines whom, ironically historically have objected to capacity enhancement proposals and yet now advocate same outside of an approved masterplan.

This ad-hoc development recipe runs contrary to Master planning principles and is somewhat premature ahead of the Airports Capacity review. We therefore ask the CAR to be minded of these facts and to guard against approving funding for certain DAA CIP approved projects that failed initial DAA screening. On reflection it may be appropriate for the CAR to postpone these CIP items to the 2019 determination period having absorbed the Final Airports capacity review report.

2.0 Passenger Processing

SCP Ref. 17.1.005 T2 level 15 Bus Gates.

We note this project has been added to the “original 16” and hence is required by Airline(s).

Given the T2 check-in desk “Advisory Flag”, declared T1 surplus check in capacity, the proximity of the OCTB (Old Control tower building) bussing gates to the Northern apron, we consider it reasonable that (prior to construction) the DAA seek airline(s) firm legal undertaking / commitment to use these additional T2 Level 15 bussing facilities to access the Northern Apron.

The DAA state that “we believe an additional bus lounge in Terminal 2 is required to accommodate the increase in remote stands that will have to be accommodated from Terminal 2. The proposed bus gates will provide a dedicated facility for carriers that operate from Terminal 2.”

Projects sought by airline(s) must, when constructed be actually used by them. In that airline(s) pressing for additional facilities may be declaring a willingness to cross heretofore red lines from their current operational zone, and by inference are now declaring a willingness to scatter aircraft logistical operations across the extremities of the Eastern Campus.

The CAR should also be minded to ensure fair competition amongst all base and interline airlines whom currently access T2's facilities. Whilst on the other hand the DAA must strive to use all current facilities previously funded / approved by the CAR i.e. the OCTB gates.

3.0 Stands and Associated Projects

SCP Ref.17.2.001 South Apron Stands Phase 1.

This project is deemed "complete". However S&T, having tabulated official IAA AIP data can conclusively confirm Phase 1 South apron stands have not been future proofed.

In relation to the overall airport campus (aircraft) stands, Helios final report at 4.4 states that:

"it has been pointed out by the daa that in practice many stands fall short of full Code C/Code E capacity and therefore cannot truly be counted as narrow-body equivalent or wide bodied stands....Future fleet up gauges may lead to underutilisation of these stands due to lack of flexibility".

Approved Funding for this "completed" project should be withheld pending an overall fundamental redesign of all 410 – 418 stands which should incorporate our recommended CODE C NBE dimension of 36m x 45.10m.

As the DAA currently lack a standardised CODE C NBE stand template we refer the CAR to the DAA's incomplete response to its query at 4.16 on the intended dimensions of the PACE stands.

The phrases "will accommodate all Code C wingspans / Code E wingspans, but are constrained in length/subject to detailed design/restricted Code D stand" highlights the mishmash aircraft stand layout.

In relation to the predominate aircraft type using Dublin Airport South apron i.e. Code C NBE we cannot but emphasise the necessity to ensure that funding approval be predicated whereby the DAA declaration of "will accommodate all Code C wingspan" is replaced by "will accommodate all Code C aircraft without restrictions" i.e. in wingspan and in length" thereby allowing unhindered ground handling servicing of aircraft.

SCP Ref. 17.2.002 Apron 5H and taxiway Rehabilitation:

An opportunity was missed to incorporate de-icing bays into the western portion of Apron 5G. This would have facilitated an enroute de-ice facility to the designated main departure runway 28R. Incorporating this facility would minimise and free up contact stand turnaround times.

Whilst taxiway rehabilitation is required circa the existing hangers, any new 5H development / extension must take cognisance of.

a) The subsequent effects/restrictions of towing operations from Hanger 6 to the South apron. A return to pre Apron 5G towing constraints shall re-occur due single taxi line operations adjacent to the indicative Apron 5H.

b) Modelling taxiing flows from Apron 1 North & 5G eastbound combined with proposed Apron 5H queueing sequencing for departure off 28R.

(Whilst all other Eastern Campus departing traffic shall primarily use F – OUTER and 28R taxiway North of Apron 5G and 5H).

c) Apron 5H should have a dual design philosophy.

- (1) An open apron / Summer Overflow Code C NBE 36m x 45.10m stands.
- (2) The designated stands (left of Apron 5H centreline) should incorporate winter de-icing bays for CODE C NBE aircraft thus allowing a taxiing feed onto 28R parallel taxiway.

SCP Ref. 17.2.003 Upgrade and Realignment of Stands 101 -104.

As a new build we frown upon a DAA request to the IAA SRD for a Deviation acceptance and Action Document (DAAD). However were the SRD minded to issue same then any re-aligned stands for “passenger use” should conform to CODE C NBE 36m x 45.10m and CODE E open apron passenger dimensions (Airbus A 330 Aircraft Characteristics Airport and maintenance planning manual. Figure: 5-1-2-991-007-A01).

*We refer the CAR to stand constraints for Code C & E aircraft outlined in the HELIOS Final report at 4.4. Stand Capacity

SCP Ref. 17.2.004 Hangar 1 and Hangar 2 Stands.

Whilst these life expired aprons requires rehabilitation any proposed stands should be CODE C NBE (36m x 45.10m) so as to cater for airline(s) request from the T2 Level 15 bussing facility.

*We refer the CAR to stand constraints for Code C & E aircraft outlined by HELIOS at 4.4.

SCP Ref. 17.2.005 West Apron stands:

Funding for this project is premature and should be redirected. Due consideration for this CIP item may be incorporated into the yet unknown DAA Western Campus Pier / stands development master plan.

IALPA has proposed to the Government Airport Capacity review that a Satellite Pier 5 west of the new VCT and perpendicular to the 28-10 runways be incorporated into the western apron.



IALPA : Satellite Pier 5 proposal, the solution to current apron woes combining future expansion.

For this very reason we request that the €2.2m funding allocation be diverted towards a fuel farm line extension to the western apron. This extension would enhanced current turnaround facilities on the Western apron for towed wide bodied and Tech stop aircraft.

Facilitating initial target refuelling and thereafter following towing onto stand subsequent minimum top up could reduce Eastern campus on stand pre-departure time.

*IALPA S&T are willing to assist the CAR/Helios simulate towing routes to/from the western apron with minimum taxiway fillet alteration combined with our revised taxiway designations.

SCP Ref. 17.2.006 /007 Pier 2 and 3 Underpass widening:

Any development that reduces bus transit times to remote stands is welcome. Additionally and of significant importance is the removal of the circuitous apron bus routeing during Low Visibility Operations.

SCP Ref. 17.2.008 West Apron Surface Access:

Runway 16/34 is an operational Runway. As this bespoke DAA design is unique within European Airports we strongly recommend that you refer this item to the IAA SRD whom shall have the final say.

SCP Ref. 17.2.009 AVDGS:

Proposed by IALPA, yet deemed too expensive by airlines in the 2014 determination, roll out of AVDGS should commence immediately on stands whose dimensions conform to full CODE C NBE 36m x 45.1m standard).

We suggest an independent stand dimension review, possibly conducted by Helios prior to granting AVDGS funding. In essence one should not squander funds on existing stands that are not fully compliant.

SCP Ref. 17.2.010 Fixed Electrical Ground power (FEGP).

Currently a pan European Airbridge standard item. A welcome DAA addition which has both economic and environmental benefits to operators and ground personnel.

SCP Ref. 17.2.011 South Apron Stands Phase 2.

The DAA under pressure? has reluctantly added a heretofore Deferred Appendix C Project SCP 17.2.009 South Apron Stands Phase 2.

We consider this PACE projects to be a classic "ill –judged, misconceived, inappropriately sized or poorly located, thereby restricting their ability to attain the airfield's ultimate potential".

We ask that the CAR reflect on the following points:

DAA assessment:

- The DAA's Project summary case whereby they succinctly state: "This project is likely to exacerbate the complexities of operating in the South Apron .i.e. the single lane taxiway requires synchronization of aircraft movements".

- The DAA's Figure 55 "Evaluation of Stand Development options" whereby this project fails a basic "meets objective" criteria.

Figure 55: Evaluation of Stand Development Options

Priority	Stand Development Option	North Apron 5H	Hangar 1 and 2	Stands 101-104	Pier 3 Remote	South Apron Phase 1	South Apron Phase 2	West Apron (6 x NBE)	West Apron (2 x NBE)
1	Improve Safety	Meets Objective	Risk Exists	Risk Exists	Does Not meet Objective	Meets Objective	Risk Exists	Risk Exists	Meets Objective
2	Deliverability	Meets Objective	Meets Objective	Meets Objective	Risk Exists	Meets Objective	Does Not meet Objective	Meets Objective	Meets Objective
3	Serviceability (Easy Pax Operations)	Meets Objective	Meets Objective	Risk Exists	Does Not meet Objective	Risk Exists	Does Not meet Objective	Does Not meet Objective	Does Not meet Objective
4	Benefit Congestion/ Improve Operations	Meets Objective	Meets Objective	Meets Objective	Does Not meet Objective	Risk Exists	Does Not meet Objective	Meets Objective	Meets Objective
5	Planning/Compliance with Regulations	Risk Exists	Meets Objective	Meets Objective	Does Not meet Objective	Meets Objective	Risk Exists	Meets Objective	Meets Objective
6	Multiple User Flexibility	Risk Exists	Risk Exists	Meets Objective	Risk Exists	Risk Exists	Does Not meet Objective	Meets Objective	Meets Objective
7	Cost/Stand	€4.3m	€4.8m	€0.9m	€4.5m	€2.6m	€6.0m	€2.5m	€1.3m
8	Master Plan Compatible	Meets Objective	Meets Objective	Meets Objective	Does Not meet Objective	Meets Objective	Risk Exists	Risk Exists	Risk Exists

■ Does Not meet Objective
 ■ Risk Exists
 ■ Meets Objective

Helios Final Capacity Report:

- 4.2 Taxiway Capacity which states that "cul-de-sac operate on to a "one in, one out" rule, preventing nose to nose conflict, but adding extra delay to arriving aircraft which may need to wait before the departing one has left the cul-de-sac area. Moreover, aircraft waiting outside the cul-de-sac area complicate the flow of other traffic, limiting access to the runway."

IAA Air Traffic Ground movement:

- As this project was added post the October 2017 deliberations we ask that the CAR engage with and publically declare in its Final determination the IAA ATC (ground movement's co-ordination) all weather (LVP) operations safety assessment for this proposed facility.

IALPA position:

- International best practice indicates that it is imperative to have dual taxi lines if there are more than 10 or 12 stands in the cul-de-sac. The DAA are exceeding this limit.
- IALPA wholeheartedly agrees with the DAA internal analysis of this complex expensive CIP project which obviously fails miserably to gain a "meets objective" criteria.
- Despite an airlines request for this facility our members have the challenge of manoeuvring aircraft in this already restricted South Apron Phase 1. Were the South Apron Stands Phase 2 constructed as depicted then its fraught with hazards i.e. minimum taxi line spacing /turn in combined with increased aircraft jet blast required to effect 90 degree turns with consequential effects to the existing Phase1 stands. Engine manufactures safety zone data clearly indicate that jet blast turbulence will be verified as a problem.

Despite the foregoing the CAR, as independent regulator, has allowed €37.3m for South Apron stands phase 2. We strongly recommend that this decision be rescinded.

In the absence of a masterplan, and preceding the Airports Capacity review report if may be appropriate for the CAR to defer this CIP project in order to holistically review the Airports Pier/Terminal requirements

SCP Ref. 17.2.012 Apron Wide CCTV.

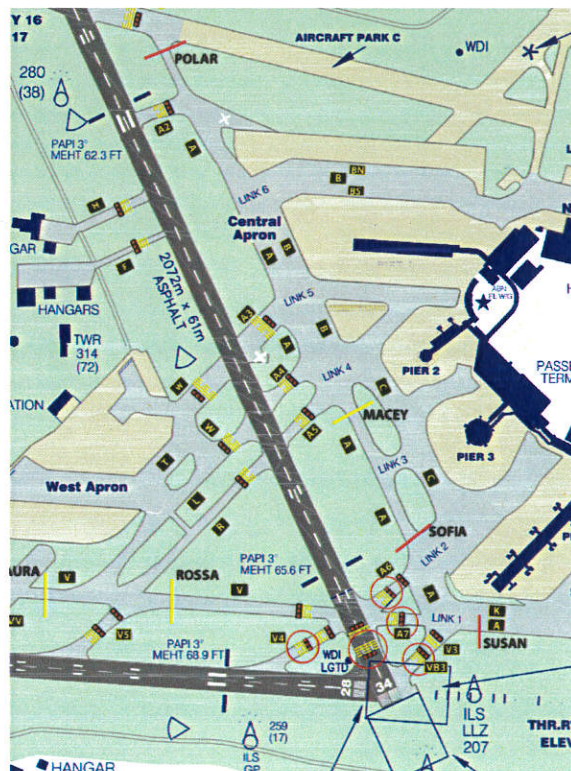
Any project that aids visual contact between IAA Air traffic Ground controllers and aircraft on stands is welcome.

4.0 Airfield/Taxiways.

Given our exposure to an array of differing airports we can with confidence objectively advise as to the best and most efficient airfield design and layout.

S&T stand willing to share this knowledge with the DAA and the IAA ATC unit to ensure all aircraft ground taxiing movements are safety managed on the Taxiways, Aprons and Aircraft Stands in all-weather operations at Dublin airport.

However unfortunately the DAA, did not accept our Taxiway re-designation proposals as indicated below. If adopted these would have facilitated a smooth co-ordinated sequential flow around Links 1, 2, 4. As can be seen we reserved B taxi line between Link 4 and 2 in anticipation of a 2014 request to the DAA CEO to extend F Inner & Outer extension hence we labelled C accordingly.



IALPA accepts that the CAR has no safety oversight of the PACE CIP projects however we would frown upon the CAR citing "improved overall safety" in relation to the proposed Taxiway network. We are after all the end users whom taxi wide bodied aircraft and are the definitive judge of what is actually safe.

In relation to Airfields / taxiways we are also fortunate to reference the Helios Final Capacity assessment for slot coordination parameters 16/3/2018 when considering the following PACE CIPs.

SCP Ref. 17.3.001	Link 3 Taxiway
SCP Ref. 17.3.002	Realignment of Taxiway A
SCP Ref. 17.3.003	Dual Taxiway F (Dual Code E)
SCP Ref. 17.3.004	Link 6 Extension Taxiway
SCP Ref. 17.3.005	South Apron Taxiway widening (Dual Code E)
SCP Ref. 17.3.006	Runway 10 Line-Up points.

4.1 Taxiways:

As the IAA SRD has regulatory oversight of the Aircraft manoeuvring area it's appropriate (prior to the Final determination) for the CAR to consult with the IAA SRD on items SCP Ref. 17.3.001-6.

Whilst we at IALPA S&T shall vigorously ensure that the Integrity of the operational RWY 16/34 is maintained to EASA / EAPPRI standards.

4.2 Regulations, Guidance Material.

EASA issue guidance material for Aerodromes Design and specifically for Taxiways at Book 2 Chapter D, GM1 ADR-DSN.D.240 Taxiways general (a) (b) (c) (g) (Issue 4 Dec 2017).

As runway 16-34 is an operational runway at EIDW we naturally have concerns particularly at para (c) which clearly states that "The initial approach should be to reduce the number of available entrances to the runway, so that the potential for entry to the runway at an unintended location is minimised....."

Whilst best practice as (outlined in Page 124 of the EAPPRI V3.0 :European Action Plan for the Prevention of Runway Incursions) seeks to mitigate against these type of DAA straight / direct runway access proposals at LINKS 3,6, and Realigned Taxiway A.

A Zig /Zag pattern is the safest design as indicated below.

Long, straight taxiways accessing to or crossing runway should be avoided, or replaced by 'zig-zags'.

For example, move from the 'straight' configuration on the left to the 'zig-zag' configuration on the right.

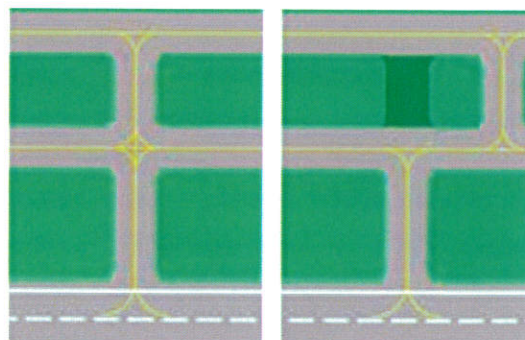


Fig 7: Introduction of a zig-zag for preventing runway incursion

4.3 IALPA proposal for PACE Airfield/taxiways.

SCP Ref. 17.3.001	Link 3 Taxiway
SCP Ref.17.3.004	Link 6 Extension Taxiway

We refer the CAR to page 37 Chapter 4.3 "Consideration of options to improve capacity" as outlined in the Helios Final slot coordination parameters report (16/3/18) and emphasis their assessment of CIP's 17.3.001 and 17.3.004.

"The two taxiways proposed above (Link 6 extension and Link 3 extension) would be useful to help facilitate short-term increases in traffic. However, the airport is likely to meet a major improvement of its taxiway system if it wants to provide the same quality of service with ever-increasing traffic levels especially in light of the new runway being operational by 2021). This is elaborated below." (i.e. thereafter Helios highlights the benefits of Parallel taxiway).

For reasons outlined by S&T at 4.1 above we are unsure if Helios is also aware of EASA Guidance material and the runway incursion mitigation principles outlined at EAPPRI V3.0: European Action Plan for the Prevention of Runway Incursions.

However whilst we consider these depicted links unsafe we otherwise concur with Helios that the Link 3 and Link 6 extensions garner short term gain whilst the real benefit lies with the works associated with the F inner and outer taxiways from Link 6 to Link 1.

Pending publication of the Airports capacity review report and overall IAA SRD taxiway layout approval we recommend that the CAR eliminate (on safety and economic viability grounds) CIP's 17.3.001 and 17.3.004.

SCP Ref. 17.3.002 Realignment of Taxiway A.

With the advent of Runway 28R one can say that the days of Dual 28/34 Runway operations are numbered. Presently they cannot be declared on a permanent basis as they are dependent of daily wind direction.

Therefore what future role lies with Taxiway A?

We note Helios runway and airspace capacity analysis which shows "that the maximum achievable runway throughput on runway 10-28 is 24 arrivals in arrivals mode, 41 departures in departure mode and 48 flights in mixed (assuming S18 design day fleet mix)."

Conversely we note the CAR comment at 5.19 which acknowledges that the "declared peak capacity in the busy hour reaches 37 departures. This has not yet triggered."

We also note at Helios Final report P 12. "Following the Summer 2017 Dublin Airport Co-ordination Committee meeting, during which all airline participants voted against the proposed capacity increases and only the IAA and DAA voted for the proposed increase".

We quote the above because a) Runway 28 currently has spare capacity and b) when the wind favours Runway 16 operations the ANSP flow rate markedly reduces. We therefore see a realigned Taxiway A beneficial to reducing runway occupancy time (ROT) for landing roll out on Runway 16.

4.4 Arterial Taxiways serving 16,28L and eventually 28R.

The 2007 planning permission for 28R combined two parallel taxiways feeding the designated predominate Westerly departure runway. Prior to construction we would like to add an "Advisory Flag" to this 28R runway threshold, because in the intervening years the DAA has developed on one of these designated taxiways first via apron 5G and now by extension via the proposed apron 5H. As 28R will be the predominant departure runway one must strive to mitigate against restrictions/limitations to the F inner taxiway.

Therefore to ensure IAA ATC flow options to feed 28R parallel taxiway ideally both F inner and outer taxiways should link with same north of 5G.

SCP Ref. 17.3.003 Dual Taxiway F (Dual Code E)

We warmly welcome the long overdue DAA proposal to extend the F Inner – F Outer taxiways. Recent easing of EASA Runway/Taxiway Code E runway / taxiways separation limits to 172.5m ensures maximum potential for the DAA to redesign same. We trust in time our comments may be sought by the DAA.

The arterial Dual Taxiway F (Dual Code E) should proceed immediately provided it does not imping on standalone CODE E push back operations from the head of Pier 3. Whereby such aircraft shall eventually align parallel (during engine start on our re designated taxiway C) with aircraft on the new CODE E F-inner (our re designated taxiway B).

Were safety clearance to become an issue then the DAA has two alternatives:

- (a) Restrict realigned Dual F to Code E – Code C standard otherwise.
- (b) The DAA would be required to redesign the head of Pier 3 Head thus losing wide-bodied aircraft contact stands capability.

SCP Ref. 17.3.005 South Apron Taxiway widening (Dual Code E)

This widening correctly warrants IAA SRD scrutiny.

We must however quote the DAA PACE submission at 4.3.6:“South Apron Taxiway widening (Dual Code E).

“This project was not originally included in our proposed projects for consultation due to the design being non-compliant with EASA regulations and no immediate solution being available. However, due to strong user demand for this project, we are including it as part of our supplementary capex projects list”. “We propose a deliverable (or trigger) is set for this project as it is currently non-compliant with EASA requirements and an Equivalent Level of Safety (ELOS) or an Alternative Level of safety (ALOS) must be established and agreed with IAA SRD, before the project can advance.”

IALPA S&T comment: We await the SRD deliberations on this matter and frown upon a “user” requiring the IAA and us as aircraft commanders to compromise safety.

When considering this proposed Taxiway system we request that the IAA SRD adopt “pilot taxi over centreline” criteria to ensure functionality during Low Visibility Procedures (LVP) operations.

SCP Ref. 17.3.006 Runway 10 Line-Up points.

Long overdue and should eventually tie back to our indicative Pier 5 taxiway system.

We trust that the CAR shall reflect on our comments and we are available to discuss further if required.

Yours sincerely,



Capt. John Goss
Director, Safety & Technical