



Air Accident Investigation Unit Ireland

SYNOPTIC REPORT

SERIOUS INCIDENT

**Cessna 172N, EI-CUJ
Cessna 172R, G-GFSA
Cork Airport, Ireland**

23 May 2017



**An Roinn Iompair
Turasóireachta agus Spóirt**

Department of Transport,
Tourism and Sport

Foreword

This safety investigation is exclusively of a technical nature and the Final Report reflects the determination of the AAIU regarding the circumstances of this occurrence and its probable causes.

In accordance with the provisions of Annex 13¹ to the Convention on International Civil Aviation, Regulation (EU) No 996/2010² and Statutory Instrument No. 460 of 2009³, safety investigations are in no case concerned with apportioning blame or liability. They are independent of, separate from and without prejudice to any judicial or administrative proceedings to apportion blame or liability. The sole objective of this safety investigation and Final Report is the prevention of accidents and incidents.

Accordingly, it is inappropriate that AAIU Reports should be used to assign fault or blame or determine liability, since neither the safety investigation nor the reporting process has been undertaken for that purpose.

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¹ **Annex 13:** International Civil Aviation Organization (ICAO), Annex 13, Aircraft Accident and Incident Investigation.

² **Regulation (EU) No 996/2010** of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation.

³ **Statutory Instrument (SI) No. 460 of 2009:** Air Navigation (Notification and Investigation of Accidents, Serious Incidents and Incidents) Regulations 2009.



AAIU Report No: 2018-001
 State File No: IRL00917026
 Report Format: Synoptic Report
 Published: 26 January 2018

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010 and the provisions of SI 460 of 2009, the Chief Inspector of Air Accidents on 23 May 2017, appointed Leo Murray as the Investigator-in-Charge to carry out an Investigation into this Serious Incident and prepare a Report.

Aircraft Type and Registration:	(1) Cessna 172N, EI-CUJ (2) Cessna 172R, G-GFSA
No. and Type of Engines:	(1) 1 x Lycoming O-320-H2AD (2) 1 x Lycoming IO-320-L2A
Aircraft Serial Number:	(1) 172-71985 (2) 17280221
Year of Manufacture:	(1) 1979 (2) 1997
Date and Time (UTC)⁴:	23 May 2017 @ 15.07 hrs
Location:	Cork Airport (EICK)
Type of Operation:	(1) & (2) General Aviation (Flight training)
Persons on Board:	(1) Crew - 1 Passengers - Nil (2) Crew - 2 Passengers - Nil
Injuries:	(1) Nil (2) Nil
Nature of Damage:	None
Commander's Licence:	(1) Under EASA Regulations the solo Student Pilot was operating on his Instructor's Licence (2) Commercial Pilot Licence (Aeroplanes) issued by the Irish Aviation Authority (IAA)
Commander's Age:	(1) 21 years (2) 26 years
Commander's Flying Experience:	(1) 82 hours, all of which were on type (2) 757 hours, of which 489 were on type
Notification Source:	Station Manager, Air Traffic Services Cork
Information Source:	AAIU Field Investigation AAIU Report Forms

⁴ **UTC:** Co-ordinated Universal Time. All timings in this report are UTC; to obtain local time add one hour.

SYNOPSIS

A Cessna 172, EI-CUJ, with a solo Student Pilot on board, was given clearance by the Air Movements Controller (AMC) to backtrack and line up on Runway (RWY) 25 at Cork Airport. While EI-CUJ was taxiing, a second Cessna 172, G-GFSA, with a Flight Instructor and Student on board, was given take-off clearance on RWY 35. As G-GFSA was climbing away, the AMC saw that EI-CUJ had become airborne from RWY 25 without clearance.

NOTIFICATION

The AAIU was notified by the Air Traffic Services Station Manager at 17.06 hrs on 23 May 2017. An Inspector of Air Accidents travelled to Cork the following day and commenced an Investigation.

1. FACTUAL INFORMATION

1.1 History of the Flight

At 15.00 hrs, the Pilot of EI-CUJ called Cork Tower for taxi clearance from the 'Club Apron'. Clearance was given to proceed onto Taxiway 'Foxtrot' ('F') and to hold short of RWY 35. As solo students must observe crosswind limits as prescribed by the flight school, the Student requested a departure from RWY 25. This was acknowledged by Air Traffic Control (ATC). At 15.02 hrs, a commercial flight was given take-off clearance from RWY 17. At 15.04 hrs, EI-CUJ was cleared to Taxi along RWY 35, enter, backtrack and line up RWY 25. This instruction was read-back by the Pilot of EI-CUJ. A chart of Cork Airport is reproduced at **Appendix A**.

At 15.05 hrs, G-GFSA called for taxi clearance from the 'Club Apron'. The AMC gave the Pilot of G-GFSA clearance to enter Taxiway 'F' and hold short of RWY 17 with the option of a departure from RWY 35 or 17. G-GFSA opted to take RWY 35 for departure; line up clearance was given and acknowledged. The AMC then cleared G-GFSA for take-off on RWY 35 abeam Taxiway 'F': *'Golf Golf Foxtrot Sierra Alpha [GGFSA], surface wind 240/08, runway 35 cleared take-off with a right turn towards Wexford, not above 2,000 feet.'*

At 15.06:57 hrs, the Student in EI-CUJ transmitted: *'Echo India Charlie Uniform Juliet' (EICUJ) ready for departure 25'*. The AMC replied *'Roger'*. 10 seconds later, the Student in EI-CUJ made the following transmission: *'EICUJ, can you please confirm that I'm ready for departure?'*, the AMC replied *'Roger'*; the Student in EI-CUJ responded *'Thank you EICUJ'*. At this stage G-GFSA had become airborne from RWY 35. The Flight Instructor (sitting in the right seat of G-GFSA) saw EI-CUJ, which had become airborne from RWY 25, at a lower altitude and approximately 500 m to the right.

The AMC was visually monitoring G-GFSA as it took-off. After G-GFSA had passed through the runway intersection, he cleared EI-CUJ for take-off at 15.07:30 hrs: *'EIJ, surface wind 240/08 runway 25 cleared for take-off direct to the southwest, not above 2,000 feet.'* Despite already being airborne, the Student in EI-CUJ replied: *'Cleared for take-off 25, eh left turn out to the south west, not above 2,000 feet EICUJ.'* The AMC saw that EI-CUJ had taken-off prior to the clearance being issued and after a brief exchange, EI-CUJ routed towards RWY 35 for landing. G-GFSA continued on its navigation exercise as planned.



1.2 Interviews

The Pilots of both aircraft were interviewed the day following the event and both submitted AAIU Report Forms to the Investigation. The ATCO⁵ on duty was also interviewed that day and provided the Investigation with a statement as requested. The AAIU also visited the Tower in order to observe the relative positions that the aircraft would have presented to the AMC from his position in the Tower.

1.2.1 Flight Instructor (G-GFSA)

The Flight Instructor held a Commercial Pilot Licence (CPL) Aeroplanes (A) issued by the IAA and a Class I Medical Certificate valid until 5 July 2017 with no limitations. The Flight Instructor had been with the flying school for just over two years with a total flying time of 757 hours of which 489 hours were on the Cessna 172. A total of 428 hours were as an Instructor.

The Instructor recounted receiving take-off clearance for RWY 35 with the instruction to turn right after departure for Wexford. During the climb-out, passing the intersection with RWY 07-25, the Instructor saw that EI-CUJ had become airborne and judged that the aircraft were not on converging flight paths and that there was no risk of collision. By that stage the AMC was speaking with the Pilot of EI-CUJ which turned left as it climbed out. With no immediate conflict, G-GFSA maintained course along the runway centreline of 35 before turning right on course to Wexford as cleared.

The Instructor was aware of the exchanges between the AMC and EI-CUJ and recalled hearing EI-CUJ calling *'ready for departure 25'* and the AMC reply *'Roger'*. The Instructor then heard EI-CUJ call for a second time *'confirm ready for departure'* to which the AMC replied *'Roger'* but with a greater emphasis from the first call. The Instructor stated to the Investigation that: *'There was no ambiguity in R/T exchanges between G-GFSA and Cork Tower. During this time I was focussed on my student's performance on departure and was not aware of any issues between Cork Tower and EI-CUJ'*. A transcript of exchanges on Cork Tower (Frequency 119.300 MHz) is provided at **Appendix B**.

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1.2.2 Student (EI-CUJ)

Under European Union Regulations, students on an approved integrated training course do not require a pilot licence and may fly solo under the authorisation of their Flight Instructor. The solo Student was authorised for the flight by his Flight Instructor, who held a CPL (A) with the following ratings: Single Engine Piston (Land) and Flight Instructor (Aeroplanes). The Student had a total of 82 hours flying experience of which 27 hours were solo. He was the holder of a Class I Medical Certificate which was valid until 14 June 2017. Of this total, 46 hours were gained in the previous 90 days and 19 hours in the previous 28 days. All of the Student's experience was on the Cessna 172.

The Student was asked what his understanding was of the clearance given to him by Cork Tower. He replied that *'To my knowledge on the day I presumed I was cleared to taxi RWY 35, cross the threshold, backtrack and line up on RWY 25'*.

⁵ **ATCO**: Air Traffic Control Officer, carrying out the duties of Air Movement's Controller (AMC).

He was also asked if any of the R/T exchanges seemed ambiguous to him at the time, in his reply he stated: *'Yes it did, the word "Roger" was used twice by ATC and more aggressively the second time. Especially when I asked a question, the ATC response was "Roger" in an assertive tone which is very ambiguous. I was unsure as to did he mean that as "understood" or "go ahead"'. The Student only realised that G-GFSA had become airborne when he observed it more or less parallel to him on his right-hand side heading north. While he stated he was aware that G-GFSA had lined up on RWY 35 he could not recollect hearing it receiving a take-off clearance.*

1.2.3 Air Traffic Control Officer (ATCO)

The Licence and Ratings of the ATCO were appropriate to the position of AMC and valid. The ATCO was asked for a narrative description of the event and an assessment of the cause. In his reply, the AMC stated that EI-CUJ was given taxi instructions to proceed along RWY 35 and to back-track and line up RWY 25. He further stated that as EI-CUJ was taxiing, G-GFSA called for taxi from the 'Club Apron' and was given taxi clearance to Taxiway 'F' and to hold short of RWY 35/17. As G-GFSA was taxiing, the ATCO gave the surface wind and enquired which runway would be preferred for departure. G-GFSA replied 17/35 and asked if he could accept 35; he replied that he could. The ATCO instructed G-GFSA to line up on RWY 35 (the line-up position is abeam Taxiway 'F' as light aircraft do not require full runway length).

The ATCO observed both aircraft taxiing and determined that G-GFSA would be ready to go first and so he cleared G-GFSA for take-off. He noted that EI-CUJ was still proceeding to backtrack on RWY25 at this point. He noted that G-GFSA did not roll straight away but delayed on the runway for a number of seconds. EI-CUJ then reported *'ready for departure'* to which he replied *'Roger'*. A few seconds later EI-CUJ said *'confirm I'm ready for departure'* to which the ATCO replied again *'Roger'*. The ATCO understood this second transmission to mean that he hadn't heard his previous reply and he replied louder and more distinctly. EI-CUJ replied *'Thank you, Echo India Charlie Uniform Juliet'*.

The ATCO expected EI-CUJ to await take-off clearance. He observed G-GFSA during its take-off roll and as it proceeded past the runway intersection he issued the take-off clearance to EI-EUJ being assured that G-GFSA would be clear of RWY 07/25 when EI-CUJ commenced its take-off roll. As he shifted his focus to EI-CUJ he observed that the aircraft was already airborne. In his assessment, EI-CUJ took off without a take-off clearance.

1.3 Student Training

1.3.1 Radiotelephony Procedures

Both aircraft were on training flights from the local flight school. The flight school provided its students with a comprehensive Radiotelephony (R/T) study library which contained the following publications and material:

- Radio Procedures Brief
- UK CAP 413 'Radiotelephony Manual' – Civil Aviation Authority
- 'Guide to Phraseology' – EGAST (European General Aviation Safety Team)
- ICAO Standard Phraseology
- 'Airspeak Radiotelephony Communication for Pilots' (Robertson) 1987



R/T procedures, based on the study materials, were introduced as early as the second lesson of a student's training syllabus. Proficiency in use of R/T is recorded on a 5-point grading system which was completed after each flight.

In addition, prior to the authorisation of a student for a solo flight, ATC instructions and procedures are reviewed using a 'Pre-Solo Briefing' document. This briefing document is completed and signed by both the student and instructor before a solo navigation, general handling or solo circuit flight is authorised. The Pre-Solo Briefing document comprises a comprehensive checklist with check items including flight documentation, planning, weather, departure, en route and arrival sections. The document also includes a diagram of Cork Airport with taxiways/runway markings and 'hot spots'⁶ indicated.

A brief bulleted list of previous occurrences was provided to serve as a reminder to students, including one previous occasion when a solo student departed without clearance. Students were required to identify possible threats and potential errors for their planned flight and note such in boxes provided on the briefing document.

1.3.2 Solo Students

At the time of the occurrence, solo students were subject to a flight school crosswind limitation of 5 knots (kts). The surface wind was such that an 8 kt crosswind existed. If a crosswind condition in excess of 5 kts existed on the active runway then solo students were instructed to request an alternate runway with a crosswind component 5 kts or below. For this reason, the Student requested a departure from RWY 25 when the active was RWY 35.

The Investigation examined the training syllabus and material that was used during the Student's progression to solo flight. The flight school commented that all students who commence flight training must complete an ELP⁷ test and attain a minimum Level 4 before they are authorised for solo flight. However, in this instance the Student was a UK citizen with English as his first language and had already commenced training in the UK where he had completed his ATPL studies and had passed all subjects. Whilst he had not undergone an ELP test at that time, the test would have been imminent.

The Investigation obtained a copy of the Student's Pre-Solo Briefing document; this had been completed prior to the flight. All discussion items were checked with notes regarding the likelihood of using RWY 25 due to a crosswind on RWY 35. The Student also identified possible threats and errors on the document, indicating that the pre-flight briefing was interactive and comprehensive. The briefing document was signed by the Student and his Instructor. One of the possible errors identified by the Student was '*T/O without clearance*'.

⁶ **Hot spot:** A location on an aerodrome movement area with a history or potential risk of either collision or runway incursion, and where heightened attention by pilots/drivers is necessary (see Chart at **APPENDIX A**).

⁷ **ELP:** English Language Proficiency (Level 4 must be re-assessed every 4 years from date of assessment).

1.4 MATS Manual

The Cork *Manual of Air Traffic Services* (MATS), Version 14, Volume 3, dated 10 May 2017, states the following:

'1.6.7 Use of Intersecting runways for Departing Aircraft

When Runway 17/35 and runway 07/25 are being used for departing aircraft, the following will apply:-

- 1. Normally only one aircraft will be taxied into take-off position. The second aircraft holding clear until the first is airborne.*
- 2. Where it is necessary to have both aircraft lined up simultaneously, the aircraft not being given a take-off clearance will be instructed to hold position before issuance of take-off clearance to the other aircraft.'*

1.5 Subsequent Actions

Following this occurrence, a risk assessment was carried out jointly by the flight school and the airport authority to examine the mitigations that could be put in place. As a result of this assessment it was agreed that the practice of solo students using the secondary runway would be 'temporarily ceased pending review until further notice'. However, it was agreed that, should the wind condition change while a solo student is airborne, then the student may request the secondary runway for landing if more suitable from a crosswind component point of view.

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The flight school also put in place additional measures to enhance the proficiency of their students R/T skills. A further stand-alone R/T training programme was put in place. This training was accompanied with a dedicated internal written exam to assess the student's level of knowledge and ability.

Regarding the joint risk assessment carried out, the airport authority made the following comment to the flight school:

'We accept the risk rating as being in the lower criteria for landing and taxi phases whereby the hazard is assessed as reduced separation and possible conflict with other aircraft in the air. We further accept the higher likelihood and severity identified with departures from runway 07/25 with solo student pilots with regards to the aforementioned hazard.

In light of this enhanced risk assessment around each criteria for dual runway operations we accept that the suspension of dual runway operations can now be refined to the restriction solely applying to departures from runway 07/25 for solo students in accordance with the control for this and presentation of students pilots being applied and enforced by yourselves within [the flight school] and on the assurance that there is no requirement for amendments to any current ATC procedure or resultant additional workload by controllers which may increase risk'.



IAA Air Traffic Services stated that it engages with the flight school on a regular basis and that it conducted a full internal investigation following the event. The ATC investigation included a review of its procedures together with a 'just culture' review. No specific Notices were issued as existing ATC procedures were found to be adequate. However, ATC does monitor Mandatory Occurrence Reports (MOR's) and issues 'Safety Reminder Notices' from time to time. The last such Notice, No. 0003-17 was issued on 23 February 2017 which served to remind ATCO's '*not to issue departure instructions and take-off clearance in the same transmission*' in accordance with 'best practice'.

2. ANALYSIS

2.1 Flight Instructor Actions

The Flight Instructor in G-GFSA received take-off clearance for RWY 35 with the instruction to turn right after departure for Wexford. During the climb-out, passing the intersection with RWY 07-25, the Instructor saw that EI-CUJ had become airborne and judged that the aircraft were not on converging flight paths and that there was no risk of collision. The Instructor demonstrated good situational awareness by observing a potential conflict. As the AMC had also observed EI-CUJ had become airborne, G-GFSA continued on its course as cleared.

2.2 Student Actions

An important element of airmanship is that pilots maintain a good listening watch on the frequency. The Student did not recall hearing that G-GFSA had been cleared for take-off. If he had been aware of that fact he may have realised that he must hold position until that traffic departed.

Routine R/T exchanges would have been a feature of the Student's 82 hours of flight experience. The Student's transmission '*EICUJ, can you please confirm that I'm ready for departure*' is significant. The Student's use of non-standard wording provided the basis for a misunderstanding to arise. He stated to the Investigation that he was unsure if the AMC's response '*Roger*' meant 'understood' or 'go ahead' and may have given the Student a sense of urgency. The Student took the response by the AMC to mean that he was cleared to proceed and he commenced take-off accordingly.

2.3 Air Traffic Control

The Student pilot in EI-CUJ was cleared to back-track the active runway and line up on RWY 25, the runway he had requested for departure. As this aircraft was back-tracking on RWY 25, the AMC decided to release the other aircraft (G-GFSA) for take-off on RWY 35. As EI-CUJ had only been given clearance to line up, there was an expectation by the AMC for the Student to comply with that instruction and to line-up and wait. In line with MATS 1.6.7, normally only one aircraft will be taxied into take-off position with the second aircraft holding clear until the first is airborne. Where it is necessary to have both aircraft lined up simultaneously, the aircraft not being given a take-off clearance will be instructed to 'hold position' before issuance of take-off clearance to the other aircraft.

In this case, it appeared to the AMC that G-GFSA would be ready first as it only had a short taxi time to RWY 35 and EI-CUJ was still backtracking on RWY 25 and not yet in position. He gave take-off clearance to G-GFSA expecting EI-CUJ to line up and hold position. The initial reply to EI-CUJ was simply an acknowledgement of his transmission '*ready for departure 25*'. In response to a non-standard transmission from EI-CUJ, the AMC could have avoided any possible ambiguity by qualifying his reply with '*... hold position*', or '*... hold position, traffic departing Runway 35*' in line with MATS 1.6.7.

This event illustrates the necessity of clear communications in the ATC environment. In this case a situation existed where two aircraft became airborne from cross runways as a result of unclear communications. The use of standard R/T terminology and greater awareness on the part of the Student by maintaining a good listening watch on the frequency could have prevented the situation arising in the first instance. When queried by the Student who used non-standard phraseology, an additional instruction by the AMC for that aircraft to hold position, would have served as an additional defence to any misunderstanding arising.

EI-CUJ commenced its take-off roll approximately 34 seconds after G-GFSA was cleared to take-off. Because of the time delay between each aircraft commencing its take-off roll, there was no risk of collision. However, had the disposition of the aircraft been different there may have been a more serious outcome.

3. CONCLUSIONS

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3.1 Findings

1. The Student Pilot in EI-CUJ requested RWY 25 for departure due to student crosswind limits on the main runway.
2. The taxi clearance given to the Student in EI-CUJ by the AMC was clear and was understood by the Student.
3. With EI-CUJ backtracking on RWY 25, the AMC judged that G-GFSA would be ready first and cleared G-GFSA to take-off on RWY 35.
4. The Student in EI-CUJ was not instructed to hold position prior to G-GFSA being cleared for take-off, in line with MATS 1.6.7.
5. The Student in EI-CUJ advised the AMC that he was ready for departure on RWY 25. This was acknowledged by the AMC with the reply '*Roger*'.
6. Approximately 10 seconds later, the Student made a second transmission using non-standard phraseology: '*EICUJ can you please confirm that I'm ready for departure?*' The AMC acknowledged the transmission by again replying '*Roger*'.
7. The AMC expected that EI-CUJ would hold its position as no take-off clearance had been given.



8. The Student was unsure if the term 'Roger' meant 'understood' or 'go ahead'. The Student took the response by the AMC to mean that he was cleared to proceed and he commenced take-off accordingly.
9. The Student did not maintain an effective listening watch on the frequency and was not aware that another aircraft had been cleared for take-off.
10. EI-CUJ took off on RWY 25 without an ATC clearance.
11. While observing G-GFSA on climb out, the AMC cleared EI-CUJ for take-off; the take-off instruction was repeated back by the Student despite the fact the aircraft was already airborne.
12. The Instructor in G-GFSA saw EI-CUJ airborne from RWY 25 and judged that there was no risk of collision. The Instructor demonstrated good situational awareness by observing a potential conflict.
13. The AMC observed that EI-CUJ was airborne and informed the Student that he took-off without clearance.
14. EI-CUJ commenced its take-off roll approximately 34 seconds after G-GFSA was cleared to take-off. Because of the time delay between each aircraft commencing its take-off roll, there was no actual risk of collision.

3.2 Probable Cause

Take-off without clearance during dual runway operations.

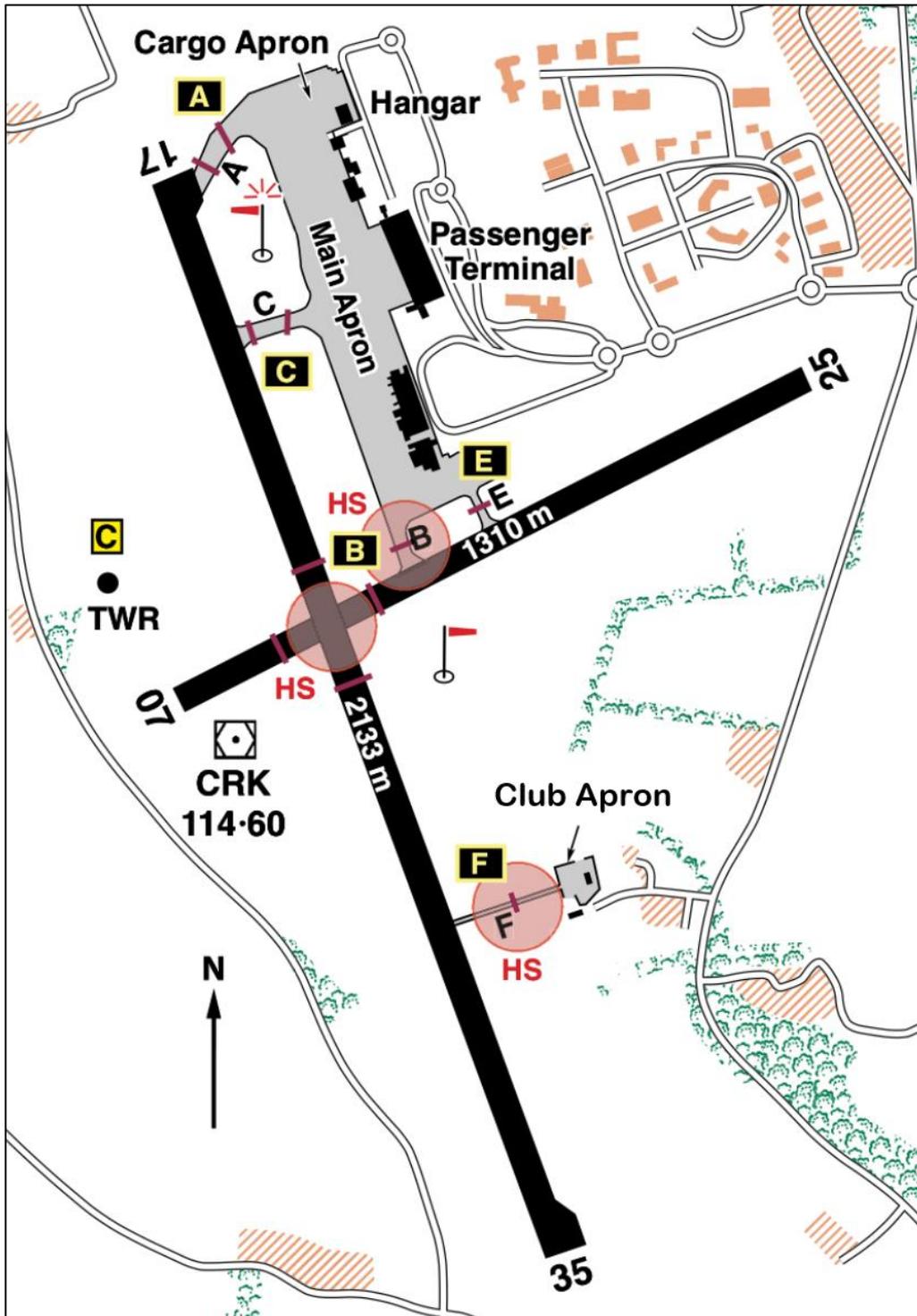
3.3 Contributing Factors

1. The Student did not maintain an effective listening watch on the frequency.
2. The Student did not clarify his clearance with the AMC when unsure.
3. The AMC did not instruct the aircraft on RWY 25 to 'hold position' as outlined in accordance with MATS 1.6.7.

4. SAFETY RECOMMENDATIONS

The ATC procedures in place were satisfactory. The risk assessment carried out jointly by the flying school and the airport authority has put in place a mitigation to prevent a recurrence by ceasing the practice of simultaneous departures when a student is flying solo. This mitigation was put in place as a temporary measure pending further review and consultation. In addition, the flight school also put in place additional measures to enhance the proficiency of their students R/T skills with an internal written exam on R/T procedures. As a result of these initiatives being taken this Investigation does not make any Safety Recommendations.

Appendix A
Chart of Cork Airport showing Runways, Taxiways,
Tower position (TWR) and Hotspot areas (HS)



(Based on *Pooleys (Ireland) 2017*)

Appendix B

Transcript of Cork Tower (119.300 MHz) on 23 May 2017

To aid readability of the transcript, the following abbreviations are used:

- 'Echo India Charlie Uniform Juliet' (EICUJ)
- 'Golf Golf Foxtrot Sierra Alpha' (G-GFSA)
- 'Echo India Golf Whiskey Yankee' (EI-GWY)
- 'Seven Papa Charlie' (7PC)

Time:	Station:	Transmission:
15.00:04	EI-CUJ	<i>'Cork Tower good day EI-CUJ at the Club ready for taxi'</i>
15.00:10	Tower	<i>'EICUJ taxi Foxtrot, hold short runway 35'</i>
15.00:15	EI-CUJ	<i>'Taxi Foxtrot hold short runway 35 EICUJ. And eh we'd like to request departure on 25'</i>
15.00:25	Tower	<i>'Roger'</i>
15.01:06	7PC	<i>'Tower Shamrock 7PC Alpha, hold short runway 17'</i>
15.01:11	Tower	<i>'Shamrock 7PC enter line up runway 17'</i>
15.01:15	7PC	<i>'Line up 17 Shamrock 7PC'</i>
15.01:43	Tower	<i>'Shamrock 7PC will you be ready on line up?'</i>
15.01:48	7PC	<i>'Affirm Shamrock 7PC'</i>
15.01:50	Tower	<i>'Shamrock 7PC roger the eh surface wind is calm, runway 17 cleared take-off'</i>
15.01:55	7PC	<i>'Cleared take off runway 17 Shamrock 7PC'</i>
15.02:50	Tower	<i>'Wind check 240 degrees, 06'</i>
15.02:54	7PC	<i>'And Shamrock 7PC can you just confirm the clearance please'</i>
15.02:59	Tower	<i>'Cleared take-off 17 Shamrock 7PC'</i>
15.03:01	7PC	<i>'Cleared take-off 17 Shamrock 7PC'</i>
15.04:03	Tower	<i>'EICUJ taxi 35 enter backtrack line up runway 25'</i>
15.04:08	EI-CUJ	<i>'Taxi 35, enter back track line up runway 25 EICUJ'</i>
15.04:57	Tower	<i>'Shamrock 7PC climb flight level 90'</i>
15.05:00	7PC	<i>'Climb flight level 90 Shamrock 7PC'</i>
15.05:06	G-GFSA	<i>'Good afternoon GGFSFA at the Club ready for taxi'</i>
15.05:11	Tower	<i>'GGFSFA taxi foxtrot hold short runway 17'</i>
15.05:15	G-GFSA	<i>'Taxi foxtrot, hold short runway 17 GGFSFA'</i>
15.05:46	Tower	<i>'GGFSFA surface wind 240 08 knots runway 17/35 or 25 for departure?'</i>
15.05:55	G-GFSA	<i>'Eh 17/35 GGFSFA'</i>
15.05:59	Tower	<i>'Can you take 35?'</i>
15.06:01	G-GFSA	<i>'Affirm GGFSFA'</i>
15.06:05	Tower	<i>'GGFSFA enter line up runway 35'</i>
15.06:07	G-GFSA	<i>'Line up runway 35 GGFSFA'</i>
15.06:14	Tower	<i>'Shamrock 7PC contact Shannon 124.7'</i>
15.06:16	7PC	<i>'124.7 Shamrock 7PC bye'</i>
15.06:24	EI-GWY	<i>'Cork Tower good day, student EIGWY at the Club ready for taxi'</i>
15.06:29	Tower	<i>'Standby'</i>
15.06:38	Tower	<i>'GGFSFA surface wind 240 08 runway 35 cleared take-off with a right turn direct Wexford, not above 2,000 feet'</i>

Time:	Station:	Transmission:
15.06:46	G-GFSA	<i>'Cleared for take-off runway 35, right turn to Wexford not above 2,000 feet, GGFSFA'</i>
15.06:57	EI-CUJ	<i>'EICUJ ready for departure 25'</i>
15.07:01	Tower	<i>'Roger'</i>
15.07:11	EI-CUJ	<i>'EICUJ can you please confirm that I'm ready for departure?'</i>
15.07:15	Tower	<i>'Roger!'</i>
15.07:17	EI-CUJ	<i>'Thank you, EICUJ'</i>
		<i>[EI-CUJ commences take-off roll at approximately 15.07:20]</i>
15.07:30	Tower	<i>'EUJ surface wind 240 08, runway 25 cleared for take-off, direct to the southwest, not above 2,000 feet'</i>
15.07:42	EI-CUJ	<i>'Cleared for take-off 25, eh left turn out to the south west, not above 2,000 feet EICUJ'</i>
15.07:55	Tower	<i>'EUJ you weren't cleared to take off when you took off'</i>
15.08:11	EI-CUJ	<i>'Request to route back to the field EICUJ'</i>
15.08:17	Tower	<i>'EUJ wind 240 at 8 what runway would you like for landing?'</i>
15.08:23	EI-CUJ	<i>'35 EICUJ'</i>
15.08:27	Tower	<i>'EUJ join finals 35'</i>
15.08:29	EI-CUJ	<i>'Join finals 35 EICUJ'</i>

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010, and Statutory Instrument No. 460 of 2009, Air Navigation (Notification and Investigation of Accidents, Serious Incidents and Incidents) Regulation, 2009, the sole purpose of this investigation is to prevent aviation accidents and serious incidents. It is not the purpose of any such investigation and the associated investigation report to apportion blame or liability.

A safety recommendation shall in no case create a presumption of blame or liability for an occurrence.

Produced by the Air Accident Investigation Unit

AAIU Reports are available on the Unit website at www.aaiu.ie



**An Roinn Iompair
Turasóireachta agus Spóirt**

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