

Independent review
into
allegations concerning the certification, qualification
and experience
of
Air Corp Aircraft Inspectors

3 December 2015

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Introduction

We were asked by the Department of Defence, on behalf of the Minister for Defence, to carry out an independent review into allegations concerning the certification, qualification and experience of Air Corp Aircraft Inspectors.

The Irish Aviation Authority (IAA), as the State aviation safety regulator, agreed to provide two experts in civil aviation to support the review process.

We would like to express our appreciation to all concerned for their time and the courtesy extended to us during the course of the review.

The Review process has taken longer than had been envisaged at the outset. This was, in the main, due to the volume of documentation we had to examine relating to the certification of aircraft inspectors, the regulatory regime, the complexity of the issues involved and the interconnectedness of the various FOI requests, the redress of wrongs application and the protected disclosure itself.

Eddie Sullivan (Former Secretary General)



Nicholas Butterfield (Manager Aircraft Registration and Design Control, IAA)



Martin Purcell (Manager Personnel Licensing Division, IAA)



3 December 2015

Section 1: Background

1. In November 2014 the Minister for Defence received written correspondence from a member of the Defence Forces¹ drawing attention to certain matters, which the member alleged, could have serious consequences for flight safety. The matters relate to certain Air Corps Aircraft Inspectors having authorisation to certify sheet metal repairs and modifications on aircraft types currently in service within the Air Corps without the required qualifications or experience to do so. Allegations were also made regarding misleading information being provided to the Chief of Staff and others and of information being withheld.
2. The member indicated his wish to make a disclosure, under the Protective Disclosures Act 2014². On behalf of the Minister for Defence this matter was referred by the Secretary General, Department of Defence, to the Chief of Staff of the Defence Forces for a report which was submitted on 6th January 2015.
3. Following further correspondence with the member and new information provided by the military authorities the Minister directed that an independent review be carried out. The terms of reference for this Review are included at Appendix B.
4. In addressing the terms of reference we reviewed a large volume of documentation and correspondence dating back several years. We inspected technical training records, authorisation records, aircraft repair and maintenance records and we spoke to a number of relevant people including the member who made the allegations.
5. A list of the documentation that we consulted and reviewed is contained at Appendix C.

¹ Herein referred to as 'the member'

² A brief note on the Protected Disclosures Act is at Appendix A

Section 2: Defence Forces & the Air Corps

1. The Defence Forces are subject to a body of military law through the Defence Forces Act, 1954 (as amended). It incorporates the issues of command, responsibility, discipline, military courts etc.
2. The Government authorises the Minister for Defence, under the direction of the President, acting on the advice of the Government, to exercise military command over the Defence Forces and all executive and administrative powers in relation to the Defence Forces including the power to delegate command and authority.
3. The Minister for Defence has delegated to the Chief of Staff certain matters for the administration of the business. The Chief of Staff has delegated responsibility in respect of aviation matters to the General Officer Commanding (GOC), Air Corps by way of SCS 42/6 – Use of Military Aircraft³. This gives effective responsibility to the GOC for technical matters and for ensuring that aircraft are maintained in airworthy condition.
4. The Minister for Defence made Regulations which make provision for the issuance of Air Corps Military Aviation Regulations and Directives. Specifically, the Regulations state

“..the General Officer Commanding of the Air Corps and Director of Military Aviation shall issue and publish, Air Regulations for the general information and guidance of members of the Air Corps. These regulations shall lay down procedures and administrative arrangements, not inconsistent with the provisions of this regulation in relation to the matters set hereunder.

 - a. General provisions relating to military aviation
 - b. Aircraft type specific regulations
 - c. Air traffic services, airspace and aerodromes
 - d. Training
 - e. Maintenance management organisation exposition
 - f. Flight Safety”⁴.
5. The GOC Air Corps is the ‘accountable officer’ responsible for the execution of the Air Corps mission and is the tasking authority for all military flying missions. As Director of Military Aviation, the GOC is also the regulatory authority and is required to set operational, airworthiness and training standards and to ensure such standards are met.

³ 29 February 1988

⁴ Defence Forces Regulations - CS8 – Air Corps Military Aviation Regulations and Directives, 20 July 2012. Part 2, paragraph 2

6. Under the GOC the Air Corps is divided into two sections which are headed by

- the Chief of Air Staff (CAS) Operations, responsible for day to day operations, including flying operations, and
- the Chief of Air Staff (CAS) Support, responsible maintaining the support services including administrative duties, military police etc.

with the following organisational structure

- two Operations Wings – Fixed (No 1) and Helicopters (No 3)
- the Air Corps College – Military, Pilot & Technical Training
- Engineering Support Services – No 4 Support Wing,
- Base administration – No 5 Support Wing, and
- Communications and Information Services Unit.

In addition the Quality Assurance section and Military Airworthiness Authority report directly to the GOC.

Quality Assurance (QA)

7. Under the direction of a Senior Staff Officer (SSO), QA report directly to GOC Air Corps (AC) on all matters pertaining to Quality Assurance. The primary role of the QA section is to monitor the compliance of Air Corps operational and maintenance units with the standards laid down. QA carries out a number of independent audits of Air Corps maintenance units annually to fulfil this function. A feedback reporting system to respective unit commanders and the GOC is designed to ensure timely corrective action in response to audit reports.

8. Quality Assurance is also responsible for the following:

- a. Managing the interview process for the advancement of Aircraft Inspectors and Aircraft Apprentices,
- b. Identifying the requirements and coordinating the technical training of Air Corps maintenance personnel annually,
- c. Control of Aircraft Technician Proficiency Certificates, and
- d. Review and update of the Air Regulation Manual (Part E)⁵.

⁵ The Air Regulation Manual (ARM) is described more fully in the next section.

Military Airworthiness Authority (MAA)

9. Under the direction of the Chief Airworthiness Officer the MAA deals with day to day oversight of airworthiness issues which are applicable to all aircraft on the Irish State register of aircraft. It also provides strategic advice to GOC Air Corps on new equipment specifications, tender specifications and civilian regulatory matters which impact on State Aircraft.
10. The MAA has the authority to determine maintenance standards and impose additional requirements on operational units as it sees fit. The section acts with the authority of GOC Air Corps in its dealings with the operational units and carries this level of authority over these Units. The following roles are covered by the MAA:
 - Promulgation of technical policy by way of the issuance of Technical Instructions (TIs) and Pilots Information Notices (PINs),
 - The issue of certification for all Air Corps staff who release aircraft and components as serviceable and fit for flight,
 - Guidance to Air Corps units in the maintenance and operation of Air Corps aircraft and ground equipment,
 - Approval of maintenance procedures i.e. Aircraft Maintenance Programs, Service Engineered Modifications,
 - Approval of Alteration sheets and Concession sheets,
 - Approval of Minimum Equipment Lists for aircraft which determine the minimum level of serviceable equipment on aircraft from an operational viewpoint for specific operational roles,
 - Liaison with the Irish AAIU, IAA and Aircraft Type Certificate Holders in respect of airworthiness issues, as they arise, of aircraft and mission equipment, and
 - To investigate and report on aircraft accidents and incidents as required including direct liaison with relevant civilian accident investigation sections.

No 4 Support Wing

11. No 4 Support Wing is responsible for the provision of aircraft maintenance. This includes responsibility for all avionic related maintenance, procurement and management of spare parts, sheet metal work, maintenance of safety equipment, painting of aircraft and parts, crash recovery and aviation fuel. It is divided into three squadrons
 - 401 Squadron - Technical Workshops,
 - 402 Squadron - Avionics support, and
 - 403 Squadron - Main Technical Stores and fuel.

12. Within the 401 Squadron, aircraft maintenance is carried out in a maintenance hangar while aeronautical equipment is maintained in a range of dedicated workshop facilities, one of which is the sheet metal repair workshop. This workshop is responsible for the sheet metal repair and modification of aircraft structure.
13. The Air Corps scope of work is set out in section 1.8 of the Air Regulation Manual (ARM). Section 1.8.10 deals with 401 Squadron and sets out the scope of work for the Engine Repair shop, NDT shop, Machine Shop, Sheet metal shop, Welding shop, Paint shop, Safety Equipment shop and Carpentry Shop. In relation to the Sheet Metal Shop it states the scope of work as follows:

"The manufacture of components in accordance with drawing approved by the manufacturer and/or MAA.

*To effect repairs as per manufacturers Structural Repair Manual or Serviced Engineered Modification issued by the MAA"*⁶

⁶ Section 1.8.10.5 (Sheet Metal Shop) ARM Revision No: Iss 2. Rev 12. Date 10 Jan 2010

Section 3: Air Regulation Manual (ARM)

1. The Air Corps flying orders are contained in the Air Regulation Manual (ARM). Amendments and revisions are issued under the authority of the GOC Air Corps and promulgated by the SSO⁷ Air Ops.
2. Given that a number of the allegations under review relate to compliance or otherwise with the provisions of the ARM it is considered appropriate that the relevant sections be outlined. The ARM is divided into different categories. Part E, entitled Maintenance Management Organisation Exposition, (MMOE) deals with Aviation Technical Regulations and relates to the certification and maintenance procedures and personnel. It is of most relevance to this Review.
3. Revisions were made in 2015 to certain sections of the ARM to clarify processes around the appointment of aircraft inspectors and, consequently, earlier versions are more appropriate to the matters under review.

Overview of the maintenance/repair process and role of technician and Aircraft Inspector

4. When maintenance or repairs are carried out on Air Corps aircraft, two signatures are required to release the aircraft back to service. The first signature is the technician who carries out the maintenance or repair and the second signature is that of an inspector who verifies that the work has been completed properly. Technicians are at Airman/Corporal rank and Inspectors at Sergeant /Flight Sergeant and RSM ranks. Inspectors hold an appropriate authorisation issued under the authority of the GOC.
5. Before they can work on an aircraft Air Corps technicians are assessed to ensure they are competent to carry out their functions. Air Corps apprentices are streamed into different technical disciplines during their first year (Fixed Wing, Rotary Wing, Avionics etc). When an Air Corps apprentice completes his/her apprenticeship he must sit before a trade test board to assess his competency to work on an aircraft in his or her particular skill set. Once he/she successfully completes this trade test he/she can work on an aircraft as a technician.
6. The Air Corps apprenticeship programme, run by the Air Corps College, is aligned to the national apprenticeship standard and apprentices are registered with SOLAS (formerly FAS) leading to the acquisition of a national craft certificate in aircraft mechanics or avionics.

⁷ Senior Staff Officer

7. When a technician advances to the rank of sergeant, he/she is assessed for suitability by an Inspector Interview Panel which assesses his/her competency to function as an Inspector. An Inspector certifies the work of technicians on his crew and then issues a Certificate of Release to Service (CRS) which states that the aircraft is again in an airworthy condition in respect of the work done by them and is safe to fly.
8. The scope of an individual inspector's authorisation privileges is specified on his Aircraft Inspectors Authorisation form - AF692. The form indicates the level of authorisation for Aircraft Types and Workshops/ Maintenance/Equipment.
9. The ARM (1.4.13) defines the role of an aircraft inspector as *"to oversee work on aircraft and airborne equipment, as authorised on his AF 692 to an extent necessary, to ensure that required work is carried out to airworthiness standards"*.

Certifying Staff Qualification and Training Procedures⁸

10. The ARM (3.5.1) states, in relation to the authorisation of aircraft inspectors,
"Normally only personnel who have been tested by an Inspector Interview Panel convened by GOC Air Corps, and have been found satisfactory will be authorised to perform duties of Aircraft Inspector".
11. It provides that Air Corps HQ will issue an AF692, signed by the GOC Air Corps and the Chief Airworthiness Officer, to the Inspector, on appointment, as his notification of grading as an Aircraft Inspector and it defines his areas of functional inspection and certification authority. Personnel, both civilian and military, employed as Aircraft Inspectors, must be in possession of an AF 692.
12. The ARM also states⁹ that
"an aircraft technician may, due to the exigencies of the service, be authorised on a personal basis, by GOC Air Corps, to carry out the duties of an Aircraft Inspector, without having to be tested by an Inspector Interview Panel."
13. The ARM (3.5.2) sets out the Qualifications of Candidates for Test as Aircraft Inspector within the Air Corps. The primary qualifications are the personal character and integrity of the candidate, experience, courses attended, qualifications achieved, level and depth of knowledge of the equipment, and suitability to perform aircraft inspection duties. It states that each case is unique, and over rigid conditions are not laid down. However, it sets out *"guidelines and some specifics"*.

⁸ References relate to the ARM Part E – Revision No: Iss 2, Rev 8 Date 17 Jan 08

⁹ By way of a note to Section 3.5.1

14. The minimum requirements for military candidates set out are:

- ✓ They be of NCO rank,
- ✓ They would normally have, after trade apprenticeship, at least five years relevant experience on the aircraft /equipment/ material in the same or higher category, in the supervision and direction of maintenance crew members and their workmanship, and,
- ✓ They would normally have, after trade apprenticeship, at least five years relevant experience of the aircraft/equipment material in the same or higher category, in the supervision and direction of maintenance of crewmembers and their workmanship and or equivalent direct experience in the regulatory, Quality Assurance or Technical Services / Records fields.

15. Where candidates had not been directly engaged on maintenance work for a period of two years prior to test the ARM provides that they be required to demonstrate to the Inspector Interview Panel that they have qualifications and experience over and above the minimal requirements to act as an inspector.

16. Personnel who had not served a trade apprenticeship must prove or display a level of training /expertise / experience / competence in their area of operation to achieve an equivalent standard to ensure that they would adequately and safely carry out inspection and certification duties. The section provides that a period of nine years aeronautical work experience in their functional area would normally be required to achieve the required level of experience and expertise, but an individual's competence, rather than time stipulations, are more relevant.

Certifying Inspectors - Qualification Process

17. The ARM (3.8)¹⁰ covers the following:

- *Nomination procedures* – the nomination of a candidate had to be initiated by the Wing Aeronautical Engineering Officer and counter-signed by the Wing Commander (3.8.1)
- *Suitability interview* – its purpose was to ascertain that the candidate was technically suitable for a particular vacancy. Candidates were required to sit a separate interview for each individual inspector vacancy advertised. Prior to a candidate coming before the Inspector Interview Panel he/she had to return his Proficiency Certificate to the Quality Assurance unit who would issue a covering letter from OIC Quality Assurance stating suitability/unsuitability for the particular inspector

¹⁰References relate to the ARM Part E – Revision No: Issue 2, Rev 11 Date: 5 June 2009

vacancy. Candidates who successfully completed the promotion process returned to Quality Assurance to have their AF 692 updated (3.8.1.1)

- *Inspector Interview panel:* the composition, as directed by GOC, to be
 - a. President (Aeronautical Engineer Officer)
 - b. Air Corps Quality Officer (Aeronautical Engineer Officer)
 - c. Member (s) (Aeronautical Engineer Officer(s))
 - d. Wing Aeronautical Engineering Officer of the candidate and
 - e. Senior NCO, Senior Aircraft Inspector of equal or higher rank than candidate.(3.8.2)
- The *Interview Panel Function* was to carry out sufficient tests to ascertain if the candidate had the necessary personal qualities, experience, knowledge and expertise to competently carry out the duties of an Aircraft Inspector (3.8.3)
- *Guidelines to assist aircraft Inspector Interview panel in the testing of inspectors and the recommending of their Grading.* The guidelines were to be used to determine such areas of responsibility and to advise the GOC Air Corps of these and to recommend to him the appropriate inspector grading (3.8.4).

18. The ARM (3.8.4) deals separately with Senior Aircraft Inspectors and Aircraft Inspectors. In relation to the former the following provisions are worth noting:

“Senior Aircraft Inspectors are permitted to issue a Certificate of Release to Service following maintenance which is beyond the scope of an aircraft inspector”

“Senior Aircraft Inspector in 401 Squadron is authorised to certify work in multiple workshops disciplines”.

“Senior aircraft Inspectors; (RSM or Flt. Sergeant) will hold a position of supervisory responsibility within their Flight/Squadron/Wing, which will include supervisory duties over other Inspectors”.

19. In relation to Aircraft Inspectors, the ARM (3.8.4) states that such inspectors will

“normally have authority, as per their authorisation for Aircraft Type, Engine Type and Equipment Type...” up to defined limits, and

“Aircraft Inspectors in 401 and 402 Squadron, such as Welding, Sheet metal, Non-Destructive Testwill be fully authorised in one trade in the workshop and several aircraft types.”

Review team comments and observations

- It was noted that the Interview Panel could call upon the services of other Air Corps personnel or seek assistance from outside bodies in testing or assessing candidates.
- It was also noted that the ARM (3.8.4) provided guidelines to assist the Interview Panel in the testing of inspectors and the recommending of their grading.
- It also provided that the AF 692 authorisation form would be issued by the GOC and the Chief Airworthiness Officer (CAO). In relation to revisions to AF 692s, within a grade, the ARM provided that the AF692 would be issued by the CAO.
- At the beginning of the period under review NCO candidates were required to sit a separate interview for each individual vacancy advertised. A new Defence Forces NCO promotion system was introduced in early 2012¹¹ which streamlined the system and established an overall order of merit list from which individuals were appointed following a matching of skill requirements for a particular post and an individual's skills and preference set.
- The composition of the interview panel is an issue that is referred to later as it features in correspondence. The member raised the issue and refers to it in his Protected Disclosure letter – see section 4 of this report. As we set out later, the Chief of Staff (COS) accepted that the aircraft inspector Interview panels had not been constituted strictly in accordance with the ARM in the past. Nonetheless, he expressed his satisfaction that the panels were of sufficient constitution to adequately assess whether the candidates had the necessary personal qualities, experience, knowledge and expertise to competently carry out the duties of Aircraft Inspector. He directed that a full review of Aircraft Panel Regulations be conducted and amendments made to ensure that there was no conflict between practice and procedure and the regulatory position.
- Revisions and clarifications were made to the ARM. In particular, section 3.8 was extensively revised with parts of what was previously section 3.5, relating to qualification and authorisation of aircraft inspectors, included. The revised section 3.5 now contains technical training procedures. The revisions to the ARM (3.8), taking account the new promotion system, was completed and issued in January 2015.

¹¹ The new promotion system, known as CCR448, was subsequently modified to further streamline the procedures and the revisions took effect in June 2014 – now known as CCR448A

Section 4: The Disclosure letter of November 2004 and follow up correspondence

1. As mentioned above, the disclosure letter was referred by the Secretary General of the Department to the Chief of Staff (COS). He outlined the allegations made, acknowledging that the author had expressed his concerns to the Military Authorities and had engaged in correspondence. The Secretary General requested a report within four weeks. The Chief of Staff in turn referred the matter to General Officer Commanding (GOC) Air Corps for detailed observations.
2. The GOC reported to the COS on 8th December 2014 and in his reply gave background to the issues involving the authorisation of Aircraft Inspectors for sheet metal work and responded to the specific allegations, queries and statements made. He referenced
 - Freedom of Information (FOI) Request dated late 2011
 - Response to a Ministerial Request for Information dated 9 February 2012
 - Redress of Wrongs (ROW) application of November 2013 and his response letter dated 27 March 2014, and
 - COS ruling on the ROW dated 16 October 2014.
3. The Chief of Staff reported, by way of letter of 6 January 2015, to the Secretary General of the Department of Defence and he
 - gave background information surrounding the first airing of the issue,
 - referred to the member's ROW dated November 2013, and
 - addressed each of the concerns raised.

These various issues are included in this Review's terms of reference.

4. The COS concluded by saying that the *"safety of pilots, aircrew and the general public are paramount in all Air Corps operations"* and that he was confident that the subject matter had been *"thoroughly investigated at all levels of the organisation and is continually reviewed by both Quality Assurance section and Flight Safety section of the Air Corps. While the complainant may have genuine concerns in relation to flight safety such concerns are not reflected among the rest of the engineering staff, flight crew or the leadership of the Air Corps"*.
5. He also stated that he was *"assured that GOC Air Corps and OC QA continue to act in accordance with the most stringent civilian and military air safety standards."* He referenced that the Air Corps had recently undergone *"a detailed external safety audit and this matter was not raised by the audit team"*.

6. The member was responded to on behalf of the Minister on 6 March 2015¹² indicating that the Minister was *"satisfied on the basis of the assurances received"* that the issues raised had been thoroughly investigated. The Minister pointed out that the Air Corps had *"recently undergone a detailed external safety audit and there were no concerns raised regarding the inspection of sheet metal work during this audit"*. He also pointed out that senior military authorities had confirmed that the highest safety and quality assurance standards were consistently being met within the area of sheet metal fabrication and inspection in the Air Corps.
7. It was indicated that the matter would be kept under ongoing review by both the Quality Assurance Section and the Flight Safety Section of the Air Corps and that, in the circumstances, no further action was proposed in the matter.
8. Arising from further correspondence¹³ from the member to the Minister and new information provided by the military authorities in March 2015 in relation to a factual error in the original submission to the Minister, the Minister directed that an independent review be carried out and the member was so informed in April 2015.
9. In relation to the further letter to the Minister a number of additional allegations were made in relation to:
 - the Minister, Chief of Staff and GOC Air Corps being misled in relation to the nature of the additional inspector authorisations,
 - misleading information regarding Health & Safety and Work Practices being provided to the GOC and the State Claims Agency, and
 - his letter of 16th April 2014 which he believed was *"withheld from the Chief of Staff (suppressed) as it would have highlighted the incompetence of certain personnel in senior management"*.

¹² Letter dated 6 March 2015 from the Minister's Private Secretary

¹³ Letter dated 10 March 2015 to the Minister in response to letter of 6 March 2015

Section 5: Consideration of allegations made

1. This section identifies the various issues raised in the Protected Disclosure letter to the Minister of 11 November 2014 and follow on correspondence. It traces the responses, where appropriate, to those issues by the various parties involved. It also offers some comments and observations of the Review Team on each issue.

Issue 1

Within the Air Corps there are currently in excess of ten Aircraft Inspectors who have been given additional Aircraft Inspector Authorisation AF 692's to inspect and certify aircraft sheet metal Minor Repairs, Minor Modifications and in some cases Major Repairs/Modifications and approved Structural Repairs on all aircraft types currently in service within the Air Corps. These personnel are not qualified within the trade of sheet metal fabrication nor have they a proven track record/history of carrying out such work. (paragraph 2)

Response of the GOC

2. This matter was addressed by the GOC in his letter of 8 December 2014¹⁴ in the following manner:

"Each of the 10 inspectors to which the report refers are very experienced aircraft inspectors, who have been properly trained and approved as aircraft inspectors and have many years' experience inspecting and certifying aircraft. They have completed an Air Corps apprenticeship which includes full training in sheet metal theory, practice and application. Each has the required qualifications and experience to perform aircraft inspections and to certify work completed on aircraft. In addition they have completed aircraft manufacturer's type courses approved and regulated by National Airworthiness Authorities. The completion of aircraft type courses qualifies technicians to perform maintenance on aircraft in accordance with approved maintenance publications. These publications include the Structural Repair Manual which describes sheet metal repairs and approved modifications. Accordingly their formation, training, selection and appointment as aircraft inspectors are entirely consistent with aviation industry norms."

3. In the context of the ROW application the GOC (27 March 2014) stated that the authorisation granted to the ten A&P¹⁵ aircraft inspectors were for *"the inspection of minor sheet metal repairs on a specific aircraft"*. The GOC also elaborated

¹⁴ Letter 8 December 2014 from GOC Air Corps to the Chief of Staff in connection with the Protected Disclosure

¹⁵ A&P : Airframe and Powerplant

“The sheet metal inspector is authorised to carry out both minor and major repairs on all aircraft types and to inspect this work. In addition he is authorised to use the extensive array of machinery and ovens located in the Sheet metal work shop. None of the eleven were authorised or qualified to fulfil the role of an Air Corps sheet-metal shop inspector”.

4. Review team comments and observations

- The GOC is making a clear distinction between the role and authorisation of the inspector in the sheet metal shop and that of the A&P Inspectors who were given the additional authorisation privileges. He is also referring to certifying ‘minor’ sheet metal repairs.
- The issue of Aircraft inspectors being given additional authorisations arose firstly in late 2010/2011. At that time two sheet metal inspectors were approaching discharge and, with the moratorium on public sector recruitment in place, the positions could not be directly filled. A special case was initiated to fill the vacancy of aircraft inspector in the sheet metal shop but was not processed or finalised. Other options and alternatives arrangements had to be fully considered including outsourcing.
- By way of letter of 6 November 2010 to OC No 4 Support Wing, through OC 401 Squadron the member raised concerns about the implications of engaging a civilian sheet metal inspector, which was under consideration, including the consequences for his career advancement and that such a senior aircraft Inspector *“who did not serve a recognised apprenticeship in the trade of Sheet Metal Fabrication and who had no workshop experience”* was going to inspect his work. In addition, he stated that this raised concerns regarding aircraft maintenance procedures and *“may also be a flight safety issue”*.
- Returning to this issue again¹⁶ the member indicated that it was his belief that, if Senior Aircraft Inspectors crossed over into his area of operations and allowed to inspect aircraft sheet metal repairs /modifications, they should be at least required to meet the same criteria as he was required to meet, as set out in the ARM. He further stated that if they are not able to or not required to do so, it would have, in

¹⁶ Letter to OC No 4 Support Wing, 17 January 2011

his opinion, *“serious implications for Flight Safety, Quality Assurances and Aircraft Maintenance Procedures.”*

- In January 2011 it was proposed¹⁷ that aircraft inspectors be permitted on their AF692s to sign off *“minor modifications on a specific aircraft – including sheet metal”*. It was stated that this would be consistent with the policy of the OIC QA and current industry practice. It was proposed that this would be assessed by OIC QA on an individual basis. It was also proposed that the issue of engaging a civilian inspector would be finalised as soon as possible.
- It was eventually decided to grant additional authorisation privileges to five existing senior aircraft inspectors to allow them to inspect aircraft sheet metal repairs (three Flight Sergeants and two Regimental Sergeant Majors)¹⁸.
- An FOI request was submitted by the member dated 31 October 2011 seeking information regarding the special cases made in relation to the filling of the vacancy of Aircraft Sheet Metal Inspector in the sheet metal shop and also the reasons for the decision of the GOC and OC QA to issue authorisations to five Aircraft A Inspectors. The FOI request was granted in full and a reply issued on 23 November 2011. The response in relation to the reasons for the decision included a letter from the SSO Quality Assurance who inter alia stated that

“These Senior Aircraft Inspectors are not authorised as per the scope of work as exist for the sheet metal shop”¹⁹.

Clearly, a distinction is being made here between the work of the sheet metal workshop inspector and that of the senior aircraft inspector who releases an aircraft for service.

- It is normal for a technician working in a specific discipline, such as sheet metal, to have the necessary skills to perform work to an acceptable standard. An aircraft inspector need not have the same skills level but must have an appropriate level of experience to support his certification privileges relating to the aircraft.
- We reviewed the processes associated with the assessment and authorisation of the identified inspectors and reviewed their training records and experience. We are satisfied that the Air Corps processes are consistent with what would be expected in

¹⁷ Letter from [REDACTED] Comdt, OC 401 Squadron to OC No4 Sp Wing dated 19 January 2011.

¹⁸ Para 4 Letter from SSO QA to GOC on 9 February 2012 in response to Ministerial request for information

¹⁹ Letter, 14 November 2011 from [REDACTED] SSO QA to [REDACTED] FOI Officer - part e

the civil aviation sector. In particular, the approach taken to the authorisation of aircraft inspectors in the circumstances of the time was reasonable and practical. Consequently, in our view the approach adopted did not give rise to a flight safety issue.

Issue 2

“They have never been employed in the functional area of the Sheet Metal Shop which has the regulatory responsibility for carrying out such work. (paragraph 2)

5. Review team comments and observations

- This point was also made by the member in his FOI request letter dated 31 October 2011 referred to above and in his application for Redress of Wrongs of 4 November 2013.
- While it may be the case that the persons concerned had never been employed in the functional area of the Sheet Metal Shop there is no such requirement laid out in the ARM. The approach adopted by the Air Corps for the authorisations of sheet metal works would not be unusual in the civil aviation sector.
- The civilian aircraft maintenance licence (known as Part 66 Licence) is issued to an aircraft mechanic on completion of a specified amount of theory training and practical experience. The licence is issued by National Aviation Authorities in each EU member state and it meets the requirements of relevant European Union regulation (EU1321/2014)²⁰. There are a number of categories each of which sets out the licence holder certification privileges. Each category requires certain levels of training and experience. The B1 category relates to airframe, engine and electrical work.
- This licence category (B1) permits the holder to certify his/her own work and the work of others on mechanical and electrical systems of large or small aircraft and areas such as hydraulic, sheet-metal and composite.

Issue 3

The Aircraft Inspector Interview Panel/Board that deemed that these personnel met all the regulatory requirements/standards which are stipulated in Air Regulations

²⁰ EU Regulation 1321/2014 replaced Regulation 2042/2003 to consolidate years of amendments but the thrust and content remain the same.

Manual Part E was itself not constituted as per Air Regulations Manual Part E Section 3 Para 3.8.2 the authorisation granted to these personnel to inspect in the functional area of aircraft structural repair, alterations and modifications is in itself invalid. (paragraph 3)

Response of the COS and GOC

6. The GOC (8 December 2014) stated

"The COS's Redress of Wrong's ruling, dated 16 October 2014, re-affirms the validity of the inspector authorization granted to these personnel".

In that ruling the COS stated, in relation to this issue, that

"the Complainant has correctly highlighted that the Inspector Interview Panels were NOT constructed in accordance with the ARM"²¹.

7. He went on to state that

"The role of the Inspector Interview Panel is to assess whether the 'candidate has the necessary personal qualities, experience, knowledge and expertise to competently carry out the duties of Aircraft Inspector.' Once the recommendation is given by the Panel, the OC Quality Assurance and the Chief Airworthiness Officer decide whether to grant the authorization. These are measures stipulated in the Air Regulations Manual (ARM), as signed off by GOC Air Corps. I note that the GOC Air Corps has stated that each of the individuals concerned was assessed for competence and that each of these assessments was carried out by 'competent, qualified and duly authorised personnel.' I further note that the overall approach to granting authorisation to inspect is in keeping with civilian norms and that 'There are no civilian rules regarding the requirement for the specific composition of an interview 'board'".

8. He continued

"I have had regard to the fact that the Panels were NOT constituted in accordance with the Air Corps ARM. However, having considered the substantive composition of the Panels in question I am satisfied that they were of sufficient constitution to adequately assess whether the candidates had the necessary personal qualities, experience, knowledge and expertise to competently carry out the duties of Aircraft Inspector and thus recommend that they were so qualified."

Notwithstanding this, the Chief of Staff was of the view that the

²¹ COS ruling dated 16 October 2014 on the application for Redress of Wrong.

“practice and procedures of this nature should not conflict with the regulatory position”,

and that he was

“directing that GOC Air Corps conducts a full review of Aircraft Inspector Panel regulations and, where necessary, makes the appropriate amendments”.

9. Review team comments and observations

- This matter was referred to by the Chief of Staff in his report of 6 January 2015 to the Secretary General of the Department of Defence. He indicated that he had addressed this in his ruling mentioned above. He stated that he was in agreement with the GOC Air Corps and the Senior Aeronautical Engineer that the

“constitution of the panel was such that they were more than adequately capable of assessing the abilities of the individuals concerned as this was not their first issue of AF692 authorisation but an additional component to their existing authorisation”²²

- In our view the wording and structure of ARM section 3.8 (June 2009), relating to the certifying and authorisation process for aircraft inspectors, lacked a degree of clarity and led to some misunderstanding as to the precise requirements. The terminology was loose and the process not clearly set out. The introduction of a new promotion system for NCOs in 2012 might have been an opportune time to have reviewed this section. In the event, this section was not revised until January 2015. It is an improvement on the earlier version but we feel that there is further scope for clarification and simplification of the process.
- The ARM clearly envisaged that there would be changes/revisions to an Aircraft Inspector’s authorisation within a grade. Specifically it stated that inspectorships and authorisations would not be held indefinitely once gained. There was no clear requirement set out in the 2009 revision of the ARM for convening an interview panel for this purpose. The ARM specifically provides that the CAO would issue the revised authorisations within a grade while the initial authorisation had to be issued by the GOC and the CAO.
- As mentioned above, given the wording of the relevant provisions of the ARM at the time, it seems to the Review Team that there was a degree of confusion as to the

²² Letter from Chief of Staff to Maurice Quinn Secretary General Department of Defence 6 January 2015

precise requirements. Notwithstanding this the basic process set out in the ARM was followed and signed off by the GOC. On review the GOC and his senior engineering personnel were satisfied that the process was adequate for the granting of authorisations to the Aircraft inspectors.

- It is not clear to the Review Team in what respect and to what extent the Interview Panels were considered to be not constituted correctly. The additional authorisations given to the Senior Aircraft Inspectors in respect of sheet metal work resulted in a revision to their AF 692 authorisation forms following an authorisation process. The individuals were already Aircraft Inspectors.
- We have reviewed the documentation relating to the convening of the suitability interview panels in 2012 and 2014 and as far as we can establish they were properly convened as set out in the ARM.
- The above underpins the proposition that the ARM section 3.8 (June 2009) was imprecise, unclear and led to confusion as to requirements.

Issue 4

These personnel did not meet the following regulatory requirements:

Air Regulation Manual Part E Section 1 Para 1.8 (paragraph 4)

- a. These personnel do not meet the aforementioned regulatory requirement as they are not employed in the Sheet Metal Shop, therefore aircraft structural repairs, alterations and modifications fall outside their Scope of work. (paragraph 4a)**
- b. Air Regulation Manual Part E Section 3 Para 3.9.2.9 (Advancement to technician Class 1) These personnel do not meet the aforementioned regulatory requirement for Advancement to technician Class 1 in the trade of sheet metal. Additionally, they have never been employed in the functional area of operation of the sheet metal shop carrying out aircraft Minor Repairs, Minor Modifications, Major Repairs/Modifications and Approved Structural Repairs. The foregoing area is where they would have been required to carry out skilled work requiring proven reliability and in accordance with the prescribed methods. They have never sat before a properly convened Trade Test Board and found suitably experienced and competent for advancement to technician class 1 or Class 2 in the Trade of Sheet Metal, yet they have been given authorisation to inspect and certify same. (paragraph 4 b)**

c. Air Regulation Manual Part E Section 3 Para 3.5.2 (Qualifications of Candidates for test as Aircraft Inspector within the Air Corps Minimum requirements for Military candidates)

These personnel are not qualified in the Sheet Metal trade in order to fill a vacancy within the sheet metal shop. They have NO proven track record/history of carrying out skilled aircraft sheet metal work such as Minor Repairs, Minor Modifications, Major Repairs/Modifications and Approved Structural Repairs on all aircraft currently in service in the Air Corps. I contend that such repairs require proven reliability and are carried out in accordance with the prescribed methods. They have never been employed in the functional area of operation of the Sheet Metal Shop which has the regulatory responsibility for carrying out such work. (paragraph 4c)

Response of the COS/GOC

10. The COS stated (6 January 2015) that these concerns were addressed in the GOC reports of 27 March 2014 (relating to the Redress of Wrongs application made in November 2013) and 8 December 2014 (relating to the Protected Disclosure) within which he outlined that the authorisation granted to the ten (10) Airframe and Power-plant (A&P) inspectors was

"for the inspection of minor sheet metal repairs on a specific aircraft, and although the actual work may fall outside of the scope of the individual, in their capacity as an A&P inspector they are required to Certify the Release to Service (CRS) of aircraft from the workshops and as such it is within their remit."

11. The GOC (8 December 2014) referred to the ARM Part E Section 1.8 which outlines the scope of work for the Air Corps in general. He quoted section 1.8.10.5 which outlines the scope of work for personnel working within the sheet metal shop.

"The manufacture of components in accordance with drawing approved by the manufacture and/or MAA.

To effect repairs as per manufacturers Structural Repair Manual or Serviced Engineered Modification issued by MAA."

The GOC goes on to add that

"In the context of the above, nine (9) of the ten A&P inspectors are only authorized to perform their duties in an aircraft maintenance hangar environment and are not employed in the sheet metal shop. Accordingly, they are not authorised to perform

tasks in accordance with the scope of work approved for the sheet metal shop. One (1) A&P inspector is the Senior NCO I/C workshops and therefore has been granted additional workshop authority including functioning as a sheet metal inspector within workshops."

12. In relation to part b the GOC (8 December 2014) refers to the ARM Part E Section 3.5.2 which states the following:

"Personnel who have not served a trade apprenticeship must prove or display a level of training / expertise / experience / competence in their area of operation to achieve an equivalent standard to ensure that they may adequately and safely carry out inspection and certification duties. A period of nine years aeronautical work experience in their functional area would normally be required to achieve the required level of experience and expertise, but an individual's competence, rather than time stipulations, is more relevant."

The GOC concluded that the alleged requirement as stated was

"an incorrect interpretation of the ARM Part E and is invalid".

13. In relation to part c the GOC (8 December 2014) responded as follow

"Nine (9) of the 10 A&P inspectors are only authorized to perform their duties in an aircraft maintenance hangar environment and are not employed in the sheet metal shop. One (1) A&P inspector is the Senior NCO I/C workshops and therefore has been granted additional workshop authority including functioning as a sheet metal inspector within workshops as per ARM Part E Section 3.5.2."

14. Review team comments and observations

- The points being made here are essentially the same as those made earlier. The view being expressed by the member in his disclosure is that an Aircraft Inspector must be a competent sheet metal worker with appropriate trade experience before he can be deemed suitable to inspect sheet metal work and release an aircraft to service. This is not the norm in civil aviation or an EU requirement as we have previously indicated.
- This point has been addressed by the Air Corps on numerous occasions over the last few years. Particular circumstances at the time required that certain actions be taken to ensure continued operations.
- The files of the identified aircraft inspectors were reviewed for experience, date of initial authorisation, basic training and additional authorisations granted and the

Review Team are satisfied that each held sufficient experience to be eligible for the authorisation granted for sheet metal work. One workshop inspector who had his authorisation privileges extended was found, at a later date, not to meet the requirements for the authorisation and this was subsequently withdrawn. We comment further on this later in the report. However, it was noted that while the necessary records were available, approval files were inconsistent in what they contained. Reliance was placed on having records in alternate locations e.g. on the AF43A personnel record. Copies of all documentation required to support the issue of an approval should be retained in the approval file.

Issue 5

In the GOC's Air Corps letter to the Chief of Staff dated 27th of March 2014, GOC Air Corps stated 'The Air Corps has used the EASA framework for example in the construction of its Air Regulation Manual (ARM) as that format represented the most comprehensive and modern construct available and it ensured that the Air Corps conformed to or exceeded the equivalent civil ethos.' The EASA Regulations definition of competence states - Competence should be defined as a measurable skill or standard of performance, knowledge and understanding, taking into consideration attitude and behaviour". Notwithstanding the fact that the Aircraft Inspector Interview Panel/Board was NOT constituted as per Air Regulations Manual Part E Section 3 Para 3.8.2. the obvious question has to be asked is, how did the boards deem these individuals competent to inspect and certify aircraft sheet metal Minor Repairs, Minor Modifications and in some cases Major Repairs Modifications and Approved Structural Repairs on all aircraft types currently in service within the Air Corps, when they have NO proven track record/history of carrying out same ?? Further, how did the board measure this "skill" or appraise their "standard of performance" in the functional area of aircraft structural repair when these personnel have never carried out such work?? (paragraphs 6 and 7)

Response of the COS/GOC

15. The COS stated in his report (January 2015) that the GOC Air Corps report (27 March 2014) outlines that

"the A&P Inspectors issue the final certification on all aircraft when they are being released from the workshops, regardless of whether they are sheet metal inspectors or not. If they are not sheet metal inspectors then the A&P inspector still authorises the release of the aircraft on the certification of a sheet metal inspector. In the case

of the individuals concerned ten (10) of them were A&P inspectors on various types of aircraft and one (1) was an aircraft welder inspector”.

In addition the COS added that in the GOC’s report (8 December 2014),

“the GOC Air Corps emphasises the level of knowledge, skill and previous training these individuals have acquired throughout their careers. Their education, training and practical experience on aircraft type was such that senior Aeronautical Engineers deemed them competent and capable of certifying limited sheet metal work for the aircraft they were current on, and thus were given limited additional certifications on their AF 692s”

16. The GOC (8 December 2014) responded to this issue as follows

“The qualifications of each of the inspectors were in accordance with ARM Part E 3.5.2”

17. Review team comments and observation

- The point being made here is essentially the same as previously made. It is questioning the appropriateness of appointing individuals as Aircraft Inspectors who do not have practical experience in the particular trade and we have commented on this above.

Issue 6

“In the GOC Air Corps letter dated 27th of March 2014 the GOC Air Corps informed the Chief of Staff “The Authorisation granted to the ten A&P aircraft inspectors were for the inspection of minor sheet metal repairs on specific aircraft.” This statement is factually incorrect please inspect [REDACTED] Aircraft Inspector Authorisation This clearly indicates that he can inspect all aircraft types in service within the Air Corps and certify the following as airworthy.

- a. Minor Repairs
- b. Minor Modifications
- c. Major Repairs/Modifications
- d. Approved Structural Repairs

Further, please inspect [REDACTED] Aircraft Inspector Authorisation. This clearly indicates that he can inspect the following on the Pilatus PC9M and certify as airworthy

- a. Minor Repairs

b. Minor Modification" (paragraph 8)

Response of the COS/GOC

18. The GOC in his letter of 27th March 2014 did indicate that *"the authorisation granted to the ten A&P aircraft inspectors were for the inspection of minor sheet metal repairs on a specific aircraft"*. In December 2004 the GOC indicated that in fact two individuals had been granted a higher level of authorisation and he outlined the reasons for this.
19. In one case it was understood that the individual, with over 25 years' experience, had completed a sheet metal apprenticeship before he joined the Defence Forces and in March 2013 he had completed the Structure Repair for Aircraft Inspectors course. In April 2013 the panel assessed that he was competent to inspect and certify all aircraft types for both minor and major repairs/modifications and approved structural repairs. (However, it transpired that the understanding in relation to the sheet metal apprenticeship was incorrect – see below).
20. The second case related to an aircraft inspector in charge of workshops with almost 30 years' experience who in March 2013 completed the Structure Repair for Aircraft Inspectors course and in April 2013 was assessed as competent to inspect and certify all aircraft types for both minor and major repairs/modifications and approved structural repairs.
21. The COS in his letter (January 2015) refers to the GOC report (08 December 2014) which he indicates confirms that the level of authorisation in the first case above was commensurate with his level of training, education and, experience. However, as mentioned earlier on 20 March 2015 the GOC, in a letter to the Chief of Staff, drew attention to an error in his report of 8th December 2014. While records correctly showed that the person had completed a FAS apprenticeship in welding in 1998 however the record indicating that that he completed a sheet metal apprenticeship before joining the Air Corps was incorrect. This confusion arose because before joining the Air Corps the person had undertaken several years of training in sheet metal but never completed his apprenticeship. However, he held certificates for the components he completed which were included with his records and confused with a formal qualification.
22. In the context of the above an Aircraft Inspector Authorisation Review Panel was convened on 13 March 2015 to reassess the individual's authorisation to inspect sheet metal repairs. The Board confirmed that the individual had not completed an

apprenticeship in sheet metal and for that reason rescinded the authorisation to inspect sheet metal repairs forthwith.

23. The GOC reported that

“A review of the aircraft inspection records indicates that [the person] had not inspected any sheet metal repairs in the intervening period since being granted authorisation to do so and thus there are no consequent airworthiness issues”

The Chief of Staff directed that the member who raised the issue be briefed on the error²³.

24. Review team comments and observation

- It is clear that additional higher level authorisation privileges were granted to two individuals for the specific reasons set out above.
- It is also clear that in one case an error was made with regard to the authorisation based on incomplete records and that this has been acknowledged and rectified. Our review of the documentation showed that there was evidence in the form of a FAS log that the person in question had commenced a sheet metal apprenticeship. Clearly, this was incorrectly relied upon as there was no completion paper work.
- With regard to the other Inspectors we have examined the document/records relied on to grant additional authorisation privileges and we are satisfied that they are appropriate. As previously mentioned, while the required documentation was available to the Quality Section from various sources within the Air Corps, inconsistency exists on the quantity of supporting material kept on the approval file.
- It is clear from what has been presented that the original intention was to grant authorisation to certain experienced Aircraft Inspectors for minor repairs and modifications. In the main, this occurred but in two cases this was varied and in one of those cases the basis for so doing was erroneous.

Issue 7

“I have made the following personnel aware of the above to no avail.

a.  COS Defence Forces.

²³ Manuscript addition by COS to letter of 20 March 2015 from GOC

- b. [REDACTED] GOC Air Corps
- c. [REDACTED] QC No 4 Support Wing
- d. [REDACTED] OC 401 Squadron

I have numerous correspondences to and from the above stated personnel pertaining to this issue which I will make available on request. GOC Air Corps stated "that none of the individuals alluded to are authorised or qualified to fulfil the roll of Air Corps sheet-metal shop inspector", The Chief of Staff has conceded that the Aircraft Inspector Interview Panels were NOT constructed in accordance with Air Regulations Manual Part E Section 3 Para 3.8.2 , yet he failed to direct the removal of such additional authorisation to inspect and certify Aircraft Structural Repairs as Airworthy". (paragraph 9)

Response of the COS/GOC

25. The COS (January 2015) in his report states

"I am confident that those personnel listed at Para 9, have considered all the concerns raised by the Complainant, and comprehensive investigations have been carried out on a continuing basis since 2011. Both I and GOC Air Corps have treated the matter with the greatest of importance and the competent authorities have fully investigated the issues raised and have determined that there are no safety implications consequent to these actions. Current practices are deemed to be fully compliant with both military and civilian norms".

26. He went on to state that

"I have issued guidance to GOC Air Corps to review the ARM and make amendments as necessary to ensure that in all cases the ARM and actual practice are entirely consistent. To this end, GOC Air Corps convened a Board on 27 Nov 2014, consisting of three senior aeronautical engineer officers who were tasked to conduct a full review of Air Corps inspector Panel regulations. This Board reported to GOC Air Corps on 15 Dec 2014 and a regulatory amendment will be issued before the end of 2014 to address the inconsistency that has arisen."

27. Review team comment and observations

- The various matters raised were examined, addressed and commented on by the COS and the GOC at different stages over the years and we have outlined some of these earlier.

- The reference to the GOC stating, as quoted above, that none of the individuals (inspectors) alluded to are authorised or qualified to fulfil the role of Air Corps sheet-metal shop inspector was made in the context of the GOC distinguishing between the authorisation privileges granted to the ten A&P aircraft inspectors (for minor sheet metal repairs and modifications) and the sheet metal inspector who is authorised to carry out both minor and major repairs on all aircraft types and to inspect this work.
- We have reviewed and commented on the issue of the constitution of the interview panels above.
- The ARM was revised in January 2015 and we have indicated that we are of the view that further work might be undertaken in this regard.

Issue 8

“It is beyond comprehension that these personnel who are not qualified enough to undertake the work I do, are now in a position whereby they will inspect and certify my work. This in my opinion equates to a nurse inspecting and certifying a doctor's treatment? of a patient, this simply does not happen”.(paragraph 10)

Response of the COS/GOC

28. In response to this the COS (January 2015) states that the GOC Air Corps report (08 December 2014) outlines the level of training and qualifications the ten (10) inspectors currently held. In addition he states

“it has been the case that A&P inspectors have always been the final certifying authority on the release of an aircraft from workshops. Being senior inspectors and having undergone training on specific aircraft type it is their responsibility to issue a final Certification of Release to Service (CRS), which authorises the release of the aircraft from the workshops”.

29. Review team comments and observations

- In our view it is important to distinguish between the role of a technician performing work in a sheet metal workshop and that of the inspector authorised to issue a Certificate of Release to service. The sheet metal shop technician is expected to have the knowledge, skills and experience to use the extensive array of machinery in the sheet metal workshop. However, the same does not apply to an inspector with authorisation privileges to issue a CRS.

Issue 9

“It is my belief that it is of the utmost importance that the aircraft Inspector who inspects and certifies these repairs, is qualified and experienced in the trade and capable of carrying out the very task he is inspecting as he forms part of the safety net. In the event that he does not understand the processes being used and the task being carried out, he may not pick up on any possible mistake”. (Paragraph 11)

Response of GOC

30. This was addressed by GOC (December 2014) as follows

“This statement is incorrect.

Each of the 10 inspectors to which the report refers are very experienced aircraft inspectors, who have been properly trained and approved as aircraft inspectors and have many years experience inspecting and certifying aircraft. They have completed an Air Corps apprenticeship which includes full training in sheet metal theory, practice and application. Each has the required qualifications and experience to perform aircraft inspections and to certify work completed on aircraft. In addition they have completed aircraft manufacturer's type courses approved and regulated by National Airworthiness Authorities. The completion of aircraft type courses qualifies technicians to perform maintenance on aircraft in accordance with approved maintenance publications. These publications include the Structural Repair Manual which describes sheet metal repairs and approved modifications. Accordingly their formation, training, selection and appointment as aircraft inspectors are entirely consistent with aviation industry norms.”

31. Review team comments and observations

- Individuals who completed an aircraft apprenticeship are exposed to sheet metal work as part of their training.
- Our review of training apprenticeship records showed that these individuals did have competence to issue CRS and this is consistent with civil aviation practice.

Issue 10

“I sincerely believe in this instance, that the aforementioned displays a total disregard for numerous regulatory requirements of the Air Regulations Manual Part E. Moreover, I believe that the foregoing may have serious consequences for flight safety and the health and safety of both the aircrew and any civilians unfortunate enough to be in the impact zone of an air accident. Finally should the Air Corps have another Air Accident with

fatalities, and the above issues were to be the subject of an Air Accident investigation, there is, in my opinion, a strong possibility that senior members of the Defence Forces would face the prospect of facing charges of gross negligence for various breeches of Health and Safety legislation. Additionally, the Exchequer faces the possibility of multiple suits for negligence” (paragraph 12).

Response of the GOC

32. The GOC (December 2014) stated that

“This is a statement of opinion which ignores the purpose and role of the ARM”.

In concluding he stated that

“As with any military organisation the Air Corps places a high priority on the strict adherence to rules, regulations and military law. Accordingly the regulatory requirements of the ARM Part E associated with the granting of sheet metal inspection authorisation to the ten A&P inspectors have been complied with at all times.

Safety should be cited as a reason for 'HOW' to do something and in this context I am satisfied that safe and appropriate practices were administered in the approval of the current sheet metal authorised inspectors and that safe practices are being applied in the execution of their duties”

33. Review team comments and observations

- From our review we are satisfied that the structures, processes and procedures operated by the Air Corps do have regard to the requirements of the ARM. While there may have been some variations in the past steps have been taken to clarify and streamline the processes.
- We do not believe that these procedures and processes have compromised flight safety in the manner suggested.
- We have noted earlier that the QA section of the Air Corps is responsible for monitoring the compliance of Air Corps operational and maintenance units with the standards laid down and that it does this by carrying out a number of independent audits of Air Corps maintenance units annually.

- We have also noted the Safety Management System Review carried out in September 2013 which as previously indicated did not raise issues in relation to aircraft authorisation privileges.

34. Other issues raised in letter of 10 March 2015

As mentioned earlier the member made a number of additional allegations in relation to:

- his belief that the Minister, Chief of Staff and GOC Air Corps were misled in relation to the nature of the additional inspector authorisations,
- misleading information regarding Health & Safety and Work Practices being provided to the GOC and the State Claims Agency, and
- his belief that his letter of 16th April 2014 was “withheld from the Chief of Staff (suppressed) as it would have highlighted the incompetences of certain personnel in senior management”.

35. Review team comments and observations

- We have discussed above the various issues and allegations made. Having reviewed the documentation we do not believe that there was any attempt to mislead in relating to the nature or extent of the authorisations. It was always the intention that such additional authorisations would be in respect of minor sheet metal works and in the main that is what happened. It has been acknowledged that an error was made in relation to the authorisation for a particular individual and having reviewed the documentation we are satisfied that the reason for it was as set out. In our opinion there was no attempt to mislead. The incident highlights the necessity to make sure that the process is thorough and robust.
- In relation to the Health and Safety issue, as stated earlier, we are satisfied that the processes and procedures adopted by the Air Corps in relation to the authorisation of Aircraft Inspectors did not give rise to any flight safety issue. As regards wider health and safety issues we have been made aware of a particular action that is being handled by the State Claims Agency but it does not relate to the issue of the authorisation of Aircraft Inspectors and as such does not fall within our terms of reference.
- The letter of 16 April 2014 contained the observations of the member on the GOC’s report of 27th March 2014 prepared in connection with the ROW application of November 2013. The member lodged an FOI request on 7 October 2014 for a copy of his signed letter used by the COS in determining the ROW application. He received a

response on 4 December 2014 indicating that, while the request was granted, the letter he sought could not be located. As part of our review we sought this letter and again it was not possible to locate it. There is some evidence by way of an entry in an 'out-post' log book in the Air Corps to indicate that the letter was received and processed. We have seen a copy of a covering letter (unsigned and dated 27 May 2014) from the GOC to the COS forwarding the members letter of 16 April 2014 together with other documentation. However, the original letter could not be located and we were not able to resolve the matter any further. We have no reason to suspect that the letter was withheld or suppressed.

SECTION 6: CONCLUSIONS and RECOMMENDATIONS

- We have reviewed all available documentation relating to this matter going back over a number of years.
- It is clear that the individual member who made the Disclosure had and has concerns about the then developing situation in relation to sheet metal work operation in the Air Corps. Part of this, by his own admission, related to the impact it had on his own career prospects but also to a belief that only a qualified and experienced trade specialist like himself could inspect and sign off on work done by another trade person.
- He has raised, over the years, these concerns with his superiors who were faced with particular practical issues at the time and who decided on a course of action with which he did not and does not agree. At the time when this matter came to the fore there was a public sector wide moratorium on the filling of vacancies. Other ways of getting essential work done had to be considered and adopted.
- The member felt he had been wronged and submitted a ROW as he felt this was the only way this could be highlighted. This was examined by a military Investigation officer and eventually decided on by the Chief of Staff who held that the member had not been wronged.
- The member made numerous FOI requests over the years which were processed and in the main he received the documentation that he requested where it existed as provided for under the FOI legislation.
- The Protected Disclosures Act 2014 provided a further opportunity for him to air the issues that he had concerns about. These were examined at a senior level within the Defence Forces and a report prepared for the Department of Defence. All the various matters raised were addressed one way or another.
- While there was some procedural/documentation deficiencies and errors there was, in our view, nothing of substance that would impact on the overall operations of the Air Corps nor were there any issues of flight safety being compromised.
- From our review of the processes, procedures and documentation we found no evidence to indicate that false or misleading information was deliberately given to superiors or that information was withheld from them. Errors were made but again there is no evidence to suggest that these were deliberate in any way.

- Our review lead us to a view that the Air Corps would benefit from a more centralised process for retaining documentation relating to training, experience for the purpose of supporting issuance of authorisations. As we indicated earlier copies of all documentation required to support the issue of an approval should be retained in the approval file.
- As we mentioned earlier, revisions to the ARM relating to the certifying and authorisation process for aircraft inspectors were made in January 2015. While this was an improvement on the earlier version the Review team felt that there was further scope for clarification and simplification of the process.
- As part of our review we examined a range of technical records and worksheets on aircraft repairs carried out over the last number of years. In our view the current processes and documentation would benefit from an examination that would aim to, inter alia,
 - Improve the archiving system for aircraft records,
 - provide a clear indication in the repair records of classification major or minor per ARM, part E section 2, para 2.9,
 - provide a drawing as part of the record in cases where a part is manufactured in the workshop
 - provide a clear indication in the repair documents of the location on the aircraft where the repair is made,
 - provide references or better references in the repair records of the source of the repair data eg SRM section, page, paragraph or other manual such as AMM or CMM etc.
 - clarify who decides and approves the details of all repairs prior to accomplishment (It seems that the sheetmetal shop is developing the repairs in many instances).
- As mentioned we selected a range of sheet metal records to review. A small number of these records could not be located initially and they formed part of a larger selection of records that were not readily available to the Aer Corps at the time of the Review Team's request. While the records were eventually located and secured for the Review Team the issue of the integrity and security of such important records is a matter that should be addressed by Air Corps management.
- Finally, in our view, civil aviation practice and norms are followed to the extent possible by the Air Corps. Our understanding is that throughout Europe military aviation authorities as far as possible aim to align their procedures and process to civilian aviation standards and that this is the way forward.

Appendix A

Brief note on Protected Disclosures Act 2014²⁴

The primary purpose of the Protected Disclosures Act which came into force on 15 July 2014 is to promote and encourage the development of a positive workplace culture in which raising concerns regarding potential wrongdoing is valued and appropriate action taken in response to such disclosures.

The provisions of the Act extend protection to workers in all sectors, who make a disclosure of information that, in their reasonable belief, tends to show one or more “relevant wrongdoings” and came to the attention of the worker in connection with his or her employment.

A list of eight “relevant wrongdoings” is contained in the Act and includes:

- a) offences that are or are likely to be committed;
- b) failing to comply with legal obligations;
- c) miscarriage of justice;
- d) health and safety risks, including risks to the public as well as other workers;
- e) damage to the environment;
- f) the unauthorised use of public funds or resources;
- g) oppressive, discriminatory or grossly negligent action or inaction by a public body;
- h) information showing any matter falling within any of the categories above has, is or is likely to be destroyed.

A breach of the worker’s contract of employment is excluded.

Public bodies are required under the Act to establish and maintain procedures for the making of protected disclosures by workers and to provide workers with written information relating to these procedures.

The Defence Forces Policy in relation to Protected Disclosures is set out in General Routine Order 07 of 2015.

The Act provides for a tiered or stepped approach to disclosures. The Act encourages the vast majority of disclosures to be made to the employer in the first instance but does provide for other options where this is deemed inappropriate or impossible. The Act provides that a disclosure can be made to a Minister if the worker works for a public body.

²⁴ This note is not exhaustive nor is it a legal interpretation of the legislation

In the case of the Defence Forces members are encouraged to raise concerns with their Commanding Officer in the first place and it is recognised that this may not always be appropriate.

The motivation for making a disclosure is irrelevant as to whether or not a disclosure is a protected disclosure. Also a disclosure is presumed to be a protected disclosure under the Act until the contrary is proved.

Terms of Reference

**Independent Review
into allegations concerning the certification, qualifications and experience of
Air Corps Aircraft Inspectors**

Background

The Minister for Defence has received written correspondence from a member of the Defence Forces detailing certain matters which the member alleges could have serious consequences for flight safety. The matters detailed relate to Air Corps Aircraft Inspectors having authorisation to certify sheet metal repairs and modifications on aircraft types currently in service within the Air Corps without the required qualifications or experience to do so. Allegations are also made regarding misleading information being provided to the Chief of Staff and others, and of information being withheld.

It is stated in the written correspondence that the disclosure is made under the Protected Disclosures Act 2014.

Scope and Timeframe of Review

The review shall encompass a review of all relevant documents held by the Department and the Defence Forces, any additional material as may be supplied or received by the Reviewers, and interviews of such persons as considered appropriate by the Reviewers.

The Reviewers will:

1. Review the allegations as detailed in the written correspondence to the Minister, including

a) Allegations concerning certain technical issues which it is alleged could have serious consequences for flight safety, including

- that a number of Air Corps Aircraft Inspectors have authorisation to certify sheet metal repairs and modifications on aircraft types currently in service within the Air Corps without the required qualifications or experience to do so,

- that Air Corps Aircraft Inspectors do not meet the regulatory requirements set out in the Air Regulation Manual,
- that the interview panel that granted Air Corps Aircraft Inspectors additional authorisation to inspect sheet metal work was not constituted in accordance with the Air Regulations Manual and, therefore, the authorisation granted to the inspectors is invalid,
- that sheet metal work repairs carried out by Air Corps technicians are not limited to minor repairs,
- that health and safety regulations are not being adhered to, and
- review the appropriateness of the procedures that are in place for the certification of technicians in the Air Corps.

and

b) Allegations regarding misleading information being provided or of information being withheld, including

- that misleading information regarding health and safety and work practices within the Air Corps has been provided to GOC Air Corps and the State Claims Agency,
- that senior military personnel were made aware of the concerns raised in the protected disclosure yet no action was taken to remove the additional authorisation to inspect and certify aircraft structural repairs as airworthy, and
- that information was withheld from the Chief of Staff during the military investigation of the complaint.

2. The Reviewers will also consider the nature of the military investigation conducted into the protected disclosure and whether it was appropriate given that the issue was the subject of an FOI in November 2011, a complaint from a member of the public in 2012, a Redress of Wrongs investigation in 2013 and a protected disclosure in November 2014.

3. In relation to each of the allegations as set out above, provide considered views and observations in relation to the substance of the allegation.

4. Provide such other considered views and observations as are considered necessary.

The Reviewers shall be provided with access to all available documentation relevant to the events and any other documentation requested by the Reviewers.

The Reviewers shall be provided with the names of all relevant persons, including serving or retired members of the Defence Forces, or other persons the Reviewers considers appropriate. The Reviewers shall endeavour to interview or take statements from all relevant persons.

The Dept of Defence and the Defence Forces shall each appoint a liaison officer to provide the necessary information required in order to conduct the review and to assist the Reviewers in identifying the relevant persons to be interviewed.

The review shall be submitted to the Minister for Defence by the primary Reviewer before the 31st of October 2015.

Matters specifically excluded from the Review

The member in question also claims that he was, and continues to be, penalised as a result of making the protected disclosure in this case.

In relation to the allegations of penalisation, Section 20 of the Protected Disclosure Act 2014 provides that a member of the Defence Forces who alleges penalisation for making a protected disclosure, may complain directly to the Ombudsman for the Defence Forces (ODF) and that the ODF must investigate these complaints. The member has been advised by the Minister to make a complaint to the ODF in relation to the penalisation claims.

Therefore, the review should NOT include looking into or considering any allegations relating to the penalisation.

Appendix C

List of documentation consulted and reviewed

In addition to the various formal letters, exchanges and reports relating to the matter under review we examined a range of other papers/document including the following

- **Air Regulation Manual**
 - **Part A General –**
 - Operations requirements information and instructions, dated 01/02/2008
 - List of changes incorporated in ARM Part A, revision 2 (no date)
 - **Part E**
 - Contents, Issue 2, Rev 13, 12 Jan 2015
 - Section 2, Para 2.9 Repair Procedure revision Iss 2, Rev 2, 16 Jun 05
 - Section 3, Para 3.5, Certifying Staff Qualification and Training Procedures,
 - Iss 2, Rev 1, 1 Mar 04.
 - Iss 2, Rev 2, 16 Jun 05
 - Iss 2, Rev 8, 17 Jan 08
 - Iss 2, Rev 12, 12 Jan 2015
 - Section 3, Para 3.8, Certifying inspectors – Qualification Process,
 - Iss 2, Rev 1, 1 Mar 2004
 - Iss 2, Rev 8, 17 Jan 2008
 - Iss 2, Rev 11, 5 Jun 2009
 - Iss 2, Rev 13, 12 Jan 2015
 - **Quality Assurance – MMOE revision Control Form**
 - 15 Jan 2008, Section 3, Para 3.8, CAO approved 24/1/2008
 - 20 Nov 2008, Section 3, Para 3.8.4.2.i, not approved
 - 20 April 2004, Para 3.5 & 3.8, not approved
- **Aircraft modification lists**
 - Index of EC135T2/P2 Modifications 30/05/14
 - Index of PC-9M modifications 13 March 2009
 - Index of AW139 Modifications 19/09/14
 - Index of Cessna 172H modifications 25 Oct 2011
 - Index of CASA CN235 modifications 4 July 2014
 - Index of Defender BN2T-4S Modifications 15 May 2013
 - Index of Learjet 45 Modifications 2 April 2012
 - List of task cards open for the sheetmetal shop from Jan 2011.

- Reports on Defect or Failure (ACF 113A)
- Aircraft repair records and worksheets reviewed
 - C172H 2013 & 2014 records
 - LR45 2013 & 2014 records
 - BN2T 45 2013 & 2014 records
 - CASA 2013 & 2014 records
 - EC135 2011, 2013 & 2014 records
 - AW139 2013 & 2014 records
 - PC9M 2010, 2013 & 2014 records
 - Non aircraft 2013 & 2014 records
- 'Redress of Wrongs' application and Report, 2013 and follow-on FOI request
- Freedom of Information Requests – multiple requests over the period involved including one from a member of the public
- Review of GOC Convening orders and Aircraft Inspectors Authorisations (AF 692)
- Approval files for Air Corps personnel
- Irish Air Corps – Safety Management System Review 16-20 September 2013
- Commission Regulation (EU) No 1321/2014) of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks.
- Defence Forces Regulations - CS8 – Air Corps Military Aviation Regulations and Directives, 20 July 2012.
- FAS/Solas Apprenticeship Training records for certain Air Corps personnel
- Defence Forces Non-Commissioned officer (NCO) Promotion System 2012
- Irish Air Corps Safety Management System Review 16-20 September 2013, (J Michaud & F Feeney)
- Review of documentation including emails relating to the issue of sheet metal inspection from 2010 onwards

- Material provided by the member in question
- Defence Forces Policy in relation to Protected Disclosures - General Routine Order 07 of 2015
- DFR A.8. Documents, Order, Records, Correspondence and returns