Institute for Apprenticeships
& Technical Education

End-point assessment plan for the
Air Traffic Controller apprenticeship standard

Apprenticeship standard reference number	Level of this end point assessment (EPA)	Integrated
ST0595	5	No

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Overview of the Air Traffic Control Apprenticeship

The UK manages one of the busiest and most complex pieces of airspace in the world. A range of specialist air traffic controller roles contribute to the safe and efficient movement of aircraft with civil and military operations working collaboratively to maintain a fully integrated service to all users, 24 hours a day, every day of the year.

Air Traffic Controllers work in a number of aviation environments such as an air traffic control centres, commercial airports, military bases and aerodromes, or other airfields; some air traffic controllers find their training and experience useful in consultancy, aerospace manufacturing or in the global aerospace industry. The guiding principle of air traffic control is to deliver a safe, efficient and reliable service using their knowledge and skills. Air traffic controllers in the UK would usually work for a commercial/ civil employer or the military.

This apprenticeship combines theoretical learning and development of practical skills in simulated and live air traffic environments to build and develop Air Traffic Control Officers (ATCOs), also termed Air Traffic Controllers. Each Apprentice will undertake a tailored programme. The Employer will agree which discipline the Apprentice will undertake. The Knowledge, Skills and Behaviours (KSBs) gained and assessed throughout the apprenticeship are aligned with the requirements of the UK Civil and Military Regulators.

This document defines the End-Point Assessment (EPA) plan for the Level 5 Air Traffic Controller Apprenticeship. It provides guidance to Apprentices and their Employers as to what is expected in terms of the EPA.

This assessment plan provides terms of reference for both the Training Providers and the End Point Assessment Organisations involved with regard to:

- What will be assessed
- How the Apprentice will be assessed
- Who will carry out the assessment
- The internal and external quality assurance arrangement to make sure that end-point assessments are reliable and consistent across different locations and end-point assessment organisations

The duration of the training for each specialism is proportionate to the complexity and workload for the role. The Air Traffic Controller apprenticeship has been developed to provide a recognised equivalence of training which can be delivered across all Air Traffic Controller specialisms. The apprenticeship will form part of the Air Traffic Controller's training, but it is not directly linked to obtaining a rating or licence to practice air traffic control in the UK. Consequently, some Air Traffic Controller specialisms may validate their full Air Traffic Controller Rating Endorsement at a similar time as they gain their apprenticeship qualification whilst others, where the task is very complex, will gain their apprenticeship qualification ahead of their full Air Traffic Controller Rating Endorsement.

The Trailblazer has adopted this approach to attest a standard and consistent level of knowledge, skills and behaviours for all Air Traffic Controller apprentices across all specialisms. The Air Traffic Controller apprenticeship is recognised by all employers in the Trailblazer and all employers undertaking this apprenticeship.

Summary of Assessment

The objective of the EPA is the assessment, at the end of the apprenticeship, of the Knowledge, Skills and Behaviours (KSBs) developed throughout the apprenticeship in order to determine competency. The relevant KSBs are articulated in the Air Traffic Controller Apprenticeship Standard. Performance in the EPA will determine the classification for the apprenticeship: that is Pass or Fail.

The typical duration of the Air Traffic Controller Apprenticeship is between 15 and 21 months. The EPA period should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, that is to say

they are deemed to have achieved occupational competence. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer. The EPA assessment consists of:

- Practical Assessment
- Oral Assessment

Apprentices who attain a pass overall will receive an apprenticeship certificate showing achievement of the apprenticeship standard for an Air Traffic Controller.
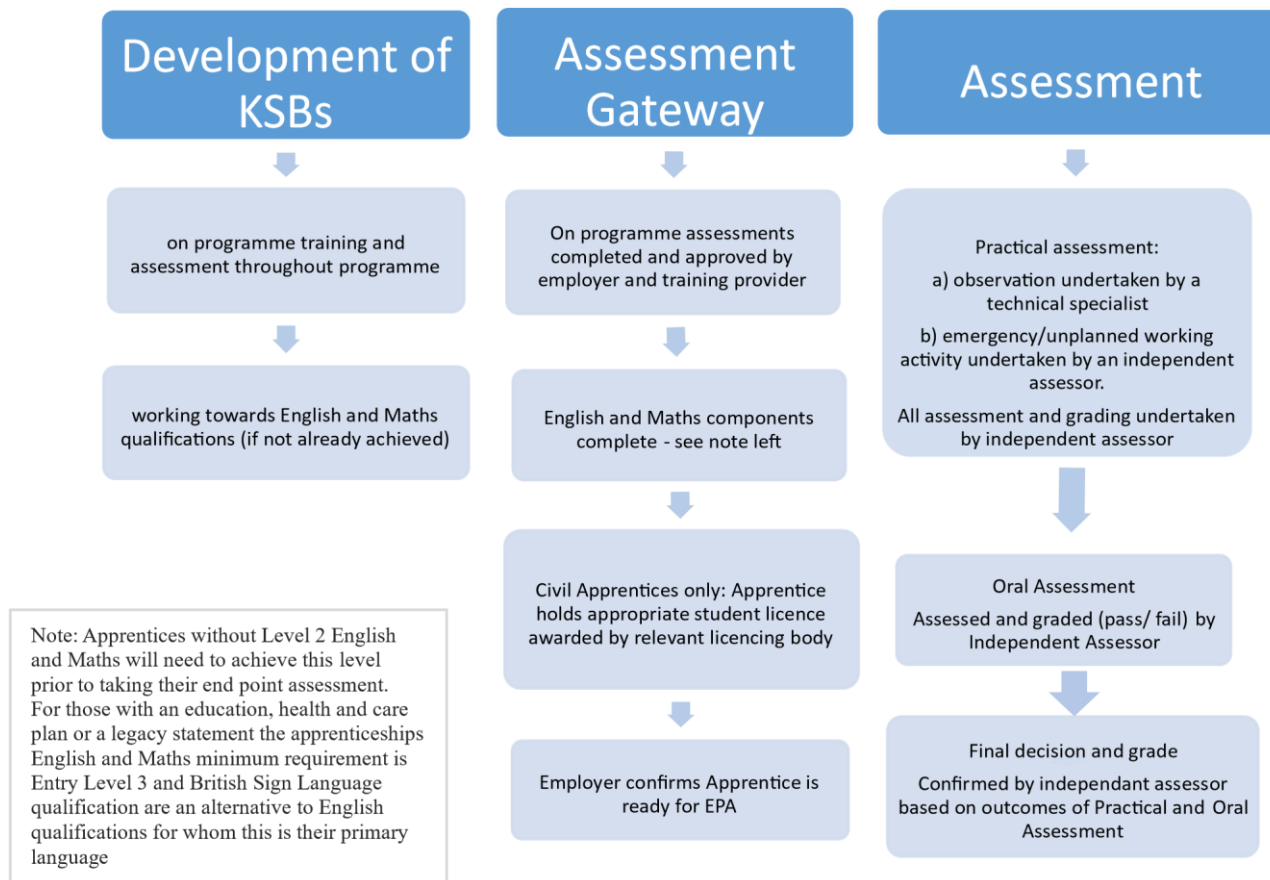
Figure 1: Delivery of the ATCO Apprenticeship

Development of KSBs

- on programme training and assessment throughout programme
- working towards English and Maths qualifications (if not already achieved)

Note: Apprentices without Level 2 English and Maths will need to achieve this level prior to taking their end point assessment. For those with an education, health and care plan or a legacy statement the apprenticeships English and Maths minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language

Assessment Gateway

- On programme assessments completed and approved by employer and training provider
- English and Maths components complete - see note left
- Civil Apprentices only: Apprentice holds appropriate student licence awarded by relevant licencing body
- Employer confirms Apprentice is ready for EPA

Assessment

- Practical assessment:
  a) observation undertaken by a technical specialist
  b) emergency/unplanned working activity undertaken by an independent assessor.
  All assessment and grading undertaken by independent assessor
- Oral Assessment
  Assessed and graded (pass/ fail) by Independent Assessor
- Final decision and grade
  Confirmed by independant assessor based on outcomes of Practical and Oral Assessment

Assessment Gateway

The Assessment Gateway sets out the requirements that the apprentice must meet before undertaking the EPA for the apprenticeship standard. The following pre-requisites all have to be achieved before the Apprentice can be put forward for the EPA:

- On-programme learning and assessments completed
- Evidence of satisfactory performance and progression completed and approved by Employer and Training Provider
- Employer satisfied that the Apprentice has gained all of the knowledge, skills and behaviours (for the core competencies and selected option)
- Civil Apprentices only: The Apprentice holds a student licence as awarded by the appropriate licencing body
- Level 2 English and Maths

The Employer will confirm when the Apprentice is ready to undertake the EPA.

End Point Assessment

The EPA must be undertaken by an End Point Assessment Organisation (EPAO) that is registered with the Education and Skills Funding Agency's Register of End-Point Assessment Organisations (RoEPAO). The selected organisation will be responsible for coordinating and carrying out the EPA. The EPAO must appoint appropriately qualified and experienced Independent Assessors to conduct the EPA as defined in this plan.

The assessment of specialisms cited in this standard are unique to each site i.e. Airport, Air Traffic Control Centre, Mil/ Civil, with technical experts holding specific knowledge about the site, security permissions and operating procedures to comply with, for example, the certification to operate as an Air Navigation Service Provider (ANSP) under the EC Regulation 1035:2011 – 'The Common Requirement', Health and Safety at Work Act 1974 and The Electricity at Work Regulations 1989 (SI 1989/635) (as amended). As there are strict limits placed on who may be physically present in a live or simulated Air-Traffic Control environment the following model is employed:

- The Independent Assessor will be recruited by the EPAO. The Independent Assessor is not employed by the Employer (of the apprentice) and must not have been involved in the apprentice's training. This person alone will make grading decisions on each of the assessment methods set out in this EPA plan. The Independent Assessor will directly conduct the Oral Assessment but not will not be present for the observation of live or simulated traffic element of the Practical Assessment. They will conduct all other aspects of the EPA themselves including the question and answer elements of the Practical Assessment.

- The live or simulated observation element of the Practical Assessment will instead be observed by the technical specialist - an appropriate person as defined in this EPA plan – who works for the same organisation as the Apprentice and who is therefore permitted in the live or simulated Air-Traffic environment.

- The technical specialist will observe the practical assessment but must not make any grading decisions. They should record factual information about the apprentice's actions during the practical assessment. This record must then be sent to the Independent Assessor for them to base their questioning on and grade.

Summary of Assessment

The EPA must be completed within an EPA period lasting a maximum of 3 month(s), beginning when the apprentice has passed the EPA gateway.

If an EPA assessment method is failed, it should be resat/retaken within the EPA period and in-line with the requirements set out in this assessment plan.

Methods of Assessment

The EPA uses the following assessment methods and must be undertaken in the order shown. This is because the safety and compliance related nature of the occupation means it is fundamental that the apprentice must first demonstrate their competence in a live or simulated traffic environment. Both assessment methods must be successfully completed within 3 months of the EPA gateway. If an apprentice fails the Practical Assessment, they will not move forward to the Oral Assessment.

Assessment Method	Area Assessed	Assessed By	Grading
Practical Assessment	Apprentices will be observed by the technical specialist on light air traffic complexity planned. The Independent Assessor will ask questions about the actions and choices that the apprentice has made. The Independent Assessor will also undertake the emergency/unplanned activity with the apprentice.	End Point Assessment Organisation	Pass or Fail
Oral Assessment	The oral assessment is a structured discussion between the apprentice and the Independent Assessor covering a range of knowledge, skills and behaviours	End Point Assessment Organisation	Pass or Fail

The grading for both Practical and Oral assessment will be limited to pass/ fail. Air Traffic Control is a safety critical industry with high levels of attainment required throughout training and for the whole of an Air Traffic Controller's career. The assessment grading for this apprenticeship, which comprises part of the training to become a fully qualified Air Traffic Controller, aligns to existing laws and norms for European and UK air traffic control.

The following table shows the combination of assessment method grades to determine the overall grade:

Overall Grade	Practical Assessment	Oral Assessment
Pass	Pass	Pass
Fail	The apprentice has not achieved a minimum of a Pass in both methods	

Practical Assessment

A practical assessment has been chosen as a direct test of the apprentice's skill, as well as underpinning knowledge and behaviours. Given the high degree of responsibility that this occupation carries, particularly in terms of the safety of airborne passengers and crew, it is critical to this apprenticeship that the apprentice is observed in their real work environment or a simulated work environment on the simulator, conducting tasks that are vital to the role. The Practical Assessment will be arranged no less than seven days before the Practical Assessment takes place. The majority of the Practical Assessment will be observed in real life or simulated activity, in the Apprentice's normal place of work or simulator environment and carrying out their normal duties. Scenarios will be used to test unplanned and emergency scenarios. This will be undertaken by the independent assessor away from the work environment. There are strict limits on whom may be physically present in a live or simulated Air-Traffic Controller environment (as set out on page 5); consequently the Apprentice will be observed throughout the live or simulated elements of the Practical Assessment by a technical specialist from the same organisation as the apprentice.

The technical specialist observing the practical assessment must not make any grading decisions. They should remain silent and record factual information about the apprentice's actions during the practical assessment. This record must then be sent to the independent assessor who will then ask the apprentice questions about their actions, and record their

responses, undertake the unplanned and emergency activities before make the grading decision for this method.

The EPAO will ensure that the technical specialist, the Independent Assessor, Employer and the Apprentice are all aware of the date and time of the Observation within the Practical Assessment. The EPAO will also arrange a time for a subsequent face-to-face meeting to take place between the Independent Assessor and Apprentice so that the Independent Assessor may undertake the emergency and unplanned activity and to ask their questions arising from the Observation. This must happen within 1 week of the Practical Assessment observation. For those undertaking their EPA in a real work environment, the EPAO will schedule the Practical Assessment at a time of day when anticipated traffic levels will support the assessment of the Knowledge, Skills and Behaviours under test (no Apprentice may be either advantaged or disadvantaged by the complexity of traffic during the assessment, so traffic levels should not be unreasonably low, or unreasonably high. Using their judgement, the EPAO, using evidence presented by the technical expert, can decide to halt the Practical Assessment if traffic complexity is considered unreasonable (a variance of+/-20% of the median expected light traffic for the chosen airspace). In such cases, the Assessment would not be graded). The Practical Assessment will comprise 4 elements
(Takeover, Operate, Handover & Emergency/Unplanned) taken in the following order:

- o **Takeover:** where the apprentice uses their knowledge, skills and behaviours to appraise themselves of the current and planned traffic and airspace situation through self-briefing of published notices, interrogation of systems data and formal handover with the Air Traffic Controller currently managing their designated area of control. Takeover will demonstrate correct application of KSBs relative to the Core and Specialist KSBs in Appendix B.

- o **Operate**: where the apprentice safely and efficiently manages light levels of traffic within their designated area of control through applying their knowledge and skills to develop and adjust their plans to respond to evolving data, information and communication provided by the tools, equipment and systems available to them. The Operate phase of the Practical Assessment provides the Apprentice the opportunity to demonstrate correct application of KSBs relative to the Core and Specialist KSBs identified below and replicated below in Appendix B. o **Handover**: where the apprentice uses their knowledge, skills and behaviours to appraise the controller taking over their designated area of control by explaining pertinent and relevant plans in progress, and ensuring formal safe and effective handover with the Air Traffic Controller due to takeover management of the airspace. Takeover will demonstrate correct application of KSBs relative to the Core and Specialist KSBs identified below and replicated below in Appendix B. At the end of Handover the Apprentice ceases to manage live air-traffic.

  During Takeover, Operate and Handover phases the technical specialist will be passive but will record what they observe using tools supplied by the EPAO. After this record is completed the Independent Assessor will later ask follow-up questions from the record of the practical assessment. The questioning gives the apprentice the opportunity to justify their choices and for the assessor to assess the apprentice's depth of understanding, authenticate the factual account and assess those KSBs that did not naturally occur (although these should be kept to a minimum). The Independent Assessor will ask a minimum of 5 of their own questions and any number of follow-up questions within the time allowed; these will be written by the Independent Assessor and

tailored to the content of the individual observation record. 30 minutes is permitted for questions; this is in addition to the total assessment time permitted for the Practical. The Independent Assessor will document the questions asked as well as the Apprentice's responses.

- o **Emergency/ Unplanned**: The Independent Assessor will ensure that fictitious scenarios are used to test un-planned and emergency elements of the EPA; this approach allows for all required Knowledge and Skills to be assessed when naturally occurring scenarios are infrequent or very rare. The Apprentice will be presented with one emergency and one unusual event during a table top simulation to demonstrate correct application of KSBs relative to the core and specialist KSBs identified below and replicated in Appendix B. The table top simulation will take the form of a question and answer discussion based around two different scenarios (one emergency, and one unplanned event). For this purpose a structured specification and test bank must be developed by EPAOs; on no more than 1 page of A4 (maximum 500 words), each scenario must describe the circumstances of the main aircraft affected, a basic description of the light traffic complexity in the vicinity, key legislation, local procedures and weather. The Independent Assessor will verbally describe each scenario to the Apprentice, ask them how they would have responded, and record their responses. The Apprentice will provide verbal responses. The Independent Assessor will ask 4 prepared questions in total, selected themselves and drawn from the EPAO question bank. Where required, any number of further follow up questions are permitted within the time allowed in order to probe the apprentice's initial responses. The 'question bank' must be of sufficient size to prevent predictability and be reviewed regularly (and at least once a year) to ensure that it, and its content, are fit for purpose. The specifications, including questions relating to the underpinning knowledge, skills and behaviours, must be varied yet allow assessment of the relevant KSBs.

The apprentice must meet all of the KSBs assigned to this method to gain a Pass grade. The grading descriptors for this method are detailed in the grading section of this document. The apprentice will be deemed to have failed the practical assessment if they have not met all of the pass criteria for the Practical Assessment.

Where the Independent Assessor determines that the Apprentice has not had full opportunity to demonstrate competency because an opportunity has not naturally occurred, simulation will be used.

The Practical Assessment (including all 4 elements) will take place over 2 hours with a plus 10% tolerance permitted at the discretion of the independent assessor to provide scope for the apprentice to demonstrate their full abilities. (This 2 hours does not include the 30 minutes allowed for questions following the Practical observation. The Independent Assessor is responsible for ensuring that the apprentice has had opportunity to demonstrate all of the knowledge, skills and behaviours being assessed.

Standard question templates will be developed by the EPAO and will be used to ensure consistency and allow the Independent Assessor to focus on key areas for confirmation of performance and effective appraisal of the evidence base. This will ensure that consistent approaches are taken and that all key areas are appropriately explored. Such

templates must be provided by the EPAO to the independent assessor for both the Q&A phase of the practical assessment observation and also the scenario based assessment.

Oral Assessment

An Oral Assessment has been chosen as this is an appropriate way to test the areas of competency that are unlikely to naturally occur during a practical assessment. The Oral will allow the opportunity to discuss broader areas of real work activity the apprentice has been involved in during their on-programme phase. Through additional questioning this assessment method will allow the Independent Assessor to probe the apprentice's competency in the mapped knowledge, skills and behaviours.

The Oral Assessment will be managed and assessed by the Independent Assessor appointed by the EPAO. The Oral Assessment is a structured Q&A discussion between the Apprentice and the Independent Assessor. A standard question template will be developed by the EPAO to ensure consistency, to guide the Independent Assessors to focus on key areas for confirmation of performance, and to ensure effective appraisal using a standardised, evidence based, approach. The EPAO must develop question banks of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the questions they contain, are fit for purpose. The Independent Assessor must pre-prepare and document the questions to be asked based on all of the knowledge, skills and behaviours to be tested by this assessment method.

The Oral Assessment should be arranged no less than seven days before the Oral Assessment taking place. The Oral Assessment will be the final stage of the EPA process. The Oral Assessment will cover the core, and the relevant option, areas of the Standard below. All of the knowledge, skills and behaviour elements that are tested must be assessed as 'pass' for the Apprentice to pass this assessment method.

- The Oral Assessment will be carried out over a 1.5 hour period with a plus 10% tolerance permitted at the discretion of the Independent assessor to provide scope for the apprentice to demonstrate their full abilities.

- The Independent Assessor will ask a minimum of 8 questions during the Oral Assessment, drawn from the EPAO question bank. Follow-up questions are permitted for each key question asked within the maximum time allowed. The Oral Assessment will assess the core, and the relevant specialist, areas of the Standard below. The apprentice will be deemed to have passed the Oral assessment if they meet all of the pass criteria for the core, and relevant specialist, areas of the Standard below. The apprentice will be deemed to have failed the Oral assessment if they have not met all of the pass criteria.

The Independent Assessor will document the questions asked as well as the Apprentice's responses.

The Oral Assessment will be conducted in a quiet room, which may be at the Employer's premises but must be away from the normal workstation. If for any reason it is not possible for the Apprentice and the Independent Assessor to meet in the same place, the EPAO is responsible for ensuring that adequate controls are in place to maintain fair and accurate assessment.

The Oral Assessment may be conducted using technology, as long as fair assessment conditions can be maintained. The EPAO is to ensure sufficient equipment and security arrangements (measures to prevent misrepresentation) are in place where video links are the preferred method of delivery, e.g. 360-degree camera function with assessors when the assessments are undertaken remotely.

The EPAOs must develop a bank of questions which is of sufficient size to mitigate predictability; the question bank must be reviewed at least annually to ensure that questions remain fit for purpose. The questions relating to the underpinning knowledge, skills and behaviours, must be varied yet allow assessment of the relevant KSBs.

Grading Descriptors for the Practical Assessment

The table below sets out all (in both Core and Specialist sections), the grading descriptors which must be evidenced during the practical assessment. The knowledge, skills and behaviours to which this refers are mapped in column one; the full mapping is set out in Appendix B at the end of this document.

Core	Pass Criteria: Knowledge and Skills	Fail Criteria:
Safety K1, S1	The Apprentice maintains a safe working environment throughout the entire Practical Observation showing compliance with health and safety obligations in relation to their personal safety, their colleague's safety, and the safety of all aircraft within their jurisdiction. Emergency and unplanned conditions are responded to effectively in so far that all relevant protocols are followed and the apprentice correctly decides if (and to whom) a decision must be escalated.	Apprentice has failed to meet the pass criteria

Planning K3, S3	Prior to Takeover, the Apprentice demonstrates that they are able to use the appropriate tools, notices and data to complete their self-briefing. During Takeover, the Apprentice demonstrates that they have followed the prescribed process and have gained full understanding of the traffic situation before taking over from the ATCO handing over the air traffic position. During Operate, the Apprentice demonstrates they have maintained spatial awareness within the designated area of control, that they have followed the prescribed processes and are able to use the available data, process and tools to form, implement and evolve plans to maintain a safe air traffic environment. During Handover, the Apprentice demonstrates that they have followed the prescribed process to safely and effectively handover to the ATCO taking over the air traffic position.
Communication K5, S5	Throughout the Practical, the Apprentice shows they communicate effectively at all times with all Stakeholders to ensure that the aircraft under their jurisdiction maintain a safe and effective operation. This means that necessary radio and radar contact is maintained, and all necessary information is passed to aircraft and other affected ATC's. All communication received during the practical is understood

	and acted upon.	
Team working & Resource Management K6, S6	During Takeover, Operation and Handover, the apprentice follows all necessary procedures and protocols to ensure a safe and effective operation whilst understanding their responsibilities to the environment. During Operations, the Apprentices demonstrates effective resource management by assessing and responding effectively to light levels of traffic volume and complexity. When managing a difficult situation or people, the apprentice cooperates with all other stakeholders, including Aircraft and other ATC's, to ensure safe operation of all aircraft.	

Air Traffic Operations K7, S7	Throughout the Operation phase of the practical, under normal, planned light traffic complexity, the Apprentice delivers a safe and effective operation for all aircraft in their jurisdiction. They apply all relevant laws and procedures and respond to all arising variables including weather. Additionally, during the Emergency/ Unplanned simulation, the Apprentice responds appropriately to both 1 emergency and 1 unplanned event explaining the decisions required to maintain safe operation for all affected.	
Behaviours B2, B3, B6	The Apprentice's communication with aircraft, other ATC's, and any other external stakeholders they needed to liaise with, is seen throughout the practical to be courteous and respectful. The apprentice takes ownership of their responsibilities and does not leave tasks for others. During Operations, the apprentice is attentive to all aircraft flight plans, and proactive in addressing all possible risks to safety, security and compliance of the flights under their jurisdiction.	

Specialist Knowledge and Skills

The Apprentice will have trained in one of the following specialisms. In addition to the core knowledge, skills and behaviours above, the Practical Assessment will ensure assessment of the relevant specialist knowledge and skills:

Specialist	Pass Criteria: Knowledge and Skills	Fail Criteria:
Civil Area/ Terminal Controllers K10,S10	During the Practical, the Apprentice demonstrates that all aircraft and all other traffic within their designated area of responsibility is managed safely, securely and compliantly. The apprentice applies judgment that appropriately balances the needs of all aircraft/traffic. The Apprentice's actions takes account of the specific rules, principles and techniques pertinent to Civil Area/ Terminal control and how they impact, the Civil Area/ Terminal environment.	Apprentice has failed to meet the pass criteria
Civil Approach Controllers K11,S11	During the Practical, the Apprentice arranges all aircraft into a compliant and effective approach sequence, making appropriate use of available surveillance equipment and other tools. The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to Civil Approach control and how they impact, the Civil Approach environment.	

Civil Approach Procedural Controllers K12,S12	During the Practical, the Apprentice arranges all aircraft into a compliant and effective approach sequence, in accordance with appropriate procedures and other tools. The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to Civil Approach control and how they impact, the civil approach environment.	
Civil Aerodrome Controllers K13, S13	During the Practical, the Apprentice controls all vehicles within their Aerodrome area alongside the movement of aircraft both on the ground and in-flight in the vicinity of the Aerodrome, to provide a compliant and safe service. The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to their Aerodrome.	
Military Weapons Controllers K14, S14	The Apprentice makes an effective contribution to maintaining military airborne security by providing timely and appropriate information to pilots on the relevant real-time air picture. The Apprentice's tactical control instructions to the pilot show that all relevant evidence is considered and weighted appropriately.	

	The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to Military Weapons Controllers and how they impact the Military environment.	
Military Area Radar K15, S15	During the Practical, the Apprentice provides all necessary stakeholders with information and guidance that enables military air systems to operate with tactical freedom in either a controlled or uncontrolled Airspace environment, whilst ensuring safe and effective integration with Civil airspace users throughout the UK FIR/UIR. The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to Military Area Radar controllers and how they impact the Military environment.	

Military Terminal Radar Controllers K16, S16	Throughout the Practical the Apprentice's use of radar allows for safe control instructions for military aircraft departing, approaching or flying through the vicinity of the airfield. The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to Military Terminal Radar controllers and how they impact, the Military environment.	
Military Terminal Aerodrome Controllers K17, S17	During the Practical, the Apprentice controls all vehicles within their Aerodrome area alongside the movement of aircraft both on the ground and in-flight in the vicinity of the Aerodrome, to provide a compliant and safe service. The Apprentice's action takes correct account of the specific rules, principles and techniques pertinent to their Aerodrome.	

Grading Descriptors for the Oral Assessment

The table below sets out all (in both core and specialist sections), the grading descriptors which must be evidenced during the Oral Assessment. The knowledge, skills and behaviours to which this refers are mapped in column one; the full mapping is set out in Appendix B at the end of this document.

Core Knowledge, Skills and Behaviours

	Pass Criteria: Knowledge and Behaviours	**Fail Criteria:**
Security K2, S2	The Apprentice can list at least 5 distinctly different types of potential security threat; the Independent assessor will select one of these threats at random for the apprentice to describe the potential impact on the business and the operation in the event of a security breach.'	Apprentice has failed to meet the pass criteria
Compliance & Legislation K4, S4	The Apprentice can précis and rationalise the techniques they use to manage and comply with local, national and international legislation, codes of practice and guidance within own area of responsibility.	

Service Level Agreements K8, S8	The Apprentice can summarise the agreed levels of performance. The Apprentice can describe one example of how they have worked to achieve a request from an adjacent sector or unit.	

Personal Effectiveness K9, S9	The Apprentice clearly explains the responsibilities and accountabilities for their role. The Apprentice describes how and why they maintain resilience, effectiveness and operational safety when a plan is not followed. The Apprentice can give an example of when they have reacted positively to any errors identified and explains the impact of their actions to the quality of service they provide. The Apprentice clearly explains why they need to be able to recognise and respond appropriately to the signs and symptoms of fatigue. The Apprentice describes the impact of personal medical fitness and the impact on personal effectiveness.
Behaviours B1, B2, B4, B5	The Apprentice can provide one example of how they have proactively promoted the values of the organisation either internally or externally, including the impact. And they can outline how they display loyalty, integrity and accountability to the organisation. The Apprentice can say why it is important to them to treat internal stakeholders with courtesy and respect. They can articulate by way of one example how they have sought to improve something in the workplace (either themselves, their team, or a process), the impact and at least one lesson learned.

End Point Final Judgement

The final decision regarding whether the apprentice has passed is made by the EPAO. A 'Pass' in both the Practical Assessment and the Oral Assessment will lead to a 'Pass' overall. A 'Fail' in either the Practical Assessment or the Oral Assessment will lead to a 'Fail' overall. Successful achievement of the EPA will lead to final certification of the apprenticeship.

Independence

Independence is assured through a number of mechanisms:

- The Independent Assessor* is appointed by the EPAO, will be completely independent of the apprentice and will have had no involvement in the Apprentice's training or line management.

- The technical specialist is appointed by the EPAO, will only record their observation of the practical assessment and has no role in grading**

- The UK regulator will be the External Quality Assurance

- Assessment delivered by an End Point Assessment Organisation

*The Independent Assessor is not present during takeover, operate and handover elements of the practical assessment, however independence is assured as the Independent Assessor remains responsible for grading. Their grading decisions will be in part informed by the record of the practical assessment, completed by the technical specialist; however the Independent Assessor has the opportunity to ask the apprentice questions based on that record.

**The technical specialist undertaking the practical assessment may be recruited from the Employer by the EPAO. Additionally, the technical specialist conducting the practical observation must not make any grading decisions and must not have been involved in the apprentice's training or line management. They should record factual information about the apprentice's actions during the practical assessment. This record must then be sent to the independent assessor who will then make the grading decision based on the record provided by the independent assessor.

Air Traffic Control is a regulated profession and independence and impartiality is ensured through training, inspection and continued oversight of the operation by the appropriate regulators who uphold the law. The same regulatory requirements apply to all Air Traffic Control employers, and Air Traffic Control training organisations regardless of size. Part of the regulatory requirement for an Air Traffic Control Training organisation's licence is that it must have sufficient assessors in order to continue operating as a training organisation.

The End Point Assessment Organisation appointed must be on the Register of End Point Assessment Organisations.

End Point Grading

The apprenticeship will be graded pass or fail. European Regulation (Commission Regulation (EU) 2015/340) requires that performance against all air traffic control disciplines is assessed as either satisfactory (sat) or unsatisfactory (unsat); the apprenticeship grading of pass/ fail

aligns to this requirement. The decision regarding whether to assign pass or fail to the Apprenticeship will be determined by collective performance in the both the practical and oral elements of the EPA. Both practical and oral assessment must be passed to achieve the apprenticeship. The grading assessment is awarded by the EPAO's Independent Assessor. In the event of an appeal against the grade awarded, the End Point Assessment Organisation will carry out a further review of the evidence to confirm or modify the grade in line with their standard procedures.

Successful apprentices will receive an apprenticeship certificate showing achievement of the apprenticeship standard for an Air Traffic Controller.

Re-sits and Re-takes

Apprentices who fail one or more assessment method may be offered the opportunity to take a re-sit or a re-take. A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for the re-sit or a re-take. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

An apprentice who fails an assessment method, and therefore the EPA in the first instance, will be required to re-sit or re-take any failed assessment methods only.

Any assessment method re-sit or re-take must be taken during the maximum EPA period of 3 months, otherwise the entire EPA must be taken again, unless in the opinion of the EPAO exceptional circumstances apply outside the control of the apprentice or their employer.

End point Roles and Responsibility

Employer:	Provide on the job training and the opportunity for the apprentice to reach and take the end point assessment.
	Ensure the correct staff and equipment are available to give the best possible opportunity for the apprentice to reach the required standard.
	Confirm apprentice is ready for EPA.
Training Provider:	Provide all the training and equipment required to train and carry out assessments.
	Deliver the appropriate approved training and assessments to allow the apprentice to gain the required knowledge and skills for the work place.
	Ensure that the training is delivered as per the agreed training plan and prepares the apprentice for the EPA.

End Point Assessment Organisation:	Design, administer and mark assessments. Develop appropriate Internal Quality Assurance processes to ensure that: • Assessors are qualified and trained • Grading is applied consistently

	☐Assessment instruments such as test question and practical assessments are robust: Maintain a record of qualified Independent Assessor's competencies and flag any competencies which are due to expire in good time. Provide qualified Independent Assessors to carry out the end point assessment. Ensure robust standardisation and quality assurance processes that comply with UK and European law for assessment of Air Traffic Control training. Remain registered on the Register of End-Point Assessment Organisations (RoEPAO). Ensure the apprentice has been assessed in a fair and consistent way in accordance with the assessment plan. Make and record the final decision on grading. Facilitate moderation exercises and standardisation events. Award Apprenticeship Certificates to successful Apprentices.
Independent Assessor:	Appointed by the EPAO. Is not present for the Practical Observation but will review the observation record produced by the technical specialist. They will then undertake the unplanned/emergency activity and questioning session prior to making the grading decision for this method. Arrange the End Point Assessment (in consultation with the Employer where the Employer's premises and equipment will be used to conduct the Assessments) Conduct the Assessments in a fair and consistent way in accordance with the assessment plan and EPAO's standardisation and quality assurance processes Consider the performance of the Apprentice in both the practical and oral assessments before deciding if the apprentice has met the overall requirements Document the Assessment and Assessment outcomes in accordance with the EPAOs processes.

Technical Specialist	Recruited by the EPAO from the Employer. Currently working for the employer and occupationally competent.
	Factually records the actions of the Apprentice in the practical observation assessment and submits this record to the Independent Assessor
	Conduct their observation of the Assessments in a fair and consistent way in accordance with the assessment plan and EPAO's standardisation and quality assurance processes Document the Assessment and Assessment outcomes in accordance with the EPAOs processes.
	** *There may be instances in both the civil and military aviation sectors where technical specialists have been involved in the training of an apprentice. Where this is the case the EPAO must generate a conflict of interest report, outlining the specific responsibilities of the technical specialist and how they plan to manage and mitigate any conflicts.* **

Minimum requirements for Independent Assessors

Independent Assessors must:

- Be appointed by the End Point Assessment Organisation
- Be competent to make qualitative judgements about the occupation and specialist role that they are assessing.
- Having substantial demonstrable experience in the job roles they are assessing
- Must have held/hold an ATCO licence and have recent relevant experience of the occupation/sector gained in the last two years or significant experience of the occupation/sector', which is at least the same level as the Standard. Where the experience in not recent, the assessor must provide evidence of their understanding of current practices in the occupation, e.g. via CPD records.
- Being in a day-to-day line management, training or quality assurance role in the area they are assessing
- Carry out their duties in accordance with the current national occupational standards for assessment, and in line with current guidance on assessment practice issued by the assessment organisation
- Maintain appropriate evidence of Continuing Professional Development (CPD) activities to ensure their assessment skills and occupational understanding are current
- Have a working knowledge of the apprenticeship standard and a full understanding of that part of the apprenticeship standard for which they have responsibility
- Be approved by the EPAO that must maintain records demonstrating how they meet the requirements; assessor competency is maintained and checked in accordance with European Legislation for assessors - Military assessors are currently refreshed annually, Civil assessor/examiner endorsements are valid for 3 years

Internal Quality Assurance (IQA)

Internal Quality Assurance (IQA) is carried out by the EPAO to ensure that it is undertaking individual assessments correctly and is assuring others (including funding bodies and

employers) that it is running, standardising, marking and reporting the outcome of the assessments properly.

The EPAO will develop and maintain robust process for internal quality assurance. The EPAO will devise EPA plans which set out measures for internal quality assurance and ensure quality, consistency and fairness for all Apprenticeships within the Air Traffic Control Standard.

The robust IQA measures to ensure the EPA is applied consistently must include:

- The minimum levels of moderation required
- Stating the minimum frequency that independent assessors and technical specialists should attend standardisation events and ensure that this is at least once a year.
- developing and specifying the tools, materials and/or techniques to be used to deliver the EPA and the assessments
- describing the processes for benchmarking performance, moderating assessments and reviewing standards over time and across different locations.

The EPAO will ensure Independent Assessor experience, qualifications, training, and checks and ensure that all Independent Assessors are qualified and current in accordance with the requirements of the appropriate UK Regulator for the role for which the

Apprentice has been trained. All UK Air Traffic Control trainers and Independent assessors undertake formal training and refresher courses which are endorsed and sampled by their employer and the appropriate Regulator.

External Quality Assurance (EQA)

External Quality Assurance for this EPA will be achieved through a Professional Body approach with the Civil Aviation Authority fulfilling this role.

Professional Body Recognition

This apprenticeship has not been designed to integrate into a professional registration process. As such professional registration is not an outcome of this apprenticeship.

Implementation

The End Point Assessment has been designed to be manageable, feasible and affordable by utilising employer venues and by requiring employers to provide facilities for the Practical Assessment. Although the Practical Assessment is of considerable duration, the Apprentice is working in a productive live-traffic or simulated environment, reducing costs further.

During the first year, it is anticipated that 150 Air Traffic Controller apprenticeships will be started. Similar numbers are anticipated for future years.

Appendix A: Acronyms

ATC   Air Traffic Control

ATCO   Air Traffic Control Officer

CPD   Continuing Professional Development

EPAO   End-point Assessment Organisation

EPA   End-point Assessment

EQA   External Quality Assurance

IQA   Internal Quality Assurance

KSB   Knowledge, Skills and Behaviours

Light Traffic Defined by each Employer unit in their Unit Training Plan

RoEPAO   Register of End-Point Assessment Organisations

Appendix B: Mapping Assessment Methods to Knowledge, Skills and Behaviours

		Knowledge and Understanding (Know it) All apprentices will demonstrate:	Practical Assessment	Oral
Safety	K1	Knowledge of the Health & Safety obligations as an employee and as an air traffic controller including maintaining a safe environment, emergency response and personal safety Understand how to escalate safety concerns	x	
Security	K2	Understand potential security threats and their impact on the business and the operation and action to take in the event of a breach of security		x
Planning	K3	Understand the considerations and processes to enable effective planning, problem solving and decision making using knowledge, experience and evolving information. Understand how to maintain spatial awareness within the designated area of control	x	
Compliance and Legislation	K4	Understand how to manage and comply with local, national and international legislation, codes of practice and guidance within own area of responsibility		x

Communication	K5	Understand how to manage communications with users, staff and external agencies, selecting appropriate methods and language. Understand: • standard terminology, context and tools to communicate with aircraft, other ATC authorities, and colleagues • how to direct the movement of aircraft • how to pass information to aircraft (e.g. weather conditions)	x	
		☐how to maintain radio and radar contact with aircraft		
Team Working & Resource Management	K6	Know and understand the procedures and protocols for safe takeover and handover control of the operational position at the start and end of an allocated period of air traffic control Know and understand the correct team and individual responses to light levels of traffic volume and complexity Understand how to manage difficult and challenging situations and people Understand the interactions between different types of controllers and how interactions between controllers affect workload Understand the need for cooperation with other parties concerning aspects	x	

Air Traffic Operations	K7	Understand: • Aerodrome theory • Aircraft performance and • behaviours • Equipment and systems • Aviation Law • Air Traffic Management • Local procedures, rules and systems • Navigation • Regulatory standards and obligations • Weather and impact on aircraft, the local operation, and the wider air traffic control network • Radio, navigation and communications aids • Separation minima between aircraft in specific situations • Emergency and unscheduled traffic procedures including airborne and ground based failures	x	
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Service Level Agreements	K8	Understand the agreed levels of performance and standard operational procedures within own area of responsibility		x

Personal Effectiveness	K9	Understand responsibilities and accountabilities for the role		x
		Understand how to maintain resilience, effectiveness and operational safety when a plan is not followed		
		Understand the need to acknowledge and react positively to any errors identified		
		Understand the importance of recognising and responding appropriately to the signs and symptoms of fatigue		
		Understand the impact of personal medical fitness and the impact on personal effectiveness		
		Specialist Knowledge In addition to the above, each of the specialist roles will demonstrate one of the following areas of knowledge:		
Civil Area/ Terminal Controllers are likely to be based in one of the larger air traffic control centres, or may be located at an airport tower. These roles handle domestic traffic and aircraft flying through UK airspace	K10	Understand the specific rules, principles and techniques pertinent to civil Area/ Terminal control and how they apply to, and impact, the civil Area/ Terminal environment Understand the role and responsibilities of the Area/ Terminal Controller and their role in providing an integrated air traffic control service	x	
Civil Approach Controllers work at an airport, often in a Control Tower	K11	Understand the specific rules, principles and techniques pertinent to civil Approach control and how they apply to, and impact, the civil Approach environment	x	

and arranging aircraft into an approach sequence with the use of radar/ surveillance equipment.		Understand the role and responsibilities of the Approach Controller and their role in providing an integrated air traffic control service		
Civil Approach Procedural Controllers work at an airport, often in a Control Tower, arranging aircraft into an approach sequence without the use of any radar/ surveillance equipment. Depending on the complexity of the airport and airspace this role maybe combined with aerodrome control function.	K12	Understand the specific rules, principles and techniques pertinent to civil Approach Procedural control and how they apply to, and impact, the civil Approach Procedural Environment Understand the role and responsibilities of the Approach Procedural Controller and their role in providing an integrated air traffic control service	x	
Civil Aerodrome Controllers manage aircraft movements and the control of vehicles around the airport and aircraft flying in the vicinity of the airport. Depending on the complexity of the airport, this role may be combined with the approach controller function	K13	Understand the specific rules, principles and techniques pertinent to civil Aerodrome control and how they apply to, and impact, the civil Aerodrome environment Understand the role and responsibilities of the Civil Aerodrome Controller and their role in providing an integrated air traffic control service	x	

Military Weapons Controllers predominantly work in UKbased Control and Reporting Centres, but can operate worldwide; deploying with a mobile radar or in an airborne role. Controllers use radar to provide a real-time air picture to support to pilots and provide tactical control instructions to enable airborne security.	K14	Understand the specific rules, principles and techniques pertinent to military Weapons control and how they apply to, and impact, the military Weapons Control environment Understand the role and responsibilities of the Military Weapons Controller and their role in providing an integrated air traffic control service	x	

Military Area Radar Controllers work in a variety of environments including land based centres and on board HM Warships, providing a full suite of Air Traffic Services to Military and Civil Air Systems. This enables military air systems to operate with tactical freedom in both Controlled and Uncontrolled Airspace whilst ensuring safe	K15	Understand the specific rules, principles and techniques pertinent to military Area control and how they apply to, and impact, the military Area environment Understand the role and responsibilities of the Military Area Radar Controller and their role in providing an integrated air traffic control service	x	
and effective integration with Civil airspace users throughout the UK FIR/UIR.				

Military Terminal Radar Controllers work in Control Towers, often at the same location as the airfield they provide the radar service for. They provide safe Control instructions for aircraft departing, approaching or flying through the vicinity of the airfield.	K16	Understand the specific rules, principles and techniques pertinent to military Terminal Radar control and how they apply to, and impact, the military Terminal Radar environment Understand the role and responsibilities of the Military Terminal Radar Controller and their role in providing an integrated air traffic control service	x	
Military Terminal Aerodrome Controllers predominantly work in a Control Tower managing the movement of aircraft and vehicles. Ensuring safe aircraft departure, arrival and flight in the vicinity of the airfield. Aerodrome Controllers can also deploy to temporary landing strips, using portable	K17	Understand the specific rules, principles and techniques pertinent to military Terminal Aerodrome control and how they apply to, and impact, the military Terminal Aerodrome environment Understand the role and responsibilities of the Military Terminal Aerodrome Controller and their role in providing an integrated air traffic control service	x	
radio equipment to enable tactical aircraft operations.				

		Skills (Show it) All Apprentices will demonstrate:		
Safety	S1	Comply with Health & Safety obligations as an employee and as an air traffic controller Escalate safety concerns through the appropriate channels	x	
Security	S2	Manage aviation security in own area of operations following organisational procedures to report and react to any breach		x
Planning	S3	Manage planning, problem solving and decision making using knowledge, experience and evolving information. Manage the use and update of situational data displays Maintain spatial awareness within the designated area of control	x	
Compliance & Legislation	S4	Manage compliance with legislation, aviation procedures and regulations within own area of responsibility		x
Communication	S5	Manage communication with users, staff and external agencies, selecting appropriate methods and language Use: correct terminology, context and tools and maintain a safe and effective operation direct the movement of aircraft pass effective and pertinent information to aircraft maintain radio and radar contact with aircraft	x	
Teamworking & Resource Management	S6	Safely takeover and handover control of the operational position at the start and end of an allocated period of air traffic control Assess and respond effectively to light	x	

		levels of traffic volume and complexity		
		Effectively manage difficult and challenging situations and people		
		Effectively manage working relationships and interactions between differing types of controllers situated at the same and differing sites (domestic and international)		
		Cooperate effectively with other parties to achieve appropriate environmental protections		
Air Traffic Operations	S7	Effectively Manage Air Traffic using understanding of appropriate theory, experience and current operating directives	X	
Service Level Agreements	S8	Manage team and facilities to deliver results according to agreed levels of performance		X
Personal Effectiveness	S9	Undertake responsibilities and accountabilities		X
		Maintain resilience, effectiveness and operational safety when a plan is not followed		
		Acknowledge and react positively to any errors identified		
		Recognise and respond appropriately to fatigue.		
		Take responsibility for personal medical fitness to not endanger airspace users when personal effectiveness may be reduced		
		Specialist Skills In addition to the above, each of the specialist roles will demonstrate one of the following areas of knowledge:		
Civil Area/ Terminal Controllers	S10	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	X	

Civil Approach Controllers	S11	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	
Civil Approach Procedural Controllers	S12	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	
Civil Aerodrome Controllers	S13	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	
Military Weapons Controllers.	S14	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	
Military Area Radar Controllers	S15	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	

Military Terminal Radar Controllers	S16	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	

Military Terminal Aerodrome Controllers	S17	Demonstrate sufficient knowledge and understanding through a variety of assessments and examinations Demonstrate practical capability as an Area/ Terminal air traffic controller to the defined assessment standard and level	x	
		Behaviours All Apprentices will demonstrate the following behaviours:		
Organisation	B1	Embrace and promote the values of the organisation		x
Courtesy & Respect	B2	Treat team, customers and other stakeholders with courtesy and respect	x	x
Ownership & Responsibility	B3	Take ownership and responsibility of role and working area, including team members where responsible	x	
Loyalty, Integrity & Accountability	B4	Display loyalty, integrity and accountability to the organisation		x
Development	B5	Commit to continuous development of self and team, including improvements to systems and processes		x

Safe, Secure & Compliant	B6	Be vigilant and proactive in promoting a safe, secure and compliant working culture	x	