



هيئة جودة التعليم والتدريب
Education & Training Quality Authority
Kingdom of Bahrain - مملكة البحرين

Directorate of Vocational Reviews

Review Report

BAS Aircraft Maintenance Training
Muharraq
Kingdom of Bahrain

Date Reviewed: 16-19 April 2018

VO101-C3-R089

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Introduction

The Directorate Vocational Reviews (DVR), which is a part of the Education & Training Quality Authority (BQA), conducted this review over four days by a team of five reviewers. For this review, reviewers observed training sessions and other related activities, analysed data about the courses and qualifications learners achieve, examined learners' written and other work, examined documents and the materials provided by the provider and met with learners, employers, trainers, management and support staff.

In the previous review BAS Aircraft Maintenance Training Centre's overall effectiveness was judged as satisfactory, as were all aspects of its provision except the quality of programmes which was judged as good.

This Report summarises the reviewers' findings and their recommendations about what the provider should do to improve.

Grading scale

Outstanding	1	Good	2	Satisfactory	3	Inadequate	4
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Table of review judgements awarded

Main Question	Judgement
Learners' achievement	Good (2)
Quality of teaching / training and assessment	Good (2)
Quality of programmes	Outstanding (1)
Quality of support and guidance	Outstanding (1)
Leadership, management and governance	Good (2)
Capacity to improve	Good (2)
Overall effectiveness	Good (2)

Review judgements

Overall effectiveness

How effective is the provision in raising learners' achievement and meeting the range of learners' and stakeholders' needs?

Grade: Good (2)

The overall effectiveness of BAS Aircraft Maintenance Training (BAETC) is good, as are all aspects of its provision except the quality of the programmes and the effectiveness of support and guidance provided to learners both of which are judged as outstanding. The vast majority of learners develop relevant vocational skills in the field of aircraft maintenance engineering which meets international aviation standards. The majority of learners achieve their module objectives successfully and their progress is clearly evident from their practical work. A significant minority of learners pass the final examination from the first attempt.

The Centre offers programmes in the field of aircraft maintenance engineering that are externally accredited by the European Aviation Safety Agency (EASA), being part 66, B1 (Mechanical) and B2 (Avionic) licenses. These run for 2,400 hours over a period of two years, followed by another two years of EASA Part-66 work experience programme. It also offers aircraft maintenance rating courses for different Airbus aircrafts and conversion courses. These programmes are offered based on the managements' in-depth knowledge and experience of the local and international aviation market. Training materials are detailed and closely match the programmes stated objectives, being tailored to specifically enhance and support practical and theoretical learning.

Trainers at BAETC have the relevant theoretical and practical command of the subjects they teach. They use the up-to-date learning resources available effectively to deliver the well-structured and well-planned materials, using a range of training methods to deliver the course objectives and engage learners throughout the sessions. However, there are a few passive learners who are not engaged productively, particularly during the theoretical parts. Trainers use highly relevant formative and summative assessments to measure learners' understanding and achievement of course objectives effectively.

A systematic and comprehensive mechanism is in place to closely guide learners throughout their learning journey. Learners at BAETC are provided with very useful information about further studies, employment opportunities and career progression. A good number of learners are provided with employment opportunities in their chosen industry. A focussed orientation day, run prior to the start of each programme, enables learners to become familiar with the Centre and the programme rules and regulations. There is an effective organisational

structure, with BAETC management closely monitoring the Centre's operations and contributing to the growth of the provision. BATEC maintains a range of comprehensive and effective quality assurance policies and procedures which ensure the consistency of teaching and assessment. Likewise, the Centre has annual self-evaluation processes across its overall operations to identify areas that require further enhancement. However, outcomes of these are not sufficiently utilised in formalising and improving its strategic and operational plans.

Capacity to improve

How strong is the provider's capacity to improve the quality of learning?

Grade: Good (2)

BAETC's capacity to improve is good overall. Most areas for improvement that were highlighted by the review team during the last review visit have been addressed effectively, including training strategies that engage and motivate learners throughout the session, and consciously monitoring of the overall performance of the provision by the Centre's management using the stated policies and procedures. BAETC receives effective guidance from the corporate office at Bahrain Airport Services (BAS), which contributes to the development of the Centre's ongoing training activities. These practices are monitored through the establishment of the BAS Development Committee for operational directorates, and under the continuous scrutiny of the BAS Chief Executive Officer to ensure the outcomes and future plans of the provision. The Centre has an effective organisational structure, supported through physical and human resources that meet the Centre's mission and strategic direction.

Effective links are maintained with internal and external awarding bodies such as EASA and the Business and Technology Education Council (BTEC-UK). The Centre has recently signed a Memorandum of Understanding (MoU) with local feeder schools. A set of policies and procedures which are highly relevant to the quality of teaching and assessment are in place to ensure consistency of the provision. For instance, as per EASA's requirement, the Centre has recently revised the existing grading system to include more defined marking criteria.

The Centre has moved its operation to more convenient and well-resourced premises that are equipped with high-end and up-to-date standard industry apparatus. Although enrolment was suspended for BTEC-UK programmes, the Centre has maintained a steady enrolment on other programmes since the last BQA review. The Centre ensures that the programmes offered provide learners with an opportunity for progression and career development, and as such BAETC recently renewed the agreement with BTEC-UK to continue offering the Diploma in

Aeronautical Engineering – Level 3, and the Higher National Diploma (HND) in Aeronautical Engineering – Level 5.

Learners' achievement

How well do learners achieve?

Grade: Good (2)

Learners' achievement at BAETC is good overall. The vast majority of learners develop the required international standards and vocational skills in the field of aircraft maintenance engineering. The programmes enable learners to gain the required employability skills relevant to the aviation industry. It is worth mentioning that the achievement of EASA programme objectives and attaining a license relies on passing a number of modules depending on the license type B1 (Mechanical) or B2 (Avionic). In addition, learners must attend a minimum of 90% of the module's duration to be eligible to sit for the final theoretical examination and score at least 75% in each module. For theoretical modules, learners set a written examination at the end of each module, were they are allowed a period of up to 10 years to attempt the examinations depending on the learner's readiness. Learners are allowed a second attempt after three months of failing the first, then another three months between the second and third attempts. If the learners fail the third attempt then they have a chance once a year to try a fourth, fifth and sixth time. The data provided for this review indicates that a significant minority of learners pass the final examination from the first attempt. For the practical components of the programme, each practical task is evaluated and graded by the trainer. EASA requires that learners pass the practical assessment relevant to the modules, but the grades are not calculated as part of the module's final grade. BAETC implements effective assessment procedures for all of the practical and theoretical modules. Reliable robust Multiple-Choice Questions (MCQ) assessment is used for the final examination of each module, whereas, highly relevant formative assessment is used to assess learners' achievements in the practical sessions. Scrutiny of learners' records, the results of final examinations and the sessions observed revealed that the majority of learners achieve the module's objectives successfully and their progress has a significant impact on their practical work. However, the skills development for a minority of learners is minimal. The Learners' Performance Data sheet (LPD) provided for the review indicates that the overall retention rate is 93%.

The learners interviewed express their satisfaction with the learning experience at BAETC. Learners are attentive and a minority of them are able to question their trainers, asking challenging questions and reflecting on their colleagues' work. The majority of learners are self-motivated and have a good level of confidence. Observation of the practical sessions

showed that learners have the abilities to work both independently and collaboratively. The vast majority of learners attend the sessions regularly, though punctuality is an issue in few cases. The Centre keeps track of learners' attendance, but there are no records for punctuality.

The quality of provision

How effective are teaching/training and assessment in promoting learning?

Grade: Good (2)

The effectiveness of training and assessment is good overall. Trainers are qualified and have the theoretical and practical command of the subjects they teach, providing learners with relevant vocational examples and responding well to learners' enquiries. They make effective use of their work-related experiences which enables learners to enhance their knowledge and skills. Trainers at BAETC are accepted by EASA to train as per the approved scope of work, which includes: Basic Theoretical and Practical training, Type Rating Theoretical and Practical training.

During the observed sessions, trainers use the available learning materials and resources effectively to facilitate learning, including smart boards, flip charts and learners' handbooks, in addition to the different tools, equipment and testing apparatus. They apply effective training methodologies throughout the sessions to engage learners, such as lecturing, open discussion, practical demonstration, and individual and pair hands-on activities. However, there are a few passive learners who are not engaged productively, particularly, during the theoretical sessions. Correspondingly, these sessions are well planned, guided by the Training Needs Analysis which is prepared by the Centre and approved by EASA. The analysis clearly indicates the learning objectives, notional number of hours and questions per module. A detailed Training Manual is used by the trainers to deliver the practical sessions. Sessions start by sharing the objectives and with recapitulation of the previous sessions' topics. They are well organised and managed, allowing for structured progression of the planned activities and achievement of the objectives. However, in a few cases sessions do not start at the scheduled time.

Trainers use a highly relevant set of formative and summative assessment tools to measure learners' understanding and achievement of courses' objectives effectively. Sessions incorporate open and direct questionings and individual and group practical exercises. Furthermore, a range of task assessments within each module are effectively utilised by the trainers. A final MCQ assessment is conducted upon the completion of the module's. Marking of the practical and theoretical work of learners is based on a clear marking scheme including an appropriate rubric. Records of learners' achievement per module are regularly maintained

and learners are informed about their performance. Trainers provide instant constructive verbal feedback on learners' work during sessions, particularly in the practical sessions. This is in addition to the useful Student Performance Report that includes trainers' remarks and is shared with learners and parents in regular basis throughout the course of study. However, these remarks are not always sufficiently constructive to help learners identify exactly what they can do to improve further.

During sessions, trainers address the individual learners' needs adequately. For instance, questions are directed to those who are not contributing in the class discussions, further explanations are providing, and opportunities to repeat the tasks are given. However, a few learners, particularly the passive learners, are not sufficiently supported. Learners with higher abilities are provided with challenging tasks. Trainers stimulate learners' critical thinking and life-long learning effectively through extended questionings and practical activities. They also reflect critically on their own knowledge and skills in the end of task reports.

How well do programmes meet the needs and interests of learners and stakeholders?

Grade: Outstanding (1)

The effectiveness of the programmes offered by BAETC is outstanding overall. The management has in-depth experience on the local and international market of aircraft maintenance engineering, which is to inform its offerings. Externally accredited programmes are offered in the field of aircraft maintenance engineering from the European Aviation Safety Agency (EASA) part-66 B1 (Mechanical) and B2 (Avionic) license. Aircraft maintenance type rating courses are also offered for different Airbus aircraft, plus conversion courses.

The Centre has an effective means of understanding market needs through a number of mechanisms such as market surveys for the period 2017-2036 conducted by Airbus Corporation and Boeing Corporation, which illustrate regional and global demands for different aviation positions including those in the aircraft maintenance sector. BAETC also proactively senses local market needs through a number of different sources, including the project of elevating the Bahrain International Airport infrastructure and services, and the Gulf Air corporate strategy 2018 network expansion plan. These programmes are well planned and structured to fulfil and meet the levels and standards defined by the awarding body. Training materials are detailed and closely match the individual programme's stated objectives and are tailored to specifically enhance and support practical and theoretical learning. MCQ assessments are used for the final examination of each module, while a formative type of assessment is used to assess learners' achievements in the practical sessions. Assessments are reliable and test all skills, with appropriate marking criteria and allocated grades. Systematic

and effective procedures are in place for updating and reviewing the programmes according to EASA part 147/66 training requirements. These procedures are completed on an annual basis as a minimum by licensed trainers. Furthermore, the awarding body visits the Centre twice a year to review the programmes' content in order to maintain the standard according to EASA part 147/66 requirements.

BAETC has clear and rigorous entry requirements and mechanisms for access to well-structured courses, as stipulated by the relevant international bodies. Learners need to be aged 16 or older, and have to pass the acceptance examinations in three relevant subjects, being mathematics, physics, and English, plus they must sit an acceptance interview. Programmes are supplemented and supported with an extensive range of up-to-date industry standard resources to meet the needs and the high expectations of stakeholders. BAETC has a variety of laboratories and workshops which are fully equipped with a number of machines, equipment and tools, with up-to-date software and hardware which meet the standards and requirements of EASA. These include Computer Base Training (CBT) laboratory, composite workshop, mechanical workshop metal sheet and avionic workshop, all being located within the training Centre premises and having sufficient resources for the number of learners enrolled in each module. In addition, the Centre has a spacious aircraft hangar area with one real aircraft and various aircraft parts such as different engines, wings, landing gear and electrical components. Programmes are further supported with extracurricular activities to enrich the learners' learning experience, such as visiting air shows and exhibitions accompanied by the trainers and inviting experienced external speakers from the field of aircraft maintenance to meet with learners.

How well are learners supported and guided?

Grade: Outstanding (1)

The effectiveness of support and guidance is outstanding overall. Learners at BAETC are provided with extensive support that enables them to achieve better outcomes. Systematic and comprehensive mechanisms are in place to closely guide learners throughout their learning journey. Learners at BAETC are provided with a well-focused and highly effective range of support and guidance throughout their courses, which significantly impact learners' attainments and improves their knowledge. Throughout each course the management, trainers and administrative staff are extremely supportive and friendly, and have coached many learners to reach their full potential. The Centre provides learners with information on further study, employment opportunities and career progression. For instance, a number of learners received employment opportunities in their chosen industry, as well as, a few learners who have graduated have been licensed by EASA to be employed as trainers at the Centre.

Purposeful orientation day is organised prior to the start of the programme and a detailed learners' handbook is provided to familiarise learners with the programme, settle in easily and get acquainted with their duties and rights. Inclusive programme overview documents are provided with the learners' handbook, which include holistic outline information about each module. During the induction an adviser is assigned to each learner to support, guide, and counsel them. On a quarterly basis the 'Student Performance Report' is prepared by the adviser and shared with other relevant stakeholders. These reports indicate the learner's strengths, the opportunities provided and actions to be taken, though remarks are not always sufficiently constructive to help learners improve further. Learners and stakeholders have access to a full range of information about the courses on offer and are provided with good advice and guidance on course selection through the Centre's user-friendly website. The Centre is highly flexible in the scheduling and delivery of courses and examinations to suit the needs of learners and stakeholders. The learning environment is inspiring, supports learning and provides the required training materials. Learners' work is showcased at the Centre. BAETC has a pleasant atmosphere equipped with hygienic facilities, well-resourced classrooms and well-equipped laboratories. Learners are provided with access to highly effective learning resources and other facilities such as a library to enrich the learning experience.

Leadership, management and governance

How effective are leadership, management and governance in raising achievement and improving the quality of the provision?

Grade: Good (2)

The effectiveness of leadership, management and governance is good overall. BAETC has clear vision and mission statements that are focused towards providing quality of training for aircraft maintenance engineering and improving learners' skills, these statements being shared with learners and staff and its included as part of their day-to-day activities and practices. The Centre has an effective organisational structure with sufficient human resources to support BAETC objectives and meet the requirements of the awarding bodies. Stringent selection procedures, along with clear training and induction programmes, are in place for employing qualified staff who are effectively deployed in the area of their specialisation. Staff are guided by clear rules and responsibilities that are shared with them. The Centre deploys an effective session observation system to closely monitor the performance of trainers, with a fit-for-purpose form which is used while visiting training sessions and covers all aspects of teaching and assessment, the areas identified for further improvement are follow-on actions for the next visits.

BAETC has relevant strategic direction toward programmes' development and expansion of the range of courses on offer. The BAS top management closely monitors the Centre's operational activities and provides useful guidance and support for the growth of the Centre and for maintaining the quality of the provision. Regular and effective meetings are held, the outcomes of these being followed-up by the BAS Development Committee. However, strategic and operational plans need to be further developed. Effective governance arrangements are in place, with the overall performance overseen by the CEO who is also the Accountable Manager for EASA and contributes to the development of the provision. Effective links are maintained with relevant local and international authorities in the field of aviation.

The management maintains effective records about learners' achievement for the various modules. BAETC has a systematic arrangement for analysing and monitoring learners' achievements and effective actions are taken. A comprehensive range of effective quality assurance practices and procedures ensure the consistency of teaching and assessment, programmes structure and learners' achievement. An effective approach is maintained for continuous verification and moderation procedures to ensure consistency for programme development and implementation of assessment. A 'Q Pulse' system is used to manage and monitor the overall performance of the Centre's operational activities. There is effective implementation of the policies and procedures for admission requirements to the programmes offered. An annual comprehensive self-evaluation process is carried out which covers the main aspects of teaching, learning and assessment and identifies areas which need to improve further. The outcomes of these process are followed-up and corrective actions are stated to abide with the requirements of the international authorities. Learners' feedback is gathered and improvement actions are taken based on their views. The Centre has comprehensive health and safety policies and procedures; all essential health and safety aspects are in place, the premises are safe and free from obvious hazards, and the management maintains a healthy and safe environment.

The provider's key strengths

- The vast majority of learners develop the required international standards of the relevant vocational skills in the field of aircraft maintenance engineering.
- A highly relevant range of formative and summative assessments is used by the trainers to measure learners' understanding and achievement of course objectives.
- The well-resourced premises are equipped with up-to-date industry standard resources for supporting the delivery, with well-structured course materials.
- The highly effective support and guidance helps learners to achieve better outcomes.
- The comprehensive range of quality assurance practices and procedures to ensure the effectiveness and consistency of the overall performance of the provision.

Recommendations

In order to improve, BAS Aircraft Maintenance Training Centre (BAETC) should:

- further ensure that learners achieve their qualification in a timely manner
- further improve the range of teaching methodology to enhance learners' engagement and cater for their individual needs
- improve the effectiveness of leadership and management by using the outcomes of the self-evaluation process to further enhance the strategic and operational plans.

Appendix

Description of the provision

BAS Aircraft Maintenance Training Centre (BAETC) was established in April 2004. It is licensed by the Ministry of Labour and Social Development (MLSD). BAETC is an approved Centre for the European Aviation Safety Agency (EASA part 147) and offers externally-accredited programmes on aircraft maintenance, such as EASA part-66 B1 (Mechanical) and B2 (Avionics) licenses. These programmes require 2,400 hours of study to be completed over two years, followed by another two years of EASA Part-66 work experience programme. The Centre also offers the Diploma in Aeronautical Engineering – Level 3, and the Higher National Diploma (HND) in Aeronautical Engineering – Level 5 from the Business and Technology Education Council (BTEC). BAETC is owned and operated by Bahrain Airport Services (BAS), and operates from one base located in Muharraq.

Since the last BQA review the Centre has enrolled 500 learners, broken down as 36 in 2015, 214 in 2016, 214 in 2017 and 36 in 2018 to the date of this review. All of these learners are self-sponsored. Most learners are aged 16 years and above. BAETC's organisational structure consists of a Manager Engineering reporting directly to BAS Chief Executive Officer (CEO), the CEO also acts as an Accountable Manager (AM) for BAETC as per the EASA requirements. Also, the Centre employs a senior manager of quality assurance, a head of examinations, four basic training instructors and one type rating training instructor. The five instructors are also perform as practical assessors, knowledge examiners and invigilators.