ASSESSMENT PLAN OUTSIDE BROADCASTING ENGINEER APPRENTICESHIP

Overview

This assessment plan is to accompany the Outside Broadcasting Engineer (level 7) apprenticeship standard.

Outside Broadcasting Engineer is an 'integrated apprenticeship,' in that it has been designed to fully integrate a University validated Postgraduate (PG) Diploma in Outside Broadcasting (OB) specifically for apprentices, which delivers the on-programme learning and tests competence through an independent end-point assessment. The PG Diploma will have a modular structure, with on-programme modules - 3 technical and 3 professional and an end-point assessment. An apprentice must successfully complete the 3 technical based module assessments, the coursework based elements of the 3 professional modules, the production of a log book demonstrating a substantial amount of on location experience (typically 750 hours) ahead of the end-point assessment. The end-point assessment requires the apprentice to demonstrate successfully, the entire range of skills, knowledge and behaviours required of an outside broadcasting engineer during the design, planning and delivery of a 'live' broadcast and represents the end test for the 3 professional modules. The completion of the PG Diploma will signify the attainment of the apprenticeship and will be graded fail, pass, merit or distinction, based on the assessment outcomes of all modules. Please note that it is a compulsory requirement that all apprentices have a level 2 in English and maths. Whilst it is likely all candidates would have needed to have achieved this for their first degree, anyone not having done so would need to complete these levels prior to taking the end-point assessment

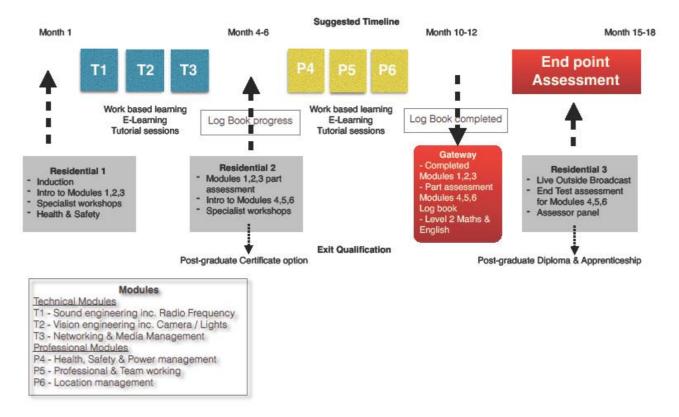
The apprenticeship will typically take 15-18 months to complete, dependent on the nature and scope of the experience gained in an outside broadcasting environment, with the final end point assessment taking place in the final 3-6 months.

As this is an integrated apprenticeship model, incorporating a post-graduate diploma it will be delivered by a Higher Education Institution (HEI). Independent professional assessors responsible for the end-point assessment will be contracted by a HEI. HEIs offering the apprenticeship must be on the Skills Funding Agency Register of Apprentice Assessment Organisations.

Those joining the programme will typically have a first degree or equivalent in an engineering or technical media discipline or will have industry experience (typically from at least 3 years of relevant employment) deemed equivalent to an undergraduate degree.

This plan sets out the approach to on-programme training and assessment and details the requirements for the end-point assessment.

Diagram 1. Outside Broadcasting Engineer apprenticeship overview



On-programme Training and Assessment

A University will develop its own PG diploma in Outside Broadcasting to meet the requirements of the integrated apprenticeship model outlined in this plan. On-programme training and assessment must be designed to develop the skills, knowledge and behaviours required of the standard. On-programme delivery will typically be delivered over 1 year with the end point assessment being completed during a subsequent 3-6 month period.

On-programme delivery will:

- Recognise the learners work in a fast-paced and highly pressurised industry and in that context they will all be part-time learners
- Recognise the learners are a valuable resource to employers and be constructed to maximise the benefit from work-based and online learning, minimising the time that learners are away from their workplace
- · Provide protected time for learners to study and reflect on their learning and
- Deliver a clearly structured programme where achievements are built up and progress is transparent.

The PG Diploma in Outside Broadcasting must have discrete on-programme 'modules' that deliver the university's approach to the curriculum. The first half of the modules will address the high level of applied technical skills. They will focus on the range of different equipment, their use, and the specific application of this different equipment, facilities and processes to the outside broadcasting

context. They will provide an opportunity to demonstrate competence in the technical areas of sound and vision engineering, radio frequency systems, networking and media management. The second half of the modules will focus on the way in which these technical skills and knowledge are used professionally to inform and underpin the safe and effective management of an outside broadcast event. Each stage must be completed before progression to the next, ensuring that knowledge and skills are developed and supported logically. This will ensure that the apprentice is not asked to engage in activities before they are ready.

This is a professional training programme so learning will take place away from a traditional lecture room environment and instead be delivered through the following routes;

- Work based learning on the job development and application of skills, knowledge and behaviour in line with the OB Standards. Monitored through regular online tutorials with university academics staff and supervised in the work place by their company mentor
- Specialist workshops this is an industry requirement for taught sessions by professional practitioners and specialist university staff
- Residential training on location learning using an outside broadcast truck where skills,
 knowledge and behaviour can be applied in a professional working environment
- Virtual / Online learning an electronic system that will enable the apprentice to access coursework material and assessment tasks.

On programme learning will include the requirement to produce a log-book demonstrating a substantial amount of on location experience logged by the OB company supervisor (typically this will be in excess of 750 hours). This helps confirm competence against the standard and it is also a requirement of professional working within the sector. As the key differentiating factor for the OB engineer as opposed to more studio based practice, is the location based work, a log book of hours will be signed off by each company mentor that records the nature of the work undertaken (programme, hours, broadcaster) and the skills demonstrated (not assessed).

The appendices set out the on-programme assessment methods. These assessment methods will include practical demonstrations, problem solving, critical evaluations, production logs, examiner interviews and location planning documents.

Individual on-programme modules will be assessed and must be passed in accordance with university regulations, with assessment undertaken by university and industry experts, with quality assurance from an external examiner.

The university and employer will support the apprentice and provide extra guidance where performance issues might arise to ensure that the apprentice is fully supported in meeting the outcomes of the standard.

The approach draws upon the established good practice already undertaken in universities, but

with the advantage of employer support and the workplace context to help apprentices see the real world application of their skills, knowledge and behaviours on an ongoing basis.

To achieve the full PGDip in Outside Broadcasting and successfully complete the apprenticeship, the trainee needs to achieve 120 credits from 6 modules (20 per module). By the end of the onprogramme element they will have completed the first three modules and submitted other coursework and assessment typically equivalent to a further 30 credits from the second three professional modules. They will achieve their final assessment and the formal completion of the three professional modules when they undertake the end point assessment. Hence the gateway to being able to take the end point assessment is;

- Completion of Modules 1-3
- Successful completion of on-programme assessment element of Modules 4-6 (typically around 50% of the total assessment)
- Completion of the 750hour outside broadcast log book with signatures from the company mentor
- Achievement of English and mathematics at level 2 if not achieved prior to the apprenticeship.

The university will use a programme delivery team of lecturers, tutors and industry professionals to deliver and assess the programme. This will be done in collaboration with employers. It is the responsibility of universities to appoint staff with the right mix of skills and experience to undertake assignment setting and assessment, who command the credibility and respect of employers and apprentices and in accordance with the universities guidelines. Universities are responsible for ensuring that assignments that contribute to module assessments are examined in a consistent way and that the judgements reached are comparable and reliable.

End point assessment

Apprentices will be assessed on the design, planning and delivery of a 'live' broadcast, allowing the apprentice to holistically demonstrate all the skills, knowledge and behaviours in the standard.

As well as being a holistic assessment of the full range of technical and professional skills it will provide an opportunity to critique a variety of approaches and to demonstrate a deep understanding of the different choices available and the potential risks of each. The apprentice will design and plan the event based on a specification. They will lead and contribute to the implementation of a plan, supervising and working with others and will explain the choices they made and why. This synoptic assessment acts as a capstone to the assessment process.

The end point assessment residential is ear marked for one 5 day week during which a real live event will be used as the basis for the 'as-live' OB assessment. In some instances because of copyright, compliances, budgets and commissioning schedules it is likely that the final transmission coming from the OB coverage of the live event will only be recorded. However, the sporting event, music event or other live event chosen in consultation with the training panel consisting of OB companies and broadcasters, has to be treated as if it were a real commission for the crew of OB apprentices to work

on.

Only one opportunity will be given to re-take the end point assessment, thus it will be important that the apprentice evaluates both with their company mentor and the assessing University their readiness to complete this final assessment.

Since this end point assessment will act as the indicator of professional skills and competence the assessment will involve industry recognised experts in this process.

Assessment methods:

The end point assessment is specifically designed to test the location based competency and professional status of the apprentice. It will involve them collaborating and taking individual responsibility for the OB on a 'live' event, mirroring real life operations. The apprentice will also have to demonstrate their critical understanding of the broadcast processes and production management awareness necessary to operate on location. Tools used in this final assessment:

- Research & Planning testing occupational and commercial understanding and the skills to produce concise and realistic documentation ahead of an OB. A full briefing document about the 'live' event will be sent to candidates 1 month ahead of the end point assessment. A planning document of typically 3000 words with all associated diagrams, risk assessments and actions will be submitted 1 week before the event.
- Operational Testing practical demonstrations of professional working procedures on an OB event. This might include the safe setting up of a power feed, organising the camera arrangement, cable rigging, etc. These practical tests will be listed by the University and would typically involve 4-5 assessment sessions, although this will depend upon the nature of the live OB event. Three of the five days of the end point assessment will involve some form of practical testing. Two days will be on the skills demonstrated in the planning and set up process and one day on the live broadcast itself.
- Interviews evaluating the understanding of best practice on an OB and being able to apply this knowledge when questioned with specific requirements for the OB. A panel of assessors (2 or 3) would spend typically 45 minutes with each apprentice at the end of the assessment week testing out the skills that had been put into practice where also understood conceptually. All candidates would be asked questions related to their performance to determine the reasoning behind the decision making and their analysis of the challenges that could occur. Some of these questions would be taken from a pre-prepared bank of questions and all interviews will be recorded for the moderation process.
- Individual and group observations demonstrating collaborative working skills with a critical appraisal of an individual's role within this. As interdisciplinary working and good communication are essential skills of an OB engineer it would be both the professional practice shown when working alone as well as when interacting with others that would be observed by the assessors in both planning days and on the 'live' event. Apprentices will be assessed against a list of skills from the Standards with an additional rating for their level of competency. There will be a continuous process of review between the University and the external professional assessors to ensure that what demarks professional competency is current with industry practice. With at least two assessors involved throughout Days 1-3 of the practical part of the week, each candidate will accrue observed time of at least 4hrs.

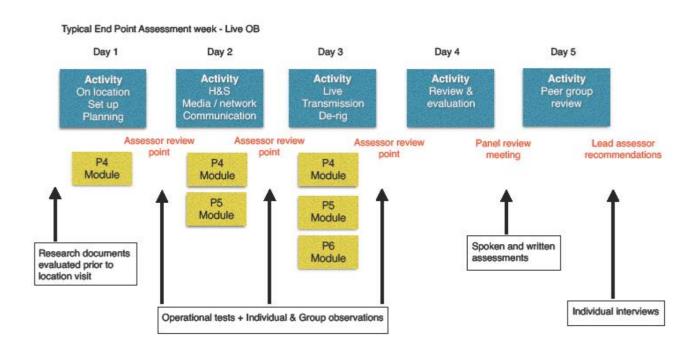
• Review & Evaluation - written assessment of the OB to test awareness of performance against benchmarks of professional working. The day after the 'live' transmission, the apprentice will be expected to write a critical evaluation of the OB. This will refer to their original planning document and the experience of the live event. There will be a series of prepared questions to guide them and will have a typical total length of 1500 words.

As is common practice in universities, assessment tools will have a detailed marking criteria to ensure consistency. The assessment will determine the holistic assessment of the learner across the three professional modules to ensure that all the learning outcomes are met and have been demonstrated during the live assessment environment. Consequently, the deployment of tools such as interviews, operational testing and observations will be based upon the needs of the individual and the live event. Since the nature of observable skills and competencies will be dependent upon what occurs during the live event there will be instances where the nature and the amount of such tools may vary from one event and one learner to another. Nevertheless, the assessment tools are ways of determining that the learners have met all the learning outcomes required by the professional modules which in turn ensure that the national standard has been achieved.

Assessment process:

The nature of the 'live' event will determine when the interviews and observations will take place. In some cases the 'live' event may run over two or even three days in which case the Review & Evaluation and Peer Group review activities will be incorporated into the evening activities.

Diagram 2 – Example End point assessment week and assessment



Apprentices approved to enter the end point assessment will be sent a full briefing pack which will include a specification put together by the academic staff in consultation with the external assessors and the 'live' event provider. This specification for the event they will be covering, and the available

resources will be provided to apprentices at least one month ahead of the date. They will be required to produce a full plan for the event. This will include coverage requirements, power management, technical specifications and health & safety management procedures and site plans, ahead of the residential assessment itself. The apprentices will be individually interviewed on their plans to determine the rationale for decisions made.

The final plan for the live event will be determined collaboratively by the apprentices and facilitated by the academic staff. There may be a requirement for external professionals as Directors or Performers to be used in the outside broadcast. The 'live' event will be delivered collaboratively by the apprentices with specific roles and responsibilities identified. These roles will be rotated among apprentices during the event. The performance of each apprentice in each role will be evaluated the external assessors and academic staff, at the end of each day. Feedback will be provided to apprentices particularly in relation to areas where performance has not yet meet the required standard.

Assessors:

The end-point assessment will be marked by three external professional assessors, independent of the University. They will need to satisfy the additional following appointment criteria:

- A minimum of 10 years of relevant industry experience at a senior level
- Still be working in the sector (or have done so within 12 months)
- Have attended a certified assessor training short course.

There will be three external assessors involved in the end point assessment to cover the breadth of skills that need to be assessed, to support standardising of grading / decision making and to create a panel of experts for the interview part of the assessment. These external assessors will not be employees of the HEI training provider. They will be independent freelance professionals who will be operating under the guidance of the HEI for assessment purposes.

There will be one appointed lead assessor who will come from a national broadcaster who themselves commission outside broadcasts but do not commercially deliver OB coverage to ensure independence from the apprentice and their employer.

Staff from the partnering University will support the panel of three external assessors by helping differentiate some of the indicators of pass, merit or distinction, using the Universities written guidance on this. They will help with the scrutiny of the written documentation submitted prior to the end test and any produced whilst on it and ensuring that appropriate records and feedback to apprentices is documented.

Grading and assessment from each day on the residential end-point assessment will be co-ordinated and standardised using the University's guidance on assessment procedures. The external examiner will independently review these procedures.

End-point Assessment Grading:

An apprentice must achieve a minimum pass grade in all three professional modules, which are assessed by the end point assessment in order to successfully achieve the post graduate diploma

and the apprenticeship. A pass or higher in two of the three modules but a fail in the other could not warrant an overall pass of the end point assessment. However, it would be possible for a candidate to 'bank' the achievement in two modules they had passed and only be required to be reassessed on the module they had failed.

The assessment decision for the end-point assessment will be made collaboratively with the Academic team and the three external assessors. In any circumstances where there are conflicting or boarder line decisions, the lead external assessor will make the final assessment recommendation. The University QA procedures along with the external examiner report will be used to confer final qualification through one of the academic panels that sits for each taught programme.

Apprenticeship Grading

The post graduate diploma and apprenticeship will be graded using postgraduate degree classifications for English universities. This will mean that apprentices who perform consistently above the standard and achieve the Postgraduate Diploma with an average of 60%, the Postgraduate Diploma with merit will be awarded. Where apprentices have an average of 70% they will receive the Postgraduate Diploma with distinction. Each of the six modules will have equal weighting. All UK universities must follow the QAA (Quality Assurance Agency for Higher Education) Code of practice for the assurance of academic quality and standards in higher education. This ensures continued consistency across universities.

Quality Assurance

Universities have extremely robust assessment processes and approaches that ensure independence. The overall quality assurance across the degree programme's on-programme and end point assessment is achieved through the use of independent external examiners. The system of external examining is a distinctive feature of Higher Education in the UK. All degree programmes delivered in Higher Education Institutions in the UK will have an external examiner. External examiners are independent experts appointed from other academic institutions. They are suitably qualified to provide subject and academic advice on the academic standards of the degrees or other awards, to which they have been assigned. They independently assure quality through their following responsibilities:

- to evaluate all forms of assessment which contribute to apprentices' award results;
- to evaluate, and help ensure fairness and consistency in the assessment process;
- to moderate summatively assessed work at module and programme level;
- to comment on draft examination papers and assessment tasks as appropriate;
- to report on the structure, content, academic standards and teaching of programmes.

They will review the programme, its modules, teaching materials, apprentice feedback and especially the assessment methods as well as samples of apprentice assessment work across

modules. They ensure fair and consistent moderation and to confirm that marking standards are comparable with standards across UK Higher Education. If an external examiner is concerned about accuracy and consistency of marking within a sample of apprentices work, all work within that particular module may be re-marked.

The external examiner also oversee the module and programme assessment boards to review the distribution of marks across modules and identify any issues or aspects of good practice.

Each external examiner submits an annual written report at the end of the academic year. This report is based on what the examiner has observed of the University's assessment processes and on samples of student work they have seen. These reports provide invaluable independent feedback to the University at module and/or programme level.

These duties are consistently undertaken in relation to the academic standards of HEIs, and will relate to internal and external reference points, including the assessment plan for the Outside Broadcasting Engineer Apprenticeship.

Within modules there are also robust quality assurance procedures. These include setting clear assessment and grading criteria for apprentices, and the use of independent moderators who:

- appraise the set module assessments to ensure they are appropriate;
- · review the assessment marking;
- · undertake sample marking against the assessment criteria.

Implementation

The approach presented offers an affordable and scalable solution to assessment for this apprenticeship. Universities are extremely capable in delivering project based assessment that represents the application of an apprentice's skills, knowledge and behaviours. In this context the capstone synoptic end-point assessment is set against the specification of the standard and will be validated by built in employer contribution to the assessment.

There is currently one University in place to start delivering the training and assessment immediately and further collaborative discussion has been had with that University and others that might support the assessment process.

Outside Broadcasting companies and Broadcasters who have signed up to the Standard are ready to support the implementation of the apprenticeship programme. Although given the specialist nature of the job role, the highly skilled level of trainees and the relatively small number of companies that make up 100% of the sector, it is estimated that only be a maximum of 20 apprentices in any one year would register for the apprenticeship.

The costs for the on-programme residential aspect of the apprenticeship training, the post-graduate qualification, end point assessment and any associated online support and external professional assessors will be bundled up into one apprenticeship cost for the employer. The awarding University

will define these costs as they are likely to vary as industry practice varies, but the cost of the end point assessment component will remain constant at between 15%-20% of the total cost.

Appendix 1 – Outside Broadcasting Engineer - Formative Assessment Approaches

For practical skills, particularly the appropriate set up, configuring, testing and use of equipment is best assessed in the workplace and will be confirmed by the workplace mentor in the logbook. Clearly some of the skills confirmed in the logbook will be tested during the assessed practical activity, this acts as a validation of the Workplace logbook.

Area of competence	Outcome Required	Typical Assessment	
Sound Engineering (inc. RF systems)	 Able to understand; Venue acoustics, different broadcast audio formats, noise regulations, loudness standards, microphone and cable types, audio desk controls and signal processing. Radio Frequency (RF) Systems – video and audio signals, levels & compression. Radio waves, antennas and the dB scale. Delays from digital encoding. Frequency Management and regulation. 	Workplace logbook confirming observed examples of: Set up, configuration and testing of a variety of different microphones, talkback kits, RF systems identifying technical faults, editing sound carry out site surveys for RF systems and resulting documentation, rigging and repairing RF cables using web browser interfaces and terminal server programs Online exercises to demonstrate understanding	
Vision Engineering (inc Camera & Lighting)	 Able to understand; The features of different types of camera mountings, lenses and panning heads. Camera systems, formats and accessories. Awareness of camera use and shot composition. Lighting – different lighting luminaires, fixings and mounts, LED and projector screens. Lighting levels, lighting problems and their solutions. Check picture exposure and colour vision, interpretation of mood and look required. Follow programme scripts and lighting cues. video paths, colour-matching, vision mixer systems, vision processing, fibre optic systems and signals 	cameras, mountings, lenses, panning heads, lights, fixing	

Networking and Media Management	 Able to understand; Networking Technologies - Addressing protocols, compression algorithms for video / audio transport, external network storage systems and bandwidth bottlenecks Media Management – video and audio recording systems, integration of edit choices, timecode, codecs, wrappers, file formats, processing, graphics and audio packaging Networking Technologies - configuring equipment to work with an existing network, using analysis tools to fault find and adding external storage systems 	Workplace logbook confirming observed examples of: Set up, configuration and testing of recording systems with associated cabling requirements. Make and repair cable connectors. Record audio and video using a variety of different file formats on a variety of different media Identifying faults Export files to a variety of external storage systems Online exercises to demonstrate understanding
Health, Safety & Power Management	Able to understand; Power Management – electrical supply types, generator or venue power connection, load management, equipment power supplies, weather effects on power. Distribution and management of power supplies on location Health and safety management	Workplace logbook confirming observed examples of: Set up, configuration and testing of electrical supply systems Monitor electrical load across equipment. Identify and mitigate potential risks from electrical equipment Calculate capacities and load of equipment to ensure use within safe limits Identify and mitigate non-electrical Health and Safety risks Online exercises to demonstrate understanding
Professional and Team-based Working	 Aware of; Self – show empathy to job roles in a media production environment Client – show sensitivity to the pressures of budget, time and location. Communication – choosing the most appropriate language for a given situation – this encompasses talkback etiquette. 	Workplace logbook confirming observed examples of: Customer or client feedback / testimonials Personal reflections on communication and teamworking Examples of communication Online exercises to demonstrate understanding of issues such as: Leadership, delegation, management and control
Location Management	Able to; Embrace the opportunities a location provides rather than fighting the constraints and challenges encountered. Be prepared – thinking ahead, planning and asking questions to ensure the right level of preparedness on location	Workplace logbook confirming observed examples of: Location planning, preparation, (designs, photos, communication with site owners etc). Suggestions made to improve management of site

Appendix 2 A – Assessing the Knowledge Outcomes

Area of competence	Knowledge Outcome Required	Typical Assessment	Assessment Criteria
Sound Engineering (inc. RF systems)	 Apply RF theory to determine the appropriateness of equipment and guard against causes of signal loss Evaluate the benefits of a variety of audio equipment and systems to select the most appropriate equipment for the capture, broadcast or recording of sounds to meet the needs of clients and the venue. 	 Planning for the capture, broadcast or recording of sound for a variety of simulated environments 	Choose most appropriate equipment and method for simulated task
		 Monitor and resolve technical problems as they arise during recording 	Able to explain reasoning for choices made
	 Synthesise a systematic knowledge of industry standards in sound recording and management 	Mix sound for client	Identify faults quickly and methodically
Vision Engineering (inc Camera & Lighting)	 Apply industry practise to determine the appropriateness of equipment and guard against the causes of fault development. 	 Planning for the capture, broadcast or recording of video images for a variety of simulated environments Monitor and resolve technical problems as they arise during capture 	Choose most appropriate equipment and method
	 Evaluate the benefits of a range of vision equipment and systems to select the most appropriate equipment for recording video signals to meet the needs of clients and the venue. 		for simulated task • Able to explain reasoning for choices made
	 Synthesise a systematic knowledge of industry standards for operating and managing and resolving problems of visions systems and facilities. 	Vision mix broadcast	Identify faults quickly and methodically
Networking and Media Management	 Apply industry practise to determine the appropriateness of networking technologies and media management practises in outside broadcasting and guard against the causes of system 	 Planning for the recording of video and audio for a variety of media Monitor and resolve technical problems as they arise during transmission Set up, configure and test a RF system Closed book examination 	Choose most appropriate equipment and method for simulated task
	failures. • Evaluate the benefits of a range of video and audio recording equipment, and networking technologies to meet the needs of clients and the venue.		Able to explain reasoning for choices made
			Identify faults quickly and methodically
	 Synthesise a systematic knowledge of industry standards for operating networks to deliver media 		,

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Health, Safety and Power Management	 Evaluate all risks to people and equipment in order to select the most appropriate equipment and processes for managing an outside broadcasting event. Identify and provide safe solutions for common problems that arise in outside broadcasting. Calculate capacities and load of equipment to ensure use within safe limits. 	 Identify the potential risks to people and equipment for a live outside broadcast environments Monitor loading and resolve technical problems as they arise during transmission Set up, configure and test the electrical system Closed book examination 	 Choose most appropriate equipment and method for simulated task Able to explain reasoning for choices made Identify faults quickly and methodically Work safely at all times
Professional and Team Working	 Apply the principles of teamwork for efficient management of outside broadcasting events. Identify and provide profession and team based solutions to problems that arise in outside broadcasting. View events from the customer or client's perspective to proactively resolve issues before they become problems and to exceed customer expectations 	 Identify tasks and delegate effectively for a live outside broadcast environments Monitor and support team to resolve problems as they arise during transmission Manage team and client, exceeding where possible the client expectation 	 Communicate effectively, developing a rapport amongst team members Able to explain reasoning for choices made Clear communication
Location Management	 Interpret CAD and other forms of site plans to identify risks and design a site plan. Design and plan the safe use of sites to make best use of the available space and best meet the needs of the client, the site owner and other stakeholders. Determine appropriate strategies to maintain the security of the site and people and to meet the requirements of the shoot. 	 Identify tasks and design best use of site for client within budget and brief for a live outside broadcast environments Ensure design meets the needs of owner and other stakeholders Manage team and client, exceeding where possible the client expectation 	 Make best use of existing resources to deliver client's vision. Able to explain reasoning for choices made Clear communication

Appendix 2 B - Assessing the Core Behavioural Skills

Area of competence	Skill Outcome Required	Typical Assessment	Assessment Criteria
Sound Engineering (inc. RF systems)	 Diagnose problems in the signal chain and identify solutions to rectify sound problems Prepare and operate a wide range of microphones and associated equipment and configure radio systems to accommodate the needs of clients across a range of venues Monitor audio signals across different ranges to detect sound-quality deviations or malfunctions 	 Planning for the capture, broadcast or recording of sound for a variety of simulated environments Monitor and resolve technical problems as they arise during recording Use testing equipment to detect problems - simulation 	 Choose most appropriate equipment and method for simulated task Able to explain reasoning for choices made Identify faults quickly and methodically
Vision Engineering (inc Camera & Lighting)	 Rig, align, adjust and maintain vision equipment, to ensure the accurate line-up of vision monitoring, camera output and other vision facilities. Operate camera exposure, black level and colour balance controls, to match cameras and maintain overall picture quality during live and recorded programmes. Monitor video signals across different ranges to detect video-quality deviations or malfunctions 	 Planning for the capture, broadcast or recording of video images for a variety of simulated environments Operate camera professionally Monitor and resolve technical problems as they arise during capture - simulation 	 Choose most appropriate equipment and method for simulated task Able to explain reasoning for choices made Identify faults quickly and methodically
RF Systems, Networking and Media Management	 Configure equipment to work with an existing network and use analysis tools for fault finding. Monitor recording and media management systems for quality deviations and malfunctions. 	 Monitor and resolve technical problems as they arise during recording - simulation Set up, configure and test equipment to work effectively an existing network - simulation 	 Choose most appropriate equipment and method for simulated task Able to explain reasoning for choices made Identify faults quickly and methodically

Health, Safety and Power Management	 Manage health, safety and power management issues in outside broadcasting events. Prepare and operate a wide range of power equipment on site, asses associated risks and ensure safe working practices are in place and are monitored. Monitor power systems for equipment selection and load management to detect malfunctions 	 Identify the potential risks to people and equipment for a live outside broadcast environments Establish effective health and safety procedures appropriate for the site Monitor power systems to identify potential for health and safety risks - simulation 	 Choose most appropriate equipment and method for site and event Able to explain reasoning for choices made Identify risks to Health and safety Work safely at all times
Professional and Team Working	Work as a member of the team in planning and running outside broadcasting related tasks. Supervise co-workers and contractors working on specific outside broadcast tasks.	Resolve team issues effectively for a live outside broadcast - simulation Monitor the work of others during transmission Provide clear specific instructions to contractors - simulation	for choices made
Location Management	 Manage an outside broadcasting site with an appreciation of the location and event related constraints in outside broadcasting. Work as part of the team to undertake a live broadcast event. Monitor, evaluate and solve a range of issues that can arise during an outside broadcast. 	Realise and adapt where necessary the design for a live outside broadcast environments Resolve problems during live broadcast - simulation Manage team and client, exceeding where possible the client expectation	 Make best use of existing resources to deliver client's vision. Able to explain reasoning for choices made Clear communication