

Feedback on OH written assessments April 2015

Deon J van Vuuren & Julie Hills – SAIOH-PCB

The failure rate at OH level on the written assessment remains high and is of concern to the SAIOH PCB members. The following information highlights the main areas of concern found from poor or failed attempts at questions on the paper.

Please study this information carefully and use the information to help you prepare for your re-write.

- 1 Detailed knowledge at grass roots level in many skills is lacking and this is reflected in an inability to answer many questions. OH's need to study and constantly read to keep up to date with the constant developments in our profession.
- 2 One of the most serious and concerning areas of failure on the OH and OHT papers are the calculations. It is especially worrying where basic chemical results cannot be correctly calculated and reported. The results of chemical monitoring are used by the OH to report legal compliance, and are also used for generation of recommendations and advice for management. This is one of the most fundamental areas of practice.

The main excuse from most candidates is 'we have an excel spread sheet at work and just put sampling data and results into that and it does the calculation for us!' This does not remove the fact that the candidate needs to understand the foundation areas of practice and may not always have such a tool available. At OH level you should be able to generate the spreadsheets and be able to perform the required QA check calculations against such tools where used.

Ventilation calculations and measurement techniques are also very poor and need serious work and practise at OH level.

Most noise calculations and results can be generated from knowledge of the 3 dB doubling rate tables and models and do not always require the full logarithmic calculations but even these have a majority of incorrect results.

- 3 Understanding and applying standards, with special reference to OEL's and statistical programmes and sampling strategies. OESSM as referenced in the regulations as well as more modern acceptable techniques should be understood.

The Annexures in the Regulations for HCS is one of the best sources of information and definitions and other sources mentioned at the end of this feedback can all be studied to improve knowledge on standards and related issues. It is important that the candidate not only know the definitions but the application, especially at OH level this is the competence you need to show.

- 4 Generally poor understanding of Chemical stressors, especially consideration of physical characteristics and how these influence many monitoring decisions (methodology etc.). Understanding of toxicology and epidemiology principles are very poor, as is a good range of knowledge for common processes – both mine and industry related. Certified and registered OH's are expected to have a rounded understanding of the work environment and not a blinkered view of a single industry.
- 5 Radiation (ionising and non-ionising) is a subject where most candidates (both OH and OHT) have a serious lack of knowledge. For many practitioners, measurement does not play a large role and for ionising radiation one is required to be a registered radiation officer which is a separate requirement, and therefore practical experience is minimal for most OH's. As OH practitioners however, you need to be able to identify, understand and advise on potential exposures to these types of hazard. Know typical work places and tasks where these may occur and the type of health effect caused if over exposure occurs.
- 6 In depth understanding of Health Risk Assessment procedures and models is lacking in many instances. At OH level candidates need to describe how to perform HRA's including risk models for interpretation (giving specific examples is important), as well as outcomes and how you use the information found to enhance and plan your OH programmes – holistic answers are required.
- 7 Candidates do not always read the question correctly and take shot gun approaches to the answers. Most questions, especially the essay type questions, are very specific to a particular stressor or scenario and answers will be expected to match the situation. Key considerations in each answer at OH level should be based on the level of knowledge and responsibility you will hold as a registered OH – full responsibility for reports and content (remember liability). Generalised book learned answers are not necessarily the most correct and applicable options for each scenario should be applied. This is most important for controls, where a simple and constant repetition of the hierarchy of control for every answer is totally inappropriate.
- 8 The definition based skills self-assessment tool has been designed with the above in mind and will greatly help you to understand the skill set (17 subjects) and level of knowledge and practice you require at each of the three levels of registration. It is highly recommended that you study this and attempt a self-assessment to identify the gaps and areas you need to improve to attain the required registration.

Preparation and advice on preparation for future assessments:

1. Candidates must ensure that they are familiar and confident in their understanding of standards and common Occupational Hygiene terminology and principles. There are many good resources and texts available that cover all of these aspects in detail. (The MHSC handbook, Schoeman et al, Di Nardi, OHTA Health Effects and the Measurement of HCS modules etc. The SA Regulations for HCS annexures are an excellent source of information in this regard)

OH associations such as BOHS, AIOH, AIHA as well as national agencies such as the HSE (UK) and NIOSH or the ACGIH (USA) have lots of information and material that may be downloaded for free on their web sites. These guides often have simple tools and calculation models to help OH's apply their skills.

2. Candidates also need to know and understand the gap that exists on basic knowledge of hazardous chemical substances, toxicity, common processes etc. Again knowledge and understanding of these subjects need to be improved and expanded.
3. It is important that all candidates are confident and able to perform the common calculations used in our work. Key areas are chemicals where calculation of results from measurement data and analysis, TWA corrections, additive results and exposure Index as well as conversion of ppm to mg/m³ (and vice versa) are all important. Basic noise calculations (addition of sound sources and TWA corrections) and the use of the 3 dB(A) correction models would really help in the assessment process and day to day practice of OH in the field.

The OHTA training material is available free of charge on the www.OHLearning.com website and specific lectures and practice examples for these are available and should be sourced and practised.

4. The SAIOH PCB and Council are targeting education and support for the development of Occupational Hygienists and hope to develop small subject specific guides as well as assessment preparation advice sheets. BOHS (UK) often choose a subject and run various workshops, release associated guidance notes and even work with service providers to develop models and specific courses. This is a smart option to spread learning and understanding and to uplift competency levels of our local OH practitioners.

It is however important that candidates use these opportunities to learn and develop. Look on the web site, open and read e mails from SAIOH and the PCB and attend meetings and workshops. Continued poor attendance and the failure to utilise the tools and information generated to help you, will quickly negate this type of initiative and we will revert to the present situation. Support your local SAIOH branches, meet your peers, share information and knowledge – these are great learning opportunities.

Constant individual complaints and personal attacks on SAIOH representatives distracts Council members delivering on these much needed support materials as critical time is spent on individual issues which reduces the time available for an holistic approach for all.

Offer your services as a volunteer with SAIOH and help to speed up the process; you will learn so much from your peers along the way.

5. Calculation tutorials are being developed and will be released on the new SAIOH website from mid June 2015. Access these tutorials and attempt the questions – practice and practice more, again until you are comfortable.

All candidates are given a set of common equations and calculations used in Occupational Hygiene with the assessment paper. You do not need to remember the various equations, just select the correct equation or calculation for the required scenario and show that you can apply these.

Read the questions carefully – for example when calculating TWA's check how many time periods are listed, does the time add up to the normal 8 hour shift? If not, correct as required.

6. Attendance of the OHTA intermediate modules is highly recommended, even at Occupational Hygienist level, as the variable entrance qualifications result in very specific knowledge gaps, depending on candidate background. The intermediate modules allow you to attend subject specific modules to gain detailed knowledge for weak subjects.

SA based ATP's advertise on the SAIOH website and by mail drops, plus on the OHLearning web site. Look for courses running in your area.

Report Prepared by

Julie Hills

Chair SAIOH-PCB

May 2015