

“Towards a European Qualification Framework for Solid Waste Facilities” Managers”

SWFM Review

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Evaluation of Qualifications Framework and Info-Training Toolkit

I was asked to carry out this evaluation at the request of the International Centre for the Environment, Resource Management & Sustainability Limited, a programme development partner.

The general approach I adopted for the evaluation was that of an external verifier reviewing learning materials submitted to a qualification’s authority prior to course delivery. In terms of subject knowledge I will apply my 15 years’ experience as an ISO14001 manager / auditor. Although I act as an external verifier in Wastes Management, my work in this area is limited to the operative / supervisor level, I lay no claim to detailed specialist technical expertise beyond this, and, of late, my interests lie within the field of sustainable development and sustainable development education.

I understand that the learning materials have been developed by a team of contributors and from this point of view it unlikely that there will be continuity of style across the units.

Overview

I understand that a great deal of work and effort has gone into the development of this qualification and indeed I found the content to be comprehensive, vocationally relevant and to embrace all of those skills that might reasonably be expected of a qualified manager with responsibility for a solid waste management facility. That said, I have substantial reservations regarding the draft materials. If the presenting language is to be English, or indeed if any candidates will undertake the qualification in English, the units must be revised to ensure that the text is clear, logical and unambiguous. As it stands I could not recommend publication until substantial revision / editing has taken place.

General Recommendations

The Learning Outcomes in the text of the unit **must** correspond exactly to the Learning Outcomes listed in the preamble of the unit. For example in **ULO AD/MTB-4** LO1: Provide for adequate pits and tank in order to receive matter becomes - 1) Use of septic or equalisation tanks – these are not the same thing. This principle extends to every Learning Outcome comprising every unit in the award. All units within the award should be edited accordingly.

Sometimes the language used is somewhat stilted, as a result, perhaps, of contributors for whom English is a second language. The text would benefit from a thorough edit in terms of “plain English”. Our European colleagues could also carry out a similar exercise to ensure that content is both appropriate and understandable in the presenting language.

Although the text has clearly been subjected to spell-checking there are a large number of typographical errors some of which could be classed as “howlers”. All of the unit drafts require careful proof reading and correction.

Knowledge (assimilation of knowledge throughout learning) - this heading defies plain language – it should read something like **Knowledge** (what the candidate needs to know).

I’m not happy with the “Knowledge” column. An active verb - demonstrate, explain, define etc. is used throughout. “Knowledge” is surely “What the candidate needs to know”. The application of this knowledge i.e. “Skills” is what we want the candidate to actually do, and, indeed, it is this application of knowledge that will form basis for the assessment of the unit. Please consider the revision of all of the Knowledge columns to remove the active verb and leave simple statements of fact.

I’m not sure as to what the term “mastery” used extensively in the Skills column actually means. In vocational qualifications in Scotland candidates are required to achieve “competence” in a particular skill before they are deemed to have attained any particular outcome. Consider replacing the word “mastery” with “competence” in English translations for all units.

Some units within the award require substantial editing / rewriting. In the interests of economy of effort / resources, there are many respected - tried and tested – generic units available “off the shelf”.

Consider including an entry level / prior knowledge statement for guidance to prospective candidates particularly where content exceeds the time constraints of course delivery, for example: In the anaerobic digestion unit, as a knowledge component, it requires

the candidate to “Demonstrate an advanced knowledge of basics of chemistry, agronomy, genetics, thermodynamics and biology”. In other words the candidate will have to complete a general Science degree as part of the learning for the unit.

Although the units are clearly levelled at EQF 6 where terms such as “advanced” knowledge or skills are used, consider including some global clarification / definition of the term “advanced” as it is used in the text.

Appendices

(1) Environmental

Qualifications Framework : Environmental	Commentary	Recommendations
Professional Activity: Manage and implement policies and procedures for environmental protection on site	I think that the content is both appropriate and comprehensive. In terms of the order in which the outcomes are presented, I would probably have based this section entirely on environmental management systems, say ISO 14001, and used this as a logical framework. I'm not entirely happy with the "Knowledge" column. An active verb - demonstrate, explain, define etc. is used throughout. "Knowledge" is surely "What the candidate needs to know". The application of this knowledge i.e. "Skills" is what we want the candidate to actually do, and, indeed, it is this application of knowledge that will form basis for the assessment of the unit.	Consider a revision of the "Knowledge" column of all the units in this suite, for example:
Professional Activity: Manage environmental aspects of sustainable business practices		Demonstrate in-depth knowledge of the benefits for improving the environment: within the site, to areas adjoining the site;
Professional Activity: Ensure staff complies with organisational policies and procedures for environmental protection on site		Demonstrate advanced knowledge on the importance of good public relations;
Professional Activity: Monitor and maintain legislative compliance for environmental protection		Becomes simply: An in-depth knowledge of the benefits for improving the environment: within the site, to areas adjoining the site; Advanced knowledge on the importance of good public relations

(2) Financial and Contractual

Qualifications Framework : Financial and Contractual	Commentary	Recommendations
Professional Activity: Yearly Budget management	<p>I must first point out that financial management and procurement is not within my normal area of expertise. I recognise the need for managers employed within the solid waste management industry to possess skills in this area although I'm not convinced that they require them to degree / EQF 6 level.</p> <p>Frankly I found the units within this suite difficult to understand, with numerous grammatical and typographical errors. Extraneous text has crept into the draft in places. Again the information within the "Knowledge" column is compounded with skills – knowledge should restrict itself to what the candidate actually needs to know. I am not entirely sure as to why this suite of units needed to be commissioned in the first place – there are perfectly good generic financial management units that have been developed for use in the EU that are approved and available "off the shelf".</p>	<p>This suite of units would benefit from a substantial / complete rewrite. Alternatively a suite of generic, off the shelf, financial management units could be selected to replace those included in the SWF draft.</p>
Professional Activity: Manage the economic aspects of sustainable business practices		
Professional Activity: Manage and develop contracts in line with specific, established criteria		
Professional Activity: Monitor contract performance		
Professional Activity: Manage contingencies and deviation from contractual obligations		
Professional Activity: Procurement		

(3) Human Resource Management

Qualifications Framework : Human Resource Management	Commentary	Recommendations
Professional Activity: Develop and maintain effective working relationships	Obviously SWF managers require high level managerial skills – managers must manage. Many, indeed most, SWF managers will already have undertaken some degree of management training and it is important to align these new units to previously acquired knowledge. All of the units here are entirely generic and there is no mention of the waste management industry in general, or solid waste management, in particular – from this point of view it might have been more economical of effort to have selected some previously developed / respected management training package. All this said, with a few reservations as to language and other issues identified elsewhere, I felt that content was comprehensive and encompassed those managerial skills that might reasonably be expected of the manager of a solid waste management facility.	See generic recommendations.
Professional Activity: Ensure staff development		
Professional Activity: Provide leadership and direction to teams and individuals		
Professional Activity: Communicate in an appropriate manner within the business environment		

(4) Health and Safety

Qualifications Framework : Health and Safety	Commentary	Recommendations
Professional Activity: Manage and implement policies and procedures for health and safety on site	<p>Health and safety on waste management sites remains a critically important issue. It is absolutely correct that H&S should form a core component of the course. I found the unit content to be comprehensive and clear, in that I could understand all of the issues covered. Again I have concerns with the use of active verbs in the “knowledge” sections and I would advise that the word “mastery” is replaced by “competence” in English translations of the “skills” sections</p> <p>A large number of candidates undertaking this training will have already achieved a high degree of competence in H&S – NEBOSH or equivalent - and many will rightly request credit transfer / APL for this element of the course. This begs the question as to why such generic qualifications were not selected “off the shelf” rather than developing the area anew.</p>	<p>See general recommendations.</p> <p>Replace the word “mastery” with “competence” in English translations.</p>
Professional Activity: Monitor and maintain legislative compliance for health and safety		
Professional Activity: Manage Occupational Hazards		

(5) Operational Management

Qualifications Framework : Operational Management	Commentary	Recommendations
Professional Activity: Manage Daily Operational Activities	<p>I found the content of this suite of units to be comprehensive, detailed and vocationally relevant. Content had been contextualised to the operations carried out on a SWF.</p> <p>I felt that the number of learning outcomes (12) in the Manage Daily Operational Activities was excessive although I'm not entirely sure as to how I might go about reducing this.</p> <p>Overall, with the usual provisos, I considered this to be a good suite of units covering the daily operations of a SWF</p>	See general recommendations.
Professional Activity: Maintain the levels of plant operation in accordance with granted authorisations		
Professional Activity: Sustainable operations and development		
Professional Activity: Manage social aspects of sustainable business practices		

(6) New Projects Management

Qualifications Framework : New Projects Management	Commentary	Recommendations
Professional Activity: Strategic planning and management	<p>As yet I've not referred to the EQF level assigned to each suite of units – benchmark levelling appears to be at EQF 6 / SCQF 9/10. In the case of New Projects Management I would challenge this benchmark – the complexity involved in achieving this suite of units resides at a higher level. I would recommend EQF 7 overall perhaps EQF 8 for Strategic Planning and Management.</p> <p>Otherwise I felt that the suite of units is vocationally relevant, comprehensive and clear. I'm not sure as to its relevance to SWF managers / supervisors and suspect that it would be more appropriate to the CEO / managing director.</p> <p>Otherwise no issues identified.</p>	<p>Consider re-levelling this suite of units to EQF 7 / SCQF 11.</p> <p>See general recommendations.</p>
Professional Activity: Identify and plan new technologies and improvements to waste management operations		
Professional Activity: Implement and evaluate improvements to waste management operations		
Professional Activity: Generate and secure new waste management business		

(7) Technical: Mechanical Treatment

Qualifications Framework : Mechanical Treatment	Commentary	Recommendations
Professional Activity: Manage the process for mechanical treatment	<p>The Learning Outcomes in the text of the unit must correspond exactly to the Learning Outcomes listed in the preamble. For example in ULO AD/MTB-4</p> <p>LO1: Provide for adequate pits and tank in order to receive matter becomes - 1) Use of septic or equalisation tanks. This principle holds for every Learning Outcome comprising every unit in the award.</p> <p>In the anaerobic digestion unit as a knowledge component it requires the candidate to “Demonstrate an advanced knowledge of basics of chemistry, agronomy, genetics, thermodynamics, biology”. In other words the candidate will have to complete a general Science degree as part of the learning for the unit. Surely a statement as to entry level, i.e. the pre-existing qualifications required of any candidate undertaking the award is needed.</p> <p>Generally the content seemed comprehensive and appropriate but the language was impenetrable throughout.</p>	<p>See general recommendations</p> <p>Ensure Learning outcomes are consistent throughout.</p> <p>Consider including an entry level / prior knowledge statement for guidance to prospective candidates.</p> <p>Consider a complete rewrite / revision to ensure content is both comprehensible and accessible.</p>
Professional Activity: Manage the process for biological treatment		
Professional Activity: Check performance and trends of parameters – Maintenance		
Professional Activity: Store the waste resulting from the treatment process in compliance with the regulations in force		
Professional Activity: Manage entering and outgoing waste streams in compliance with the legislation		
Professional Activity: Manage the process for anaerobic digestion		
Professional Activity: Employ the biogas produced		
Professional Activity: Store the waste resulting from the treatment process in compliance with the regulations in force		
Professional Activity: Manage entering and outgoing waste streams in compliance with the legislation		

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(8) Technical: Composting

Qualifications Framework : Composting	Commentary	Recommendations
Professional Activity: Plan and develop a non-hazardous waste composting facility	Generally I felt that this suite of units was well-presented, logically laid out and comprehensive. The units are vocationally relevant and are acceptable as they stand bearing in mind the provisos previously stated. A minor issue springs to mind namely the use of the word “advanced” as in “advanced” knowledge and “advanced” skills. Advanced relative to what? I understand the term to mean, in this context, knowledge and skills at EQF 6 (or SCQF 10). Some global clarification / definition of the term would be helpful.	See general recommendations Consider including some global clarification / definition of the term advanced as it is used in the text.
Professional Activity: Plan and schedule treatment/production for a waste composting facility		
Professional Activity: Manage the composting process on waste composting facility		
Professional Activity: Manage incoming and outgoing waste and material streams		

(9) Technical: Landfill

Qualifications Framework : Landfill	Commentary	Recommendations
Professional Activity: Plan landfill infrastructure construction	<p>Generally I felt that the units in this suite were OK – comprehensive and vocationally appropriate, however some editing is still required to aid comprehension. In the “Skills” column the term “enable” is used extensively for example: <i>Enable that the Operational and Maintenance Procedures Manual for the mechanical equipment are carried out</i> – I assume this should read: <i>Ensure that Operational and Maintenance Procedures, for mechanical equipment, are carried out in accordance with the workshop manual</i>. This problem occurs repeatedly in this suite of units extensive editing is required to ensure clarity.</p>	<p>See general recommendations</p> <p>The term “enable” is used extensively in the Skills column – I assume that the required term is “ensure” please edit the draft to ensure clarity.</p>
Professional Activity: Manage waste landfill daily operations		
Professional Activity: Supervise the Landfill Mechanical Equipment and Infrastructure Operation		
Professional Activity: Manage monitoring processes and equipment		
Professional Activity: Supervise the Facility’s Mechanical Equipment and Infrastructure Maintenance		
Professional Activity: Implement systems and procedures to prevent delivery of unauthorised waste		
Professional Activity: Manage fire prevention and control processes		
Professional Activity: Describe, Monitor and Control Environmental Consequences		

(10) Technical: Recycling

Qualifications Framework : Recycling	Commentary	Recommendations
Professional Activity: Monitoring energy consumption	Example: ULO REC-2: Management of all operations across the site: LO1:	See general recommendations
Professional Activity: Management of all operations across the site	Management of start and decommissioning, monitoring and control of the recycling facility:	
Professional Activity: Manage permission regimes	What does this mean? The same LO appears later in the draft as: 1) Monitor and control the equipment of the recycling facilities in the most efficient way.	
Professional Activity: Control the incoming and outgoing streams following the legislative requirements	So which one is it to be? The latter seems fine to me. Did two different authors write two distinct sets of Learning Outcomes?	
Professional Activity: Treatment and transportation of waste in accordance with the law requirements	The need to apply the principles of plain language and rationalise Learning Outcomes is never more evident than in this suite of units. The author has actually made a particularly good job of presenting the content in a concise and logical way but this is negated by some cumbersome / awkward language. A global edit, as outlined elsewhere, would resolve the issues identified.	

(11) Technical: Thermal Treatment

Qualifications Framework : Thermal Treatment	Commentary	Recommendations
Professional Activity: Implement procedures for the reception of waste	<p>This suite of units is comprehensive, vocationally relevant and uses consistent and comprehensible terminology throughout. The Learning Outcomes are correctly and consistently presented.</p> <p>With a couple of minor reservations, as outlined in my general recommendations, this suite of units could serve as a template for other units within the award.</p>	<p>See general recommendations</p>
Professional Activity: Select appropriate management option for waste delivered on site		
Professional Activity: Implement systems and procedures to prevent the utilisation and/or further handling of unauthorised waste		
Professional Activity: Implement and maintain systems and procedures for traffic management on site		
Professional Activity: Implement and maintain systems and procedures for the combustion process		
Professional Activity: Manage the procedures for the energy recovery process		
Professional Activity: Manage the procedures for the flue gas cleaning and comply with the emission regulation		
Professional Activity: Implement and maintain systems and procedures for site process management		

(12) Technical: MSW Sorting Facilities

Qualifications Framework : MSW Sorting Facilities	Commentary	Recommendations
Professional Activity: Implement procedures for the reception of waste	I think the content is appropriate, vocationally relevant and comprehensive. The Learning Outcomes are not consistently stated throughout.	See general recommendations
Professional Activity: Select appropriate management option for waste delivered on site		
Professional Activity: Implement systems and procedures to prevent delivery of unauthorised waste		
Professional Activity: Implement and maintain systems and procedures for traffic management on site		
Professional Activity: Manage the process for mechanical treatment		
Professional Activity: Implement and maintain systems and procedures for site process management		