

RPA 2000

THE COMPETENCE CERTIFICATION SCHEMES

Document RWA4

Additional Guidance for the assembly of RWA portfolios in the medical sector

This guidance has been drawn up to supplement the guidance given in Document RWA2. It is intended to provide assistance to persons in the medical sector who are assembling RWA portfolios and may also be of interest to others, particularly potential applicants in the research and teaching sector.

A1.3 Cross Reference Table No.1 (b)

Applicants do not have to include everything contained within the 5th column (guidance for the medical sector RWA). These are examples of what might be considered appropriate to assist you with ideas for creating a portfolio. Applicants should include a balanced selection of evidence and explain, within the context of the requirements of the syllabus, why they consider that the evidence meets the competence.

EA No.	Topic	Depth	More detailed content (sub-topics)	Guidance for the Medical sector RWA
10c.	<ul style="list-style-type: none">• Key national legislation and regulations (including competent authorities)	DU	<ul style="list-style-type: none">- Legislative framework in the UK- UK Regulatory bodies and regulatory system- Knowledge of the main requirements of the following legislation and principles and guidance:<ul style="list-style-type: none">- The Environmental Permitting Regulations 2010 (EPR10)/The Radioactive Substances Act 1993 (RSA93)- Exemption orders made under EPR10/RSA93- Published policies and guidance from the	<ul style="list-style-type: none">• RPA/RWA certifications and appointments• A thorough audit of a facility against the requirements of their registration / permit / authorisation or against the requirements of the legislation• Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus

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			environment agencies - Limitations and conditions included in environment agencies' permits	<ul style="list-style-type: none"> • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • A report examining the potential for local use of exemption orders • Internal reports examining the local effect of policies and guidance from the environment agencies; minutes of meetings where the implications are discussed • Correspondence with the regulator on any relevant aspect
10d.	<ul style="list-style-type: none"> • National legislation and regulations affecting radioactive sources and radioactive waste 	BU	<ul style="list-style-type: none"> - The HASS and Orphan Sources Regulations 2005 - The Ionising Radiations Regulations 1999 - Directions made under Radioactive Waste Legislation 	<ul style="list-style-type: none"> • Any report considering local HASS sources with regard to the regulations • A summary of the main requirements of the HASS and orphan source regulations • RPA/RWA certifications and appointments • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include

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				competences and proof of candidate success <ul style="list-style-type: none"> • Correspondence with the regulator on HASS aspects
10e.	<ul style="list-style-type: none"> • Other relevant Radioactive Substances Legislation 	GA	<ul style="list-style-type: none"> - The Justification of Practices Involving Ionising Radiations Regulations 2004 - The Radiation (Emergency Preparedness and Public Information) Regulations 2001 - The Transfrontier Shipment of Radioactive Waste and Spent Fuel Regulations 2008 - Radioactive Contaminated Land legislation 	<ul style="list-style-type: none"> • A brief summary of the main requirements of these regulations • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • A summary of work undertaken on an environmental impact assessment that considers contaminated land
10f.	<ul style="list-style-type: none"> • Other relevant waste legislation 	GA	Nothing suggested but indicate your awareness of the topic	<ul style="list-style-type: none"> • A brief summary of any other waste legislation i.e. the OSPAR convention

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11. 11b.	Operational Radiation Protection <ul style="list-style-type: none"> • Hazard and risk assessment (including environmental impact) 	DU DU DU BU	<ul style="list-style-type: none"> - Radiological impact assessment methods - Pathways by which radioactive discharges may lead to a public dose: <ul style="list-style-type: none"> - External - Airborne – direct ingestion - Airborne – deposition, followed by ingestion via food pathway - Airborne – inhalation - Liquid – direct ingestion (drinking water) - Liquid - ingestion via food pathway - Contact - Bio-accumulation effects - Impacts of radiation on non-human species 	<ul style="list-style-type: none"> • A radiological impact assessment • Applications made to the environment agencies for authorisation that include an environmental impact assessment • A review of an existing environmental impact assessment with respect to a critical change (change to excretion factors, change to local maximum activities etc) • Any component of a Best Practicable Means document that considers the possible effects of discharges under normal or adverse conditions • Any risk assessment or contingency plan that considers the environmental impact of any scenario considered • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success

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11d.	<ul style="list-style-type: none"> • Control of releases - Quality and environmental management systems 	BU	<ul style="list-style-type: none"> - Understanding of conditions and limitations in Radioactive Waste Legislation (RWL) Permits - Record keeping requirements and systems for radioactive materials - Investigation requirements for radiological incidents - Understanding of operating instructions relevant to RWL permits - Understanding of maintenance instructions relevant to RWL permits - Understanding of emergency instructions relevant to RWL permits - Understanding the reporting requirements and systems for radioactive sources and discharges 	<ul style="list-style-type: none"> • A thorough audit of a facility against the requirements of their registration / permit / authorisation or against the legislation • Correspondence with the regulator following an inspection • An assessment or review of an existing assessment of reasonably foreseeable radiological incidents and the associated contingency plans and instructions for investigation • A report of an internal investigation into a breach of a registration / permit / authorisation • New build / civil modification design specification e.g. fume cupboard stack height, surface finish, aqueous disposal routes

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	<ul style="list-style-type: none"> • Abatement technology 	GA	<ul style="list-style-type: none"> - Abatement technologies available - Maintenance needs of abatement technologies 	<ul style="list-style-type: none"> • A review of the effectiveness and ongoing assessment / maintenance of any local abatement technologies used • A summary / brief literature review of abatement technologies generally available • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • BAT/BPM document that incorporates an abatement / control options appraisal

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11e.	<ul style="list-style-type: none"> • Monitoring • Area monitoring • Personal dosimetry • Biological monitoring 	GA	<ul style="list-style-type: none"> - Personal monitoring methods - Monitoring of operations – instrumentation and control methods - Knowledge of instrument calibration procedures 	<ul style="list-style-type: none"> • RPA certification and appointment • Any contribution towards SOPs outlining the process for the QA / calibration of equipment • Reports giving the results and conclusion following QA and calibration • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success
11f.	<ul style="list-style-type: none"> • Critical group concept/dose calculation for critical group 	BU	<ul style="list-style-type: none"> - How to determine the critical group - How to assess critical group dose 	<ul style="list-style-type: none"> • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • Applications made to the environment agencies for authorisation that include an environmental impact assessment

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12. 12a	Organisation of radiation protection: <ul style="list-style-type: none"> • Role of qualified experts: 	DU BU	<ul style="list-style-type: none"> - The role of the Radioactive Waste Adviser - The role of other experts employed to advise on radiological protection. 	Consider including; <ul style="list-style-type: none"> • RPA/RWA certifications and appointments • A selection of evidence already included (all evidence submitted will to some degree demonstrate an understanding of the role of a RWA)
13. 13a	Waste management: <ul style="list-style-type: none"> • Radioactive waste management 	DU	<ul style="list-style-type: none"> - Sources of radioactive waste, waste types, waste classification and waste characterisation - Principles of radioactive waste management: dilute and disperse, concentrate and contain, storage for decay and clearance from control - The waste hierarchy : avoidance, minimization, reuse, recycle and disposal - Storage options for radioactive waste - Treatment options for radioactive waste - Management of disused sealed sources: technical options and safety aspects - Disposal options for radioactive waste 	<ul style="list-style-type: none"> • A thorough audit of a facility against the requirements of their authorisation or against the requirements of the legislation • Correspondence with the regulator on waste disposal • Any advice on, or review of, waste arrangements (routine, in response to local changes, in response to guidance or legislation changes) • Advice on or review shortly after the setting up of a new procedure or service, especially with respect to best practice for waste • Any relevant contribution to a BAT/BPM document regarding waste disposal options or a critical review of those aspects of a BAT/BPM document • Any advice issued regarding permanent

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				<p>cessation of source use, the removal of sources or the decommissioning of an area</p> <ul style="list-style-type: none"> • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success
13b.	<ul style="list-style-type: none"> • Radioactive waste assay 	BU	<ul style="list-style-type: none"> - Sampling methodologies and minimisation of secondary waste - Assay methodologies <ul style="list-style-type: none"> - Uncertainties and limitations in assay data - Assay recording methods 	<ul style="list-style-type: none"> • Any contribution towards local SOPs outlining the process for radioactive waste assay, results analysis and the uncertainties • Any report giving the results and conclusions following radioactive waste assay, taking into account uncertainties • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success

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13c.	<ul style="list-style-type: none"> • Radioactive waste disposal 	DU	<ul style="list-style-type: none"> - Disposal options for radioactive waste. 	<ul style="list-style-type: none"> • Any advice on, or review of, waste arrangements (routine, in response to local changes, in response to guidance or legislation changes) • Any relevant contribution to a BAT/BPM document regarding waste disposal options or a critical review of those aspects of a BAT/BPM document • An audit of a facility against the requirements of their authorisation or against the requirements of the legislation where the current waste arrangements are verified best practice
14.	Transport	GA	<ul style="list-style-type: none"> - Transport of radioactive materials <ul style="list-style-type: none"> - Packaging of radioactive materials and waste for transport - Security of radioactive materials during transport - Transport documentation – dispatch and receipt 	<ul style="list-style-type: none"> • RPA / DGSA certification and appointment • Any contribution to an SOP regarding the preparation and transport of radioactive materials or an audit of existing arrangements (including security and documentation) • Any documented involvement in the transportation of radioactive materials • Any specific advice given on arrangements for the transportation of radioactive materials • Any correspondence with the regulator

EA No.	Topic	Depth	More detailed content (sub-topics)	Guidance for the Medical sector RWA
				regarding the transportation of radioactive materials or waste
15.	Optimisation techniques <ul style="list-style-type: none"> • BAT/BPM 	DU	<ul style="list-style-type: none"> - How to apply the BAT/BPM condition, and audit against BAT/BPM requirements, in relation to: <ul style="list-style-type: none"> - Facility design - Facility operation, including abatement of discharges - Minimisation of risk - Radioactive waste management - Facility decommissioning 	<ul style="list-style-type: none"> • The significant contribution to, or critical review of, a BAT/BPM document • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • Any advice given on the requirements for decommissioning an area or a facility, or reports or correspondence concerned with a decommissioning event itself • Any contribution to an SOP outlining the steps to be taken when decommissioning an area or a facility

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16.	Environmental monitoring	BU	<ul style="list-style-type: none"> - Environmental monitoring: atmosphere, water bodies, foodstuffs, other environmental indicators, verification of compliance with derived environmental reference levels, survey techniques. - Tools available for environmental radiation monitoring - Sampling and analysis methods for environmental measurements - Mapping and data presentation for environmental data - Monitoring at source: external radiation and liquid and gaseous effluents, verification of compliance with discharge limits - Application to different sources. 	<ul style="list-style-type: none"> • Certificate of attendance from workshops run for current / prospective RWAs that discuss environmental monitoring • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • Any contribution to an SOP concerned with environmental monitoring • Any reports or other correspondence relating to environmental monitoring undertaken • Any correspondence with the regulator regarding environmental monitoring methods or results

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17.	Security of radioactive materials	BU	<ul style="list-style-type: none"> - Understanding of where to get advice. - Security requirements for radioactive sources (e.g. from CPNI/NaCTSO or OCNS). - Understanding the purpose and use of a security plan. - Understanding of protecting information. 	<ul style="list-style-type: none"> • Any contribution to, or critical review of, the security aspects of a BAT/BPM document • Any relevant training on these subjects, run by any respected body. Include certificate of attendance and details of the programme / syllabus • Vocational training including these subjects (i.e. STP/IPEM Part I & II training) – include competences and proof of candidate success • Any advice given regarding the security of radioactive materials • Any correspondence with regulators or enforcers on the subject of security of radioactive materials

A2.2 Cross Reference Table No.2 - Practical competence and workplace experience

Applicants do not have to include everything contained within the 4th column (guidance for the medical sector RWA). These are examples of what might be considered appropriate to assist you with ideas for creating a portfolio. Applicants should include a balanced selection of evidence and explain, within the context of the requirements of the syllabus, why they consider that the evidence meets the competence.

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10c.	Legal and Regulatory Basis- Key national legislation and regulations (including competent authorities)	<ul style="list-style-type: none"> - Legislative framework in the UK* - UK Regulatory bodies and regulatory system* - Knowledge of the main requirements of the following legislation and principles and guidance: <ul style="list-style-type: none"> - The Environmental Permitting (England and Wales) Regulations (EPR)/The Radioactive Substances Act 1993 Amendment (Scotland)Regulations (RSA)* - Exemption orders made under EPR/RSA* - Published policies and guidance from the environment agencies* - Limitations and conditions included in environment agencies' permits* 	<ul style="list-style-type: none"> • RPA/RWA certifications and appointments • A thorough audit of a facility against the requirements of their registration / permit / authorisation or against the requirements of the legislation • A report examining the potential for local use of exemption orders • Internal reports examining the local effect of policies and guidance from the environment agencies; minutes of meetings where the implications are discussed • Any advice given with references to how to meet all applicable legal requirements following; introduction of a new procedure, construction of a new facility, change in technique or practice etc • Relevant presentations that teach the content required by this competence • Applications or variations to permits, registrations

			<p>or authorisations</p> <ul style="list-style-type: none"> • Correspondence with the regulator on any relevant aspect
	Topic	More detailed content (sub-topics)	Guidance for the Medical sector RWA
11b.	Operational Radiation Protection- Hazard and risk assessment (including environmental impact).	<ul style="list-style-type: none"> - Radiological impact assessment methods* - Pathways by which radioactive discharges may lead to a public dose: <ul style="list-style-type: none"> - External* - Airborne – direct ingestion* - Airborne – deposition, followed by ingestion via food pathway* - Airborne – inhalation* - Liquid – direct ingestion (drinking water)* - Liquid - ingestion via food pathway* - Contact* - Bio-accumulation effects* <p><i>In respect of the 7 pathways listed above, it is important that any submitted evidence demonstrates that you have an <u>understanding</u> of those pathways and not simply the use of proprietary software.</i></p>	<ul style="list-style-type: none"> • A radiological impact assessment • Any assessment of exposure to external radiation (could come from an IRR99 risk assessment) • Applications made to the environment agencies for authorisation that include the pertinent points of an environmental impact assessment • A review of an existing environmental impact assessment with respect to a critical change (change to excretion factors, change to local maximum activities etc) • Any component of a Best Practicable Means document that considers the possible effects of discharges under normal or adverse conditions • Any risk assessment or contingency plan that considers the environmental impact of any scenario considered • Advice on the undertaking of environmental monitoring • Evidence of environmental monitoring results and a discussion of their implications

	Topic	More detailed content (sub-topics)	Guidance for the Medical sector RWA
11d.	Operational Radiation Protection - Control of releases Quality and environmental management systems	<ul style="list-style-type: none"> - Understanding of conditions and limitations in RWL Permits - Record keeping requirements and systems for radioactive materials - Investigation requirements for radiological incidents - Understanding of operating instructions relevant to RWL permits - Understanding of maintenance instructions relevant to RWL permits - Understanding of emergency instructions relevant to RWL permits - Understanding the reporting requirements and systems for radioactive sources and discharges. 	<ul style="list-style-type: none"> • A thorough audit of a facility against the requirements of their registration / permit / authorisation or against the requirements of the legislation • Any report detailing the measures necessary to achieve compliance with the legislation • Correspondence with the regulator following an inspection • An assessment or review of an existing assessment of reasonably foreseeable radiological incidents and the associated contingency plans and instructions for investigation • A report following an internal investigation into a breach of a registration / permit / authorisation
12d.	Organisation of Radiation Protection- Record keeping (sources, doses, unusual occurrences etc)	<ul style="list-style-type: none"> - Record keeping to comply with legislative requirements - Content, format and maintenance of records 	<ul style="list-style-type: none"> • A thorough audit of a facility against the requirements of their registration / permit / authorisation or against the requirements of the legislation • Any contribution towards local SOPs outlining the process for the keeping and use of radioactive materials, including associated record keeping • Any reports summarising the quantities of radioactive material used and radioactive waste disposed of over a period of time; either internal or

			<p>for the benefit of an environment agency</p> <ul style="list-style-type: none"> • Radioactive waste policy or detailed BAT/BPM document describing roles, responsibilities and means for demonstrating compliance with a permit / authorisation
EA No.	Topic	More detailed content (sub-topics)	Guidance for the Medical sector RWA
13a.	Waste management - Radioactive waste management	<ul style="list-style-type: none"> - Sources of radioactive waste, waste types, waste classification and waste characterisation - Principles of radioactive waste management: dilute and disperse, concentrate and contain, storage for decay and clearance from control - The waste hierarchy : avoidance, minimization, reuse, recycle and disposal - Storage options for radioactive waste - Treatment options for radioactive waste - Management of disused sealed sources: technical options and safety aspects 	<ul style="list-style-type: none"> • A thorough audit of a facility against the requirements of their authorisation or against the requirements of the legislation • Correspondence with the regulator on waste disposal • Any advice on, or review of, waste arrangements (routine, in response to local changes, in response to guidance or legislation changes) • Advice on or review shortly after the setting up of a new procedure or service, especially with respect to best practice for waste • Any relevant contribution to a BAT/BPM document regarding waste minimisation and disposal options or a critical review of those aspects of a BAT/BPM document • Any advice issued regarding permanent cessation of source use, the removal of sources or the decommissioning of an area

	Topic	More detailed content (sub-topics)	Guidance for the Medical sector RWA
13c.	Waste management - Radioactive waste disposal	- Disposal options for radioactive waste.	<ul style="list-style-type: none"> • Any advice on, or review of, waste arrangements (routine, in response to local changes, in response to guidance or legislation changes) • Advice on or review shortly after the setting up of a new procedure or service, especially with respect to best practice for waste • Any relevant contribution to a BAT/BPM document regarding waste disposal options or a critical review of those aspects of a BAT/BPM document • An audit of a facility against the requirements of their authorisation or against the requirements of the legislation where the current waste arrangements are verified best practice
15.	Optimisation techniques - BAT/BPM	<p>- How to apply the BAT/BPM condition, and audit against BAT/BPM requirements, in relation to:</p> <ul style="list-style-type: none"> - Facility design* - Facility operation, including abatement of discharges* - Minimisation of risk* - Radioactive waste management* - Facility decommissioning* 	<ul style="list-style-type: none"> • The significant contribution to, or critical review of, a BAT/BPM document • Any advice given on the requirements for decommissioning an area or a facility, or reports or correspondence concerned with a decommissioning event itself • Any contribution to an SOP outlining the steps to be taken when decommissioning an area or a facility • New build / civil modification design specification e.g. fume cupboard stack height, surface finish, aqueous disposal routes