SUMMARY OF SUBMISSIONS AND RESPONSES
DRAFT SAFETY GUIDE FOR RADIATION PROTECTION IN RADIOTHERAPY

	COMMENT	RESPONSE
1. Introduction		
1.2 Background		
	Submission No. 14 **Safety Guides** Two of the safety guides contain the same background statement. "This Safety Guide has been prepared as a supplement to the Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation. It provides advice and guidance on measures that can be employed to assist in meeting the requirements of the Code." In the Radiotherapy Safety Guide the wording is slightly different; "The information …. is intended to provide practice specific guidance in radiotherapy on achieving the requirements of the Code". In all there is the implication that the emphasis is on meeting regulatory requirements, rather than just the simple statement of providing advice on good practice.	The wording of the Background section has been amended to be consistent with the Safety Guides for Radiology and Nuclear Medicine, which now both include that the Safety Guide "provides advice and guidance on good radiation practice".
	Submission No. 24 Line 22 A comma is required after "benefit", ie. "benefit, but".	Agreed and amended.
1.3 Purpose		
	Submission No. 12 *Lines 35-36* We support the role of the multidisciplinary team as stated:	Noted.
	Submission No. 17 **Lines 35 - 36** Throughout this document the AIR supports the multidisciplinary team and that there is both a delegation and sharing of responsibilities, as the expertise in various areas is inherent in the different professional groups.	Noted.

	Submission No. 24	
	Line 35 "Related roles", by related does this mean the roles related to radiation protection or the roles in relation to the members of the team. I suspect the word "related" is unnecessary and just "the roles of the members of …" would be sufficient.	Agreed. The word "related" has been deleted.
	Line 37 "Appropriate procedures", unless there is some history of providing non appropriate procedures I suggest that just "Procedures for optimizing …" is sufficient and similarly "through careful treatment planning…" only needs to be "through treatment planning …" unless of course it is desired to specifically distinguish the appropriate procedures through careful treatment planning from the appropriate procedures through reckless treatment planning. I doubt this is the case.	Agreed. The word "appropriate" has been deleted.
	Line 39 I have doubt concerning the inclusion of the word "detailed". It is no doubt subjective. The fact that the section is only 3 pages and refers to a document that is many times that and which in fact refers to another document would seem to suggest that it does not provide "detailed recommendations regarding quality assurance activities". I believe omission of the word "detailed" would be appropriate.	Agreed. The word "detailed" has been deleted.
	Line 40 Given line 33 & 34 that the information is in respect to "responsibilities and protective measures" the word "relevant" is not required.	Agreed. The word "relevant" has been deleted.
1.4 Scope		
	Submission No. 24	
	Line 44 The term "ionizing radiation exposures in radiotherapy" is unnecessarily long as radiotherapy has already been defined in relation to its use of ionizing radiation, (line 16). All that is required is "exposures in radiotherapy" or better still "applies to the following radiotherapy exposures".	Agreed and wording amended.
	Lines 46 – 52 As the previous 2 lines identify the list as exposures, the use of the term "exposure" again in every item is unnecessary redundancy (except possibly for line 48, but see comment below). All that is required is "… applies to the following radiotherapy exposures: ..of patients … of individuals participating … of health professionals … of carers .. of members of …	Duplication removed – see above.
	Line 47 Given the existing Code for these individuals and the fact that these guidelines relate to radiotherapy, that is treatment, it is somewhat surprising that they are included in the scope of this document.	Radiotherapy in research is still the practice of radiotherapy and is subject to the requirements in RPS 8, *Code of Practice for Exposure of Humans to Ionizing Radiation for Research Purposes*. To retain words in order

		to be consistent with the other two Safety Guides.
	Line 48 The list in lines 46 – 53 refers to types of individuals in all cases except here, ie it refers to patients, health professionals, carers etc. (Note by contrast it doesn't say medical or treatment exposure for patients.) For consistency the item should state the individual as do all the other points rather than the type of exposure. See also comment on line 49.	Line 48 has been reworded for clarification.
	Line 49 The terminology here is far too loose. The intent here is of course to separate them from those in line 48, although they are not referred to there as individuals. The attempt to do so here is clumsy and inaccurate. The term "those with training in the medical applications of ionizing radiation" includes those who may be retired or on extended long service leave or lecture in universities without clinical involvement. In the later case the lecturer may be counted as a health professional when visiting the hospital to say receive reports on students.	Lines 49 to 53 have been reworded for clarification.
	Line 57 The use of the term "radioactive source teletherapy" is widely understood to mean cobalt, cesium etc treatments where the source is at some distance from the target (tele), however there may be some ambiguity with the use of this term and the definition for brachytherapy. The definition defines brachytherapy with the sources "immediately adjacent to the target volume" (line 3274). While the term "adjacent" may mean next to, the addition of "immediately" implies there is no space between the source and target volume. At this centre we are about to start skin treatments using radioactive sources off set from the skin a few centimeters. Technically this is not within the scope of these guidelines.	Brachytherapy and teletherapy are widely understood terms and the definitions used are as commonly interpreted. Radioactive source teletherapy equipment is not currently in use in Australia but if it is reintroduced in any form then it will need to comply with the Medical Code and the general advice in the Safety Guide will still be relevant. Your planned skin treatments are within the scope of these guidelines.
	Submission No. 31	
	1.4 The Scope states that it covers sealed source brachytherapy. It should explicitly state that it does not refer to unsealed radioactive sources and that this is covered in the Nuclear Medicine Safety Guide.	Agreed and a statement has been added to the Scope section.
	1.4 (57) Teletherapy may no longer be used in Australia however in future technology such as Gamma Knife may be introduced. A statement that the guide will be updated should this change could be included.	The Code will still apply to Gamma Knife Radiosurgery and the general advice in the Safety Guide will still be relevant. It is expected that the Safety Guide will be updated in response to significant changes in future practice and technology.
1.5 Structure		
	Submission No. 31	
		Disagree. This Safety Guide is intended to be advisory in

	1.5 (63) The sentence appears to state that a State may not make mandatory any requirements of the Guide even if they feel they should be mandatory.	nature. Mandatory provisions should be included in the Code of Practice. Wording of 1.5 Structure has been amended to be consistent with the Radiology and Nuclear Medicine Safety Guides.
2 Justification		
	Submission No. 19	
	Section 2, lines 125, 126 So too can patients receive a benefit in a trial involving diagnostic investigations, e.g. new PET tracer might give additional information about tumour, hence alters management.	Last line of section 2 deleted to eliminate confusion.
	Submission No. 24	
	Line 78 and 82 "Firstly" and "Secondly" should be "First" and "Second" respectively. It is the "first" level of justification and the "second" level to which reference is being made.	Lines 78 and 82 have been amended to be consistent with the other two Safety Guides. Therefore, these lines are now numbered points.
	Lines 74 to 126 This section is perhaps a little long and general for what would be expected in a safety guide	Noted. However, this section is consistent with the other two Safety Guides.
	Line 101/102 I am a little surprised that you include the choice will be influenced by the practitioner preference. It is of course true, but it is hoped that we may find ways to prevent the personal preference of practitioners from dictating the treatments that may be "justified" and rather have objective evaluation. None-the-less I am surprised it has been added.	The word 'preference' has been deleted and the line reworded for clarity.
	Line 121 "Radiotherapy clinical trials involve …" this is not so, trials may involve a reduction in dose, or maintenance of dose with some adjuvant therapy.	Noted. Even reduced doses in radiotherapy are higher than those encountered in other types of radiation exposure.
	Line 116 – 126 There is a little ambiguity here with respect to line 47 and 48. It is true that clinical trials are "research" and those involved are participating in research, but in terms of lines 47 and 48 I would put them into the patient category. In a sense all patients may be part of research. If the patients at centre X with a particular routine treatment for that centre are compared with centre Y with a particular, but different routine treatment then in a sense all are involved in research. I think also the ambiguity in the mind of the authors is also seen in their distinction between clinical trials and those involved in diagnostic research exposures – of course this document does not deal with diagnostic exposures. The question is does line 48 refer to individuals irradiated for radiotherapy research purposes outside clinical trials? If not then clinical trials should be specifically referenced.	We think this comment pertains to lines 46 and 47, and not 48. Patients undergoing a standard treatment, whose efficacy had already been established, are not research participants. Patients may volunteer to enter a research program and if they do, then all the requirements of the Research Code, RPS 8 (ARPANSA 2005), apply.

	Submission No. 31	
	2 (112) It is felt that the words "best performed by a paediatric oncologist, linked to…." would be more appropriate.	Wording amended for clarity. The experience resides with the paediatric radiation oncology team, which includes an experienced paediatric oncologist.
3. Responsibilities		
	Submission No. 12	
	1) Line 213-218 – This section could be deleted as lines 219 -226 are more relevant. Not all maintenance work affects beam output and alignment and as such it is not always necessary to call a ROMP before the machine is used clinically again.	There were many public comments on maintenance and repair work. The working group has considered all the comments and reviewed the IAEA guidance document *Setting Up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects* (2008). The draft Safety Guide has been amended taking these things into account.
	Lines 133-135 It should be acknowledged that responsibilities cross disciplines, as noted.	Noted.
	Submission No. 14	
	3. Responsibilities The College considers that the radiotherapy Safety Guide places too much emphasis on persons rather than processes. In particular, there is a very strong emphasis on ROMPs. The delivery of radiotherapy requires a team effort by individuals from many different professional groups. One has to be careful how such a document is written. If it is too prescriptive, it can appear that one particular group is favoured to the exclusion of other groups. Such a document could be used politically by various groups to further their own ends. It is also likely to alienate other professional groups within radiotherapy. The College has great respect for the professionalism of the various groups in radiotherapy planning and delivery and it is a team approach that achieves the desired end. It considers that listing the roles of groups can be helpful but not too dogmatic or exclusive; in this document it is considered that the balance could be improved.	Agreed. The Responsibilities section of the Safety Guide has been reviewed and made consistent with the other two Safety Guides. It has been reworded to ensure that a multi-disciplinary approach to the delivery of radiotherapy is conveyed in the document. This has been done by transferring duties to the Radiation Management Plan rather than allocating them to a particular person or group.
	Submission No. 17	
	Line 133 -135 Again this section acknowledges the contribution of all the professions to their responsibilities and contribution to safe practice and treatment. It recognises the multidisciplinary team.	Noted.

	Submission No. 24	
	Lines 128 – 262 It is seen that in this sub section the responsible person must ensure that the RSO and ROMP perform certain duties, but yet has no responsibilities in relation to the "approved medical practitioners." This is indeed strange given the common perception of the importance of the medical practitioner; one would have thought that the responsible person would have many responsibilities in relation to the approved medical practitioner, just as they have some responsibilities in relation to the RSO and ROMP.	The Responsible Person section (section 3.1) of the Safety Guide has been reviewed and made consistent with the other two Safety Guides. Any roles and duties pertaining to a particular professional group have been transferred to the relevant sub-section of Responsibilities section or to Annex A or B, which contain guidelines for the preparation of the Radiation Management Plan.
	Line 133 The phrase "All staff members" seems to just pop out of nowhere. The sentence before had spoken of a multidisciplinary team that included suppliers, engineers, regulatory authorities etc, but it is difficult to see to what "all staff members" refers. Is it the staff of the hospital, probably not, certainly it doesn't seem right that the clerical assistant in cardiology should have responsibility for treatment delivery. Perhaps staff in radiotherapy department, but then should the cleaner have any responsibility for treatment delivery? Personally I would recommend the rewriting of line 130 as "multi-disciplinary team approach" and replace "All staff members" (line 133) with "All team members".	Agreed. Changed to "All members of the multi-disciplinary team".
	Line 130/134 There may be inconsistency in the use of these terms "delivery of radiotherapy" and "treatment delivery". Radiotherapy has already been defined in terms of treatment (and more) (lines 16 -18), so I suggest the words "radiotherapy delivery" be used throughout, ie in line 130 "Radiotherapy delivery requires …" and similarly "treatment delivery" in line 134 be replaced with "radiotherapy delivery".	Agreed. For consistency, all terms throughout the Safety Guide relating to radiotherapy treatment delivery have been changed to "delivery of radiotherapy".
3.1 The Responsible Person		
	Submission No. 12	
	Lines 154-162 In some cases a ROMP is the best person to advise the RSO on radiation safety issues. However, in other cases, the operator (mostly Radiation Therapists) would be able to provide more comprehensive advice. Radiation Therapists have professional responsibilities and (in Queensland) assume it to be their duty to produce and follow policy relating to correct identification of the patient undergoing a procedure. The RSO could delegate responsibility to professional groups that have a direct role in any particular safety requirement.	Reworded to recognise input of all professional groups to the Radiation Management Plan.
	Lines 213-218 This clause is too general. For example, it could include foam accessories used to position a patient.	Noted and agreed. Lines deleted.

	The following clause covers the radiation safety issue. *Line 246* The responsible person could delegate this responsibility to a ROMP. However this is limiting. For example: • Not every centre has a ROMP, but the duties must be carried out. • An RMP could assess imaging modalities and carries out this duty in some centres Could the clause read that the responsible person could ensure that: lines 247 – 258 are performed?	Wording has been changed to allow flexibility. This is a responsibility of the Responsible Person as stated in the Code.
	Submission No. 14	
	Under the heading 'responsible person' there is a long list and discussion on various procedures and testing that is done or needs to be done in a radiotherapy department. Cataloguing such procedures under 'responsible person' makes it difficult for members within a radiotherapy department to follow. It may be it is included under such a heading because that is the way radiation regulators think, where the emphasis is on bureaucracy and regulation. In our opinion it is preferable to list such procedures separately, with less emphasis on persons and more on procedures.	Section 3.1 of the draft Safety Guide contains guidance on how the Responsible Person may comply with their responsibilities under the Code. Subsection headings have been added for clarity.
	Submission No. 17	
	Lines 154 -162 The radiation therapist has the direct professional responsibility for this point. It is part of their professional training to identify the patient on whom they are about to undertake a procedure. It is therefore the individual professional groups responsibility to formulate these policies and procedures.	Reworded to recognise input of all professional groups to the Radiation Management Plan.
	Lines 213 - 8 This is an excessive requirement for maintenance or repair work, in some instances the repair may be as simple as pressing the reset switch however, RT's would be unable to use the equipment until a ROMP has accepted a written report. This is an example of the Guide Lines being too verbose and descriptive and would impair the functionality of a department or practice. Some radiotherapy equipment that may require repair has no relation to the ROMP such as positioning devices. It should be left to the individual departments to set policies that satisfy their situation and the safety of staff, patients and public.	There were many public comments on maintenance and repair work. The working group has considered all the comments and reviewed the IAEA guidance document *Setting Up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects* (2008). The draft Safety Guide has been amended taking these things into account.
	Lines 246 Another example of the document being too prescriptive. Not every centre may have a ROMP. The	

	clause should read 'that the responsible person could ensure that: then lines 247-258.	
	Submission No. 18	
	• 213 – 226 Maintenance of treatment equipment is managed and coordinated by a Senior Radiation Therapist in our department utilising an online reporting system that the servicing personnel update. Unless a repair is such that dosimetric measurements are required, an identifiable minority of cases, the repaired unit can be authorised for reuse by nominated radiation therapy staff. This is considered both safe and expedient as we work extended hours (until 9:45pm) and our physics staff are not shift workers. A requirement to have a system that achieves the desired outcome would be better than allocation of responsibilities to specific disciplines.	There were many public comments on maintenance and repair work. The working group has considered all the comments and reviewed the IAEA guidance document *Setting Up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects* (2008). The draft Safety Guide has been amended taking these things into account.
	Submission No. 19	
	Section 3.1, lines 225, 226 In practice, in a large organization, the "responsible person" doesn't want or need to be notified every time an X-ray unit is repaired. Suggest replace with "….informed the appropriate personnel that the equipment can be returned to clinical use".	There were many public comments on maintenance and repair work. The working group has considered all the comments and reviewed the IAEA guidance document *Setting Up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects* (2008). The draft Safety Guide has been amended taking these things into account.
	Section 3.1, 225-6 I think there should be some scope for flexibility here. I suggest a ROMP should be able decide whether a piece of equipment may be returned to clinical service following maintenance work that could have compromised safe operation or dosimetric accuracy – possibly in discussion with the Responsible Person. The symptoms, problem, repair work done, tests carried out, results obtained and the recommendation need to be documented. But if a report has to be written and read before equipment goes back into service patient treatment may be further compromised by the delay.	As above.
	3.1, line 225 Change the word "recommended" to "recommendation".	Changed.
	3.1, line 231 The reference to the storage requirement in Annex C seems misplaced because there are no easily identifiable storage requirements in Annex C.	Agreed and removed.
	Section 3.1, lines 246-256 This refers back to page 10, lines 188,189, so the grammar is all wrong: The ROMP arranges for…….equipment to be re-confirmed…….confirmation to be	There were many public comments on maintenance and repair work. The working group has considered all the comments and reviewed the IAEA guidance document

	sufficiently comprehensive…….computer systems to be determined……the routine availability…….	*Setting Up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects* (2008). The draft Safety Guide has been amended taking these things into account.
	3.1, line 253-255 This clause does not make grammatical sense in that the words "are determined" are out of place when the clause is read with the words on line 246 "the ROMP arranges", that is the meaning of "the ROMP arranges … are determined" is lost.	As above.
	3.1, line 256 Replace the word "routinely" with "routine".	Reworded.
	Submission No. 24	
	Lines 139 Is the word "natural" really necessary? Why should a supernatural person be excluded? I suggest all that is required is "be a person or corporation …".	"Natural Person" is a legal term as explained in the Glossaries of the Code and Safety Guide.
	Line 145 The word "restrict" is too weak in this context. It implies that some is tolerable, but not too much. I believe a better word would be "avoid" or "prevent", ie commitment … to avoid unnecessary…".	Wording is consistent with the other two Safety Guides.
	Line 147 – 149 I don't understand why in the context of the radiation safety policy documentation only occupational and medical exposures are mentioned and not exposure of the general public, especially considering Line 135 and Line 160. May be because of these other lines (ie 135 and 160) it doesn't need to be mentioned, but then neither would the other two (ie occupational and medical).	Reworded to include exposure of the general public.
	Lines156-157 This sentence possibly has some underlying assumptions that may not be true. A stand alone radiotherapy department may not have an RSO apart from a designated ROMP. The sentence also implies that there is only one ROMP ("developed by … the … (ROMP)".	Wording amended to acknowledge this.
	Lines 156-157 It is regrettable that this national code is following rather than leading in relation to terminology. The term Radiation Oncology Medical Physicist is inaccurate as it does not reflect the treatment of non-oncological disease. Radiotherapy Physicist is more accurate terminology. It is unfortunate that accuracy is forgone for the sake of an acronym (although I believe an RP is as acceptable as a ROMP). To further stress this point it is noticed in the document that the terms are radiotherapy equipment, radiotherapy treatment, not radiation oncology equipment or radiation oncology treatment. I note also in terms of consistency, Line 412 mentions the presence of a ROMP, but then at line 414 changes it to a "medical physicist".	There is a definition of Radiation Oncology Medical Physicist in the draft Safety Guide. This term is used to identify a suitable Qualified Expert who has appropriate radiotherapy physics expertise and qualifications. Radiotherapy is the term used in the Code and the Safety Guide has been reviewed for consistency of terminology.
	Line 163 The term "potentially pregnant" is probably somewhat loose. Technically the term will	

	just about include all females from about 16 to lets say 50. It is more at risk of pregnancy than potential for pregnancy that is required. Risk will take into account sexual activity and contraception methods if any.	This terminology is consistent with the Code.
	Line 199 I am unclear as to what is meant by "the quality control procedures expected by the prescription are followed …". What exactly is the prescription? Is it dose and field size and perhaps a few other parameters such as energy and fractionation or is it the whole treatment plan, including isodoses, couch settings etc?	Wording amended to acknowledge this.
	Line 204 I cannot see the logic in the inclusion of this in the guide. If one manufacture has very broad or loose specifications then they may easily meet them, but another may have very tight specs and may even fail in one or more items even though they are still well within national and international standards. Therefore we have the poorer equipment passing and the better equipment failing. So what's the point of this paragraph? I believe what needs to be said here is simply that the ROMP assess the equipment for its conformity to manufacturer's specifications. What is of most importance is does it conform to national standards.	Reworded for clarity.
	Lines 206 -208 It is unclear whether or not a survey is required every time the source is changed on a HDR unit (ie every 3 months). As it reads it appears it is necessary ("prior to initial use of …. sources"), however I doubt this is necessary unless there has been a change in source type or strength.	Reworded for clarity.
	Lines 209 -212 It is unclear what is meant by an "independent ROMP" and "independently calibrated dosimetry instrument". This needs to be further explained. For instance in the strict sense of the paragraph the requirement on the instrument means you need to have an instrument from overseas, because calibration of instruments in Australia will be traced to the Standards Laboratory and so they will not be independent. The term "independent ROMP" is fraught with even more difficulties. I'd like to know what is meant by a "dependent ROMP".	Acknowledged and reworded.
	Lines 213-226 There is unnecessary duplication. In fact Ln 219 -226 only effectively add the requirement for a "written recommendation in the event the work may have compromised safe operation or dosimetric accuracy (Line 219/220). I think both points can be efficiently combined into one..	Agreed and deleted.
	Line 227 the mention of calibration and dosimetry is redundant as they are included in quality assurance.	Agreed and deleted.
	Line 232 I'm not sure why the "and" is added at this point, especially as it is actually a sub-point and no further sub-point is given. If it refers to the next point it should be outside the sub-point, but even then it is not consistent as even though the next point is on sources, so is the one after that, but	Substantially reworded.

	no "and" is placed there, in fact there are other points that follow on, but no "and" connects them. (now that I have looked at it again the "and" probably belongs in the line above. Lines 235 – 237 Given that reference to annexes are given for the requirements of handling and storage (lns 230 & 231) one might have expected a reference to the requirements for contamination checks. Line246. As with line 156 the definite article gives the impression there is just one ROMP. Note by contrast line 234, "inspected by a ROMP". Line 250 – 252 I don't understand how you can re-confirm data yet do it in such a way that you are unable to detect any significant variations. Either you re-confirm the data in use (ie no changes) or you find the data in use is not correct. The word "sufficiently" implies you can have degrees of reconfirmation and this is nonsense. The only way you could miss any variation is to not actually re-confirm part or all of the data, but lines 247 -249 do not give the option to confirm just some of the data. Line 256 I suggest "routinely" should be "routine". **Submission No. 31** **3.1 (188)** 'Will need to" to be replaced with 'should'. **3.1 (210)** "Independent ROMP" should be independent of the institution	Agreed. See Section 9 and Annex G of revised Safety Guide. Agreed and altered. Transferred to Annex D and E of revised Safety Guide and reworded. Noted. Agreed and altered. Acknowledged and reworded.
3.2 Medical Practitioners		
	Submission No. 12 Medical Practitioners • Utilisation of 3D planning does not allow for the planned technique to be notated on the treatment prescription. Description of each field would involve a very complicated prescription. • What types of treatment/medical conditions require a radiation oncologist (or any doctor) to be present at the treatment unit? Needs more clarification as open to interpretation. • If an RO is not present at intracavitary HDR, who removes applicators if a source gets stuck?	Revised and reworded. See Section 3.2.2 of the revised Safety Guide. Wording clarified. Agreed. This has been removed.

	• Why no RT present at remote afterloading brachytherapy? In Qld, RT is the only one registered to give treatment.	The job description of the "Operator" has been deliberately left broad to accommodate this.
	2) Line 265 – should read "prescription of an APPROVED medical practitioner	The term "Authorised" has been added before medical practitioner to be consistent with the Code.
	3) Line 284 – should include the laterality of the treatment site where applicable. Dose constraints should be noted and deviations from those constraints approved by the radiation oncologist	Agreed. See Section 3.2.2 of the revised Safety Guide.
	4) Line 315 – who is an appropriate person to remove the intracavitary applicators from a patient. In some circumstances incorrect removal of these applicators could cause injury to the patient.	Someone appropriately trained in the procedure. Refer Section 3.2.5 of the revised Safety Guide.
	5) Lines 324-328 – Radiation therapists may also have a role to play in remote afterloading LDR treatments	Acknowledged.
	Lines 286-287 In practice "The planned technique" is difficult to document on the prescription. Each patient plan is an evolving document and probably will not follow a standard technique. Suggest removing "The planned technique and"	Revised and reworded. See Section 3.2.2.
	Lines 302-307 If a patient requires medical supervision during radiotherapy, we suggest that the need is documented on the prescription.	This is a medical issue and not a radiation protection issue.
	Submission No. 17	
	Lines 286 - 287 'The planned technique" is difficult to quantify in the age of 3D treatment planning and IMRT. A patient's plan is an evolving document. Suggestion is to remove 'The planned technique and'.	Revised and reworded. See Section 3.2.2 of the revised Safety Guide.
	Lines 302 - 307 If the patient requires medical supervision during treatment it should be documented on the prescription. Centres will currently have policies to deal with these situations whether it be during the planning process or treatment.	This is a medical issue and not a radiation protection issue.
	Submission No. 18	
	• 302 The requirement that a Radiation Oncologist be present during treatment where medical issues may arise poses the question of identification of the types of radiotherapy treatment or patient where immediate medical issues (routine or emergency) may arise. Apart from	Acknowledged and confined to the administration of HDR brachytherapy. See Section 3.2.5 of the revised Safety Guide.

	anaesthetised patients (where there will be an anaesthetist) or internal cardiac devices (monitored by a doctor or vendor representative) how does one predict the likelihood of a medical issue arising? It is uncertain whether this has implications for treatment given out of normal work hours.	
	Submission No. 19	
	3.2, line 277 Consider deleting Ophthalmologists from the list of medical practitioners who are able to prescribe radiotherapy treatments or consider adding "Cardiologists (intravascular brachytherapy only)" to the list (as has occurred in Western Australia in the past). If Cardiologists are added to the list of medical practitioners who are able to prescribe radiotherapy treatments then this must be done with great caution because the potential to do harm with intravascular brachytherapy, which is delivered at a high dose rate, is much greater than the potential to do harm with eye-plaques, which use low dose rates.	Ophthalmologists can still be authorised by regulatory authorities in some jurisdictions to use sealed sources. This practice is diminishing. Cardiologists should not be licensed to use therapeutic radiation and sealed sources without the appropriate radiobiology training.
	Submission No. 24	
	Lines 265 -266 The sentence beginning "Approved in this context means …" does not make sense as the word has not yet been used in the text and therefore has no context. I suggest that in the sentence before "approved" be added, so that it reads "on the prescription of an approved medical practitioner.". The following sentence would then make sense. The word "approved" in line 266 should also be distinguished by quotation marks, italics or other means to indicate that it is the word itself that is the subject.	Agreed and the term "Authorised" has been added before medical practitioner to be consistent with the Code. The second sentence (lines 266 and 267) has been combined with line 272 as an introduction to the restrictions on who may be authorised as a Radiation Medical Practitioner.
	Line 269 There is certainly duplication of responsibility here with the responsible person. For instance as the approved medical practitioner must ensure "overall patient protection" he or she will have a responsibility in terms of treatment machine calibration, but this is also a responsibility of the responsible person (line 247).	Agreed. The word "overall" has been deleted.
	Line 280 Although the word "operate" is undoubtedly correct, in the medical context of this sub section it does suggest surgery. Another word such as "work" may be more appropriate ie "may work with the prescribing doctor".	Agreed and the word "operate" has been changed to "work".
	Lines 280-282 Why are urologists and gastroenterologists been restricted to manual brachytherapy procedures. I am sure those using remote afterloaders will object especially as this document is about safety and manual methods are a greater risk to safety.	Agreed. The reference to "manual" brachytherapy has been deleted.
	Line 285 I am not sure of the intent in placing "giving an indication of fraction size" in parentheses. The term fraction size is also ambiguous – size in relation to what, number of fractions, time for	Agreed and wording changed to "stating the fraction size".

	delivery within the fraction, dose delivered within the fraction…? Line 288 and elsewhere. I am not sure why the words "The Radiation Oncologist (or relevant medical specialist)" are used when we have previously defined and used the term "approved medical practitioner", who according to line 268 &269 has the primary task and obligation of ensuring overall patient protection and safety in the prescription…" The sentence should read "The approved medical practitioner should be satisfied …"	Revised and reworded. See Section 3.2.3 of the revised Safety Guide.
	Submission No. 31	
	3.2 (265) Insert the word "an approved" prior to medical practitioner.	The term "Authorised" has been added before medical practitioner to be consistent with the Code.
	3.2 (296) Even though a radiation oncologist may not directly monitor every part of the process, this does not diminish their responsibility.	Agreed.
	3.2 (302-307) 'Medical practitioner (deputy)' should not be used as a term. It is up to the responsible person to delegate this responsibility to a qualified person.	Agreed. This term has been deleted.
3.3 Radiation Therapists		
	Submission No. 12	
	Radiation Therapist • Are radiation therapists and 'persons administering radiation' not the same people? Who else is registered to do this in the context of radiation oncology?	This Safety Guide covers all therapeutic uses of radiation, and the person administering the radiation may in some instances be a medical practitioner or a physicist.
	• When does a ROMP have to be at the unit for external beam RT? Need to elaborate or can be interpreted by individual dept heads.	Agreed. Wording has been changed for clarity.
	• There is no reference to electronic prescriptions. Do we need to continue printing out all the details especially as most departments are moving towards Oncology Information Management Systems.	The term "written" is now defined in the Glossary to cover electronic documentation, as well as handwritten or typewritten documentation. Its use is consistent with the Code and the other two Safety Guides.
	6) Line 350- the radiation therapist group should have input when developing procedures for safe working practices when using equipment. This is the group who will spend the majority of time	Agreed. The wording has been changed to reflect the input

	using the equipment and as such will have a large body of knowledge about errors which are most likely to occur.	of all professional groups to radiation safety.
	7) Lines 367-370 – While there may be some consultation with the ROMP about certain aspects of a proposed treatment play, senior and experienced radiation therapists will take a lead role in determining the appropriate treatment techniques in complex cases.	Agreed. The wording has been changed to reflect the input of all professional groups.
	Line 344 We suggest that "In conjunction with other professional staff" be removed. Currently, most of our radiation therapy duties are performed independently of other professions. On occasions RTs work in conjunction with other professions, as do ROs, ROMPs, and nurses.	Agreed. These words have been deleted.
	Lines 350-352 We believe that "that may be prepared by the ROMP" should be deleted. All professions may suggest safety improvements and clause should not be limited to one person in any centre.	This point does not exclude Radiation Therapists from providing input into radiation safety. It refers to any specific instructions related to technical radiation equipment that have been prepared by a Qualified Expert as per IAEA standards of practice.
	Line 353 Once again the reporting is limiting. The line could be replaced with "report and document any equipment malfunction". The relevant authority could be a different profession in different centres.	Agreed and wording has been changed.
	Lines 357-370 It should be noted that ROs and ROMPs also work in a multidisciplinary team. This comment has not been applied to definition of either of these professions. If it is unnecessary to apply this line (357) to the other professions then it need not apply to Radiation Therapists. Also starting in line 358 is a reference to "accredited Radiation Therapist". We are unaware of what meaning is applied to "accredited". Radiation Therapists are trained in all aspects of radiation therapy. We suggest that lines 357 – 363 be removed, leaving only "Safe and accurate administration of radiation is a fundamental role of the Radiation Therapist, working where relevant with other members of the multidisciplinary team."	Agreed. This section has been revised and related to the section on *Persons Administering Radiation* (now Section 3.3) to better describe the skills and work practices of Radiation Therapists. The word "accredited" has been deleted and a definition of a Radiation Therapist has been added to the Glossary. Whilst the words "multidisciplinary team" remain, the emphasis is substantially different. There were comments from radiation therapists wishing to retain the reference to a multidisciplinary team.
	Although this document is a guide only, we believe that it shouldn't pre-empt any position descriptions or individual centres circumstances. For example, some centres do not have a ROMP, but the duties still need to be carried out.	Agreed The document has been revised to define duties and tasks to be done rather than who should perform them.
	Submission No. 17	
	Line 344 The AIR wishes to point out that the radiation therapist performs most of the radiotherapy duties	

	independently following the prescription as set out by the radiation oncologist and where required consulting with the medical radiation physicist. Therefore the words 'in conjunction with other professional staff' should be removed. Radiation therapists are tertiary qualified independent operating practitioners.	Agreed. These words have been deleted.
	Lines 350 - 352 The AIR believes that all professions should contribute to the writing of safe operating and safety improvement documentation within a department. This means that the wording 'that may be prepared by the ROMP' be deleted.	This point does not exclude Radiation Therapists from contributing to the writing of safe operating and safety improvement documentation. It refers to any specific instructions related to technical radiation equipment that have been prepared by a Qualified Expert as per IAEA standards of practice.
	Lines 353 Again this is an example of the document being too limiting and prescriptive. It should be replaced with report and document any equipment malfunction. Centres will currently have process in place as patient's safety is paramount.	Agreed and wording has been changed.
	Lines 357 - 370 All professions, within radiotherapy, work within a multidisciplinary team and yet this statement does not appear on the descriptors of the other professions eg radiation oncologists and physicists. Therefore lines 357 need not be applied to the radiation therapists. An accredited radiation therapist is one who is accredited by the AIR and holds a Validated Statement of Accreditation. All radiation therapists are trained and qualified in all aspects of the profession. This could now read: 'An accredited radiation therapist is one who holds a Validated Statement of Accreditation and is experienced to undertake all aspects of planning and delivery of radiation treatment. Then start at line 363 with 'Safe and accurate.....	Agreed. This section has been revised and related to the section on *Persons Administering Radiation* (now Section 3.3) to better describe the skills and work practices of Radiation Therapists. The word "accredited" has been deleted and a definition of a Radiation Therapist has been added to the Glossary. Whilst the words "multidisciplinary team" remain, the emphasis is substantially different. There were comments from radiation therapists wishing to retain the reference to a multidisciplinary team.
	Line 342 - 3.3 *Radiation Therapists* This section begins to describe the role of the RT, the first dot point begins with "calculate and document ... etc". This ignores the number of stages that precede this such as; positioning, immobilization, simulation, imaging and target localization.	This Section has been substantially revised to better describe the work done by a Radiation Therapist. The Working Group believes that these things are now captured in the description.
	The AIR feels that this is a serious omission; if ARPANSA feels the need to describe the role of the RT the entire role should be described not simply some elements of the role.	See previous response.
	Submission No. 18	
	• 353 Report any equipment malfunction staff member delegated to manage equipment	Agreed and this point has been reworded to make it clearer.
3.4 Persons Administering Radiation		

	Submission No. 2	
	1) Line 401 Unsure about the necessity of a ROMP or physicist deputy to be present during "external beam therapy: for non-standard treatments only". Would like to see a definition of what a 'non-standard' treatment is. My experience has been that our ROMP has been quite comfortable not to be present for any external beam therapies, and I do not see the need for this to change. Qualified radiation therapists are trained in 'emergency procedures' - both hospital specific and treatment machine specific. Machine specific procedures are standard directives that are followed regardless of technique.	This recommendation has been revised to state specifically when it is advisable for the Qualified Expert to be present. See last part of Section 3.3 of the revised Safety Guide.
	Submission No. 12	
	8) Line 535 – see previous comments. Should also add that registration should be maintained where applicable.	A line to this effect has been now included.
	9) Line 401 – I can not think of any instance where a ROMP is required to supervise radiation therapists for non-standard techniques, this is the role of a senior radiation therapist. Radiation therapists DO NOT work under the supervision of a medical physicist or a ROMP.	Agreed and wording amended.
	10) Lines 404 – 406 – A ROMP may not be required at all sealed source brachytherapy treatments where a radiation therapist has been appropriately trained in radiation safety and emergency procedures for the area and equipment.	Agreed. It is more clearly stated now when the presence of a Qualified Expert is recommended.
	11) Line 416- A ROMP does not have to be present for non-standard external beam treatments. A radiation therapist has the appropriated training to provide treatment for patients and does not work under the supervision of another professional group.	Agreed. See previous response.
	12) Line 419-421 – see comments in item 10.	Agreed. See previous response.
	13) Line 502 – how does this apply to departments who are using electronic record systems.	The term “written” is now defined in the Glossary to cover electronic documentation, as well as handwritten or typewritten documentation. Its use is consistent with the Code and the other two Safety Guides.
	Line 376 Suggest replacing “will” with “may”	Agreed and changed to “…a Radiation Medical Practitioner or a Qualified Expert *may* also carry out this function.” The occasions when a Qualified Expert is recommended to be present has been added to make the

		guidance clearer.
	Line 412-434 Suggest removing these lines. Repetition of previous lines.	Agreed and deleted.
	Line 451-2 Suggest removing "the planning". This is too prescriptive. Department policy may allow for another RT to implement transfer.	Disagree. It is recommended that the Radiation Therapist who has created the plan be the person to enter the treatment parameters as a safeguard against errors in transfer. This information is now in Section 8.2.1, *Treatment Delivery – External Beam*, of the revised Safety Guide.
	Lines 459-461 Suggest removing "in the patient treatment record". Current equipment will record variations, which can be accessed without the need for further documentation in patient record.	Disagree. This is a recommendation for best practice.
	Lines 474-475 Suggest removal of prescriptive reference to portal images. RT centres determine this policy in house. Possibly replace with "When taking portal images, consideration should be given to including monitor units exposure as part of the treatment field."	The wording has been revised and is now in Section 8.2.1, *Treatment Delivery – External Beam*, of the revised Safety Guide.
	Lines 502-594 Suggest removing "written". Some centres are paperless. Could substitute "permanent"	The term "written" is now defined in the Glossary to cover electronic documentation, as well as handwritten or typewritten documentation. Its use is consistent with the Code and the other two Safety Guides.
	Submission No. 14	
	3.4 The College agrees with the first sentence which clearly states the professional groups involved. In the rest of this section, the College recommends the emphasis should be on the important processes that are needed, rather than emphasising it is the role of a particular professional group.	Agreed and this has been implemented in the revision of this Safety Guide.
	Submission No. 17	
	Line 376 Change 'will' to 'may' as not in all situations is a physicist involved.	Agreed and changed to "…a Radiation Medical Practitioner or a Qualified Expert *may* also carry out this function." The occasions when a Qualified Expert is recommended to be present has been added to make the guidance clearer.
	Lines 412 - 434 Remove as they are repetitious of the lines above. It again demonstrates the verbose style of the document.	Agreed and deleted.
	Lines 404 - 406 Not all high dose HDR Brachytherapy treatments are delivered with a ROMP present. In some	This is a recommendation for best practice as issues of calibration and dosimetry may arise during HDR

	departments the RTs are educated and skilled in safety and emergency procedures associated with the use of HDR Brachytherapy. These treatments are then delivered by the RT and RO.	brachytherapy. It is now in Section 9 of the revised Safety Guide and has been reworded to include "a Qualified Expert, RSO, or an authorised responsible officer".
	Lines 451 - 452 Remove the words 'the planning' as this is too prescriptive. This task maybe done by another member of a department dependent upon the local protocol.	Disagree. It is recommended that the Radiation Therapist who has created the plan be the person to enter the treatment parameters as a safeguard against errors in transfer. This information is now in Section 8.2.1, *Treatment Delivery – External Beam*, of the revised Safety Guide.
	Line 459 - 461 The recording of all overridden parameters in the patient's treatment record is not standard practice in all RT departments. The reason given for recording these over ridden parameters being for possible future audit, an audit would not provide any valuable information without also recording the reasons for the overridden parameters. Most R&V systems provide a record of all parameters used in the delivery of treatment but not all identify each parameter that was overridden or retain the records long term, thus allowing retrospective audit of the data.	Disagree. This is a recommendation for best practice.
	Lines 474 - 475 Remove the prescriptive reference to portal imaging. Radiotherapy centres determine their own policy in house to suit the local environment and oncologists requirements. Possible wording could be 'When taking portal images, consideration should be given to including monitor units exposure as part of the treatment field.	The wording has been revised and is now in Section 8.2.1, *Treatment Delivery – External Beam*, of the revised Safety Guide.
	Submission No. 18	
	• 395-410 and 412-429 appear to be essentially the same i.e. repetition.	Agreed and deleted.
	• 401 The intent and meaning of this is unclear so could be easily misinterpreted to include any "non-standard" treatment. If the intended role was defined the meaning would be clearer.	This recommendation has been revised to state specifically when it is advisable for the Qualified Expert to be present. See last part of Section 3.3 of the revised Safety Guide.
	• 459 Actual machine parameters are recorded in our treatment machines' data base and can be retrieved as required providing information potentially more reliable than written records. Guidelines could have a requirement for recording of actual parameters rather than how this should be achieved.	Disagree. This is a recommendation for best practice.

	Submission No. 19	
	3.4, lines 374-378 Add the statement that a ROMP or other medical physicist qualified in nuclear medicine will also be involved with the administration of therapy radionuclides. This point is particularly important for radiation protection during oral or intravenous administration of high activity radioactive liquids to patients and it allows for administration of therapeutic radionuclides outside of a radiation oncology environment, such as in a nuclear medicine department.	As noted in the Scope (Section 1.4), this Safety Guide does not apply to the therapeutic use of unsealed radioactive sources. This is a matter for the *Safety Guide for Radiation Protection in Nuclear Medicine*.
	3.4, line 390 Potentially ambiguous wording. Suggest rewrite as: "Radioactive plaque application (for ophthalmology or dermatology) that does not involve surgery may be administered by a Radiation Therapist..."	Agreed. Wording has been changed.
	Section 3.4, lines 392,393 and 399 Strange wording – a ROMP's deputy will also be a ROMP (or certainly should be)	This reference has been deleted.
	Section 3.4, lines 395-411 Isn't this all redundant, and meant to be replaced by lines 412-429?	Agreed and deleted.
	3.4, lines 390-393 and 431-433 Lines 431-433 are a repeat of the concepts in lines 390-393. This repetition needs to be removed.	Agreed and deleted.
	3.4, lines 395-429 The lines 412-429 are a repeat of the concepts stated in lines 395-410. This repetition needs to be removed with lines 425-429 kept in preference to lines 409-410.	Agreed and amended.
	Section 3.4, line 414 Replace "medical physicist' with "ROMP"	It has been replaced by the term "Qualified Expert".
	Section 3.4, line 435 Again, the physicist's deputy will also be a ROMP	Agreed and this reference has been deleted
	3.4, line 445 and elsewhere The words "verification and record system (V&R)" should be replaced with "record and verification system (RV)" and elsewhere as appropriate.	Agreed and amended.
	3.4, line 475 An exception is the first fraction of treatment, where the portal image should precede the treatment	Disagree. This is a matter for the local portal imaging

	field.	protocol.
	3.4, lines 498-499 The use of the italicised heading "External Beam Radiotherapy … or Electron Radiotherapy:" is not consistent with the formatting of the rest of the document, especially since there are references to brachytherapy on lines 512-530 following this heading. The heading should be deleted.	Agreed and formatting is now consistent with the rest of the document.
	3.4, line 512 Typo. Words "radiotherapy treatment" are superfluous.	Wording amended.
	3.4, line 532 Is this intended to apply to service/QA technicians as well, or is it just for clinical use of equipment?	This material has been removed from Section 3.4 as these are responsibilities of the Responsible Person defined in the Code.
	Submission No. 31	
	3.4 (412) What is a physicist's deputy? It is not a defined role.	This reference has been deleted.
	3.4 (389 and 430) These two paragraphs provide the same information.	Agreed and deleted.
	3.4 (442) 'Verification and record' should be reversed to 'record and verification' as this is standard terminology.	Agreed and amended.
	3.4 (467) It would be helpful if a suggested minimum number of images were given.	This is not a role for the Safety Guide but a matter for the in-house protocol.
	3.4 (501) "need to" to be replaced with should.	Agreed and changed to "should".
3.5 Radiation Safety Officer (RSO)		
	Submission No. 12	
	Radiation Safety Officer • Why a ROMP with extensive radiation training? Why not any radiation oncology staff member with extensive radiation training….eg senior radiation therapist? In some cases these staff have more experience than the ROMP.	Agreed and wording amended. The RSO may be any suitably qualified person and the revised section has been broadened to allow for this.

	14) Lines 781-789 – this document is meant to be guidelines for radiation safety and should not be giving directions on how to write clinical protocols. A line to say protocols are necessary should be sufficient.	This paragraph has been moved to Section 6 on *Quality Assurance*, where advice on clinical protocols is relevant.
	Line 551 Suggest replacing "undertake" with "manage"	The word "undertake" has been changed to "carry out" and is now included in Annex B, which outlines the duties normally assigned to the RSO in the Radiation Management Plan.
	Lines 558-561 Suggest removing "should be a ROMP". This is too prescriptive. Someone else could hold the position. The responsibilities are the important issue. Some centres do not have a ROMP.	Agreed and wording changed.
	Lines 562-569 As stated previously, the RSO could be someone other than a physicist. Suggest replacing lines 562-569 with: "The centre's RSO would be expected to have an appreciation of radiotherapy facilities and the delivery of radiation treatment, and would closely liaise with the centre's staff to ensure the most appropriate management of radiation safe practice in radiotherapy."	Agreed. The revised wording now includes this.
	Line 572-574 Suggest alteration "A ROMP or a designated radiotherapy radiation safety expert, should also ensure that satisfactory quality assurance (QA) programs and quality control (QC) testing for radiation safe practices in radiotherapy are performed."	These lines have been deleted.
	Some comment explaining the subject of the QA programs is would be useful.	Section 6 of the revised Safety Guide contains guidance on QA programs.
	Line 576 Suggest removing "(the designated ROMP)"	Agreed and deleted.
	Line 587 Suggest removing ", in collaboration with a ROMP". The responsibilities remain with the RSO irrespective of whomever he/she collaborates with.	Agreed and deleted. The duties normally assigned to the RSO are now listed in Annex B of the revised Safety Guide.
	Line 604 Suggest removing "ROMP designated as the". Once again the inclusion of ROMP is too prescriptive.	Agreed and deleted.
	Line 605 Replace "designated ROMP" with "responsible radiotherapy radiation safety experts and	This has been reworded and moved to Section 6 on *Quality Assurance*. The wording of the Safety Guide has been

	professional representatives, including Physicists ROs and RTs"	changed to reflect the input of all professional groups to radiation safety.
	Line 612-616 Suggest removing "Nevertheless, this task will usually be delegated to the institution's RSO and the designated ROMP who has specific radiation safety expertise in radiotherapy." (Stated previously). It could be replaced with "This task could be delegated to the centre's RSO working in conjunction with others"	This paragraph has been reworded to convey that the Responsible Person may direct the RSO to develop a Radiation Management Plan and that the RSO should liaise with the Qualified Expert and other relevant radiotherapy staff.
	Line 708 Replace line "communication between the operator and the patient. Wherever possible,"	Agreed and "Radiation Therapist" has been changed to "operator". This paragraph has been moved to Section 12.2, *Room Design*, of the revised Safety Guide.
	Line 724 Assumes that there is a ROMP available. It would be simpler to define the standards not the personnel.	Agreed and this has been done. This paragraph has also been moved to Section 12.2, *Room Design*.
	Line 785 Suggest including Medical Physicists	As this section on *Clinical Protocols and Treatment Policies* is not relevant to the RSO, it has been moved to the Quality Assurance section (Section 6) of the revised Safety Guide on. The line now includes the Qualified Expert.
	Submission No. 14	
	3.5 Radiation Safety Officer Under this section, many different procedures are listed including design, commissioning equipment and incidents. As indicated above the College considers that cataloguing such procedures under the heading of radiation safety officer is cumbersome and difficult to follow. It considers that it would be better to have less emphasis on the person and more on procedures and protocols.	Agreed. This material has been removed and has now been placed in the appropriate sections of the revised Safety Guide.
	Line 646 Shielding design The College notes that the design dose constraint of 0.3 mSv per year, that was listed in the first draft of the Code has been deleted; instead it has been inserted in the Radiotherapy Safety Guide but does not appear in the radiology or nuclear medicine guides. In addition there is the sentence: "The NRPBs recommendation was subsequently adopted by The International Commission on Radiological Protection (ICRP) as ICRP publication 81 (ICRP 1998)." The College is not aware of what is in the NRPB document as it is not easily available, but the dose constraint of 0.3 mSv mentioned in ICRP 81, is not relevant to design limits for bunkers for radiotherapy machines. The ICRP 81 document refers to radioactive waste where a dose constraint from a single radioactive source of 0.3 mSv is recommended. ICRP 81 makes no statement about design dose constraints for radiotherapy equipment. This is an example of ARPANSA and the radiation regulators	The lines regarding the design dose constraint of 0.3 mSv per year have now been deleted. The section on shielding design has been moved to Section 12, *Site Requirements*, and reworded.

	misinterpreting ICRP documents and arbitrarily applying limits. The dose constraint of 0.3 mSv should be deleted from this document.	
	Submission No. 17	
	Lines 602 - 504 The AIR believes the word written should be removed as again it is too prescriptive and many departments are going paperless. Replacement terminology that could be used would be 'permanent'.	The term "written" is now defined in the Glossary to cover all methods of recording information and therefore includes electronic, handwritten or typewritten documentation. Its use is consistent with the Code and the other two Safety Guides.
	Line 561 Suggestion to change 'undertake' with 'manage'.	The word "undertake" has been changed to "carry out" and is now included in Annex B, which outlines the duties normally assigned to the RSO in the Radiation Management Plan.
	Lines 569 - 560 The AIR feels that this is again too prescriptive and the words 'should be a ROMP' be removed as there are other appropriately qualified professionals who could undertake this position.	Agreed and wording changed.
	Lines 562 - 568 These lines could be replaced with "The centre's RSO would be expected to have an appreciation of radiotherapy facilities and the delivery of radiation treatment, and would closely liaise with the centre's staff to ensure the most appropriate management of radiation safe practice in radiotherapy.' This follows on from the above item where the RSO does not have to be a physicist.	Agreed. The revised wording now includes this.
	Lines 572 - 574 Should insert 'or a designated radiotherapy radiation safety expert' after the ROMP. An explanation as to subject of QA programs might be of use to the reader.	These lines have been deleted. Section 6 of the revised Safety Guide contains guidance on QA programs.
	Line 576 Remove 'the designated ROMP' to keep in line with earlier statements.	Agreed and deleted.
	Line 587 In keeping with the above statements remove 'in collaboration with a ROMP'. All these activities should be done through the multidisciplinary team or meetings. All the professional groups have expertise in formulating policies and procedures.	Agreed and deleted. The wording of the Safety Guide has been changed to reflect the input of all professional groups.
	Lines 602 - 607 Policy, plans and procedures relating to the control and monitoring of exposure should be developed with all the professional groups within radiotherapy and include a plan for dealing with incidents	Agreed. This is now stated in Section 6 on *Quality Assurance* and has been deleted from this section.

	and emergencies.	
	Lines 612 - 615 Again as above. Remove 'Never the less, this task will usually be delegated to .....safety expertise in radiotherapy'. This could be replaced with wording similar to the following' This task could be delegated to the centre's RSO working in conjunction with others.'	This paragraph has been reworded to convey that the Responsible Person may direct the RSO to develop a Radiation Management Plan and that the RSO should liaise with the Qualified Expert and other relevant radiotherapy staff.
	Lines 724 This should focus on defining the standards required rather than personnel.	Agreed and this has been done. This paragraph has been moved to Section 12.2, *Room Design*.
	Submission No. 18	
	• 605 The "responsibility for developing dosimetry procedures" needs to be clarified as non-clinical dosimetry so as not to be confused with treatment plan dosimetry procedures.	This has been removed and is more clearly expressed in other parts of the revised Safety Guide.
	Submission No. 19	
	3.5, lines 562-565 It is possible that the RSO is not a radiation oncology medical physicist but a medical physicist accredited in radiation protection. Explicit mention of this is recommended otherwise it appears that an RSO should only be a radiation oncology medical physicist where accreditation in radiation protection includes radiation oncology.	Agreed. The wording has been revised and this is now covered.
	3.5, lines 570-585 The introduction of the term "radiation safety expert" is not related to the RSO or the Responsible Person and it appears in paragraphs above and below these lines the term "radiation safety expert" is replaced by "ROMP". Consistent terminology is required in these lines to avoid creating four posts (RSO, Responsible Person, radiation safety expert and ROMP) where it appears that there may only be a maximum of three intended.	Agreed. This term has been deleted and consistent terminology used.
	3.5, line 590 Typo. The RSO should be responsible for "... the maintenance of occupational exposure records..."	Agreed and changed. The duties normally assigned to the RSO are now listed in Annex B of the revised Safety Guide.
	3.5, line 650 Concerning 1 mSv vs 0.3 mSv dose constraint for public exposure: there is a curious anomaly in the latest draft Code and Guides. The only place I can now find 0.3 mSv mentioned (apart from justification of further studies exposing a foetus, which is not my concern) is at line 650 of the Guide for radiation therapy – it does not occur in the Guides for diagnostic and nuclear medicine practice.	The lines regarding the design dose constraint of 0.3 mSv per year have now been deleted. The section on shielding design has been moved to Section 12, *Site Requirements*, and reworded.

	3.5, line 685 Delete the superfluous word "safe" from the phrase "safety safe".	Agreed and deleted. This line is now the last line of Section 12.1, *Shielding Design and Specifications*.
	Section 3.5 lines 856-866 Same as for X-ray apparatus, so why not combine?	Agreed. The sections have been combined and moved to Section 12, *Site Requirements*.
	Section 3.5, lines 923-927 This shouldn't be a dot point since it isn't one of the three methods	This material is now in Annex D, *Equipment Commissioning, Calibration and Servicing*. There are in fact only three methods described.
	Submission No. 31	
	3.5 (553) Insert a point stating "Have the necessary authority to stop any unsafe practices".	Disagree. This is a responsibility of the Responsible Person.
	3.5 (617) Education and training should be put under section 3.6	This is now in Section 13 of the revised Safety Guide.
	Foot notes Why are these not in the Glossary?	This is now in Section 13 of the revised Safety Guide. The footnotes are explanations not definitions.
	3.5 (667 – 676)) What value do these figures provide? Do they need to be included?	They define descriptions of brachytherapy treatment and are now in Section 9, *Radiation Protection in the Care of a Patient with Brachytherapy Sources In Situ*.
	3.5 (681) IORT should be spelt out.	It is now spelt out the first time it is used, which is in Section3.2.6 of the revised Safety Guide.
	3.5 (701) Rather than "familiarised" the words "instructed in" could be used.	This is now in Section 12.2, *Room Design*.
	The word "line" should also be removed so as to read "appropriate manager". (The relevant person may not actually be a line manager).	Agreed and changed.
	3.5 (791) This section should be put under section 3.6	Disagree. This material is about optimising medical exposures and has now been moved to Annex D, *Equipment Commissioning, Calibration and Servicing*.
	3.5 (843)	The sections on X-ray apparatus and linear accelerators

	This should include linear accelerator in its title and delete from 857 to 869 as it appears to be the same list. **3.5 (890)** Insert the word "radiation" between intra operative and therapy.	have been combined and moved to Section 12, *Site Requirements*. This has been changed to intra-operative **radio**therapy to be consistent with Section3.2.6 of the revised Safety Guide. The section has now been moved to Annex D, *Equipment Commissioning, Calibration and Servicing*.
3.6 Radiation Oncology Medical Physicist (ROMP)		
	Submission No. 12 ROMP • Documentation supplied for calculations must be in a format discussed with the RT's for ease of use. • Do ROMPs get training in patient positioning? How often do they do competencies? • As above for portal verification. • Why a ROMP investigate incidents? Shouldn't that be the manager of the dept where the error occurs investigates the incident – especially minor incidents. Other incidents should be investigated by the RSO as stated in another part of the document. 15) Line 946 -947 – the radiation therapists have a major role in the design and delivery of radiation therapy, a ROMP may be consulted if necessary. 16) Lines 978 -979 – the radiation therapist group will design and implement training programs for members of their profession.	This should be an aspect of the facility's QA program. The QA program should ensure that all procedures, including calculations, are appropriately documented and understood. The Quality Advisory Committee (QAC), which oversees the QA program and includes Radiation Therapists, should ensure that this happens. ROMPs now have to complete a first and second degree plus receive a 4-5 year clinical training period, where they learn treatment set-ups amongst many other aspects and must pass assignments and a final exam for accreditation purposes. A new section on training (Section 13) has been added to the Safety Guide. It addresses on-going training, which is a responsibility of the Responsible Person. Clause 3.1.11 of the Code requires the Responsible Person to ensure that a radiation incident is investigated. They may delegate this task to a Qualified Expert or an RSO. Section 7 of the revised Safety Guide has been altered to reflect the role of all professional groups in incident monitoring and prevention. This section of the Safety Guide has been substantially revised and reworded. These lines have now been removed. Agreed and these lines have been deleted. Clause 3.1.16 requires that training be provided to operators and other practitioners in the safe use of ionizing radiation. A new

		section on training (Section 13) has been added to the Safety Guide.
	17) Lines 980-981 – should specify that these margins of error are as a result of the design of the treatment unit or limitations in the radiation therapy planning system. This section should not be talking about error margins that are decided in relation to set up limitations and patient limitations as this is outside the role of the ROMP.	Agreed. These lines have been deleted.
	18) Line 985-86 – Radiation therapists receive training in this area as part of their undergraduate degree and maintain their skill through CPD and inhouse training courses. Training courses can be developed in consultation through the ROMP but the radiation therapist group should take responsibility for training their own staff.	This point has been reworded to explain that a Qualified Expert should be present to provide expert advice, rather than training.
	19) Line 996 – radiation therapists have a large role to play in developing new techniques and implementing new technologies.	Noted. This section describes the typical duties of a Qualified Expert. The responsibilities of a Radiation Therapist are described in Section 3.4 of the Safety Guide.
	20) Line 1000-1003 – it should be noted that the role of the ROMP is to check that this equipment is operating within allowed tolerances. Protocols and methods to ensure correct treatment field localisation is part of the radiation therapist role.	This paragraph has been deleted.
	Lines 946-950 This paragraph is disturbing to Radiation Therapists. All professions working in radiation therapy are essential components of the design and delivery of radiotherapy treatment. Certain Radiation Therapists roles could equally fulfil the role of Qualified Expert. **"Qualified expert** a person who: (a) is qualified in the application of the physics of therapeutic or diagnostic uses of ionizing radiation; and (b) has been recognised by the relevant regulatory authority as being able to perform the dosimetric calculations, radiation measurements and monitoring relevant to the person's area of expertise." *Taken from the Draft Code of Practice.* There are some branches of Radiation Therapy that are devoted to the planning and quality assurance of patient treatment. If one professional group is to be quoted as an essential component and qualified expert, then all groups that are highly qualified and education in radiation safety should be equally mentioned least their value be diminished by inference. *Lines 996-922*	This section of the Safety Guide has been substantially revised and reworded. These lines have now been removed. Qualified Expert is defined in the Glossary of the Code. This identical definition has been used in the Glossary of this Safety Guide and also in the Safety Guides for Radiology and Nuclear Medicine. Therefore the words have the same meaning in this Safety Guide.

	Difficulty following the flow of the dot points. Assume this represents the standard duties of a ROMP. *Lines 978-981* Suggest replacing with • Provide as required • Adequate tuition, documentation and procedures are supplied for dose calculations; and • Guidance regarding measured margins of error to establish the physical parameters of treatment regimens; *Lines 1000-1003* The localisation of the isocentre of the treatment machine in relation to the target volume in any individual patients treatment program is usually a decision made by the RT in conjunction with the RO. It is acknowledged that knowledge of this process is useful to a ROMP; however, it is not usually necessary for a ROMP to be involved in these decisions made by an RO or RT. These professional groups are equally well trained and can make informed judgements on radiation efficient patient positioning and portal image monitoring (frequency and dosage). Suggest removing these lines. *Lines 1007-1012* It is current practice in Queensland for RTs to also monitor, investigate, and develop corrective measures for incidents within their area of control. This includes calculating dose variations and producing procedural changes. We agree that a reporting and review process is important. If this clause is an important inclusion in section3.6, then we suggest that a similar clause be written into the Section 3.3. This would minimise that chance of the misconception that ROMPs supervise RTs from occurring. **Submission No. 17** **Lines 946 - 950** The AIR is concerned about this area of the document. All the qualified professions working within radiotherapy are essential components of the design and delivery of the treatment. Radiation therapists are qualified in all aspects of treatment planning and delivery. By virtue of their tertiary qualification the radiation therapist is a qualified expert. **Lines 960 - 992** These are difficult to follow but the AIR assume they are to do with the standard duties of a ROMP. Need to be rewritten and be easier to read and to follow.	The dot points representing the typical duties have been reworded and reordered for clarity. These points have been deleted. This paragraph has been deleted. Clause 3.1.11 of the Code requires the Responsible Person to ensure that a radiation incident is investigated and reported to the relevant authorities, and that measures are implemented to prevent future occurrences of a similar incident. They may delegate this task to a Qualified Expert or an RSO. Section 7 of the revised Safety Guide has been altered to reflect the role of all professional groups in radiation incident monitoring, investigation and prevention. Qualified Expert is defined in the Glossary of the Code. This identical definition has been used in the Glossary of this Safety Guide and also in the Safety Guides for Radiology and Nuclear Medicine. Therefore the words have the same meaning in this Safety Guide. The dot points representing the typical duties have been reworded and reordered for clarity.

	Lines 978 - 981 A suggested different form of words which better express the sentiment would be: • Provide as required o Adequate tuition, documentation and procedures are supplied for dose calculations; and o Guidance regarding measured margins of error to establish the physical parameters of treatment regimens;	These points have been deleted.
	Lines 1001-1003 The AIR believes that this statement does not recognise the expertise within the RT workforce to undertake this process. As RTs we recognise that the ROMPS should ensure that the isocentre of machines is accurate and yes, they should know about error analysis with regard to patient positioning and portal imaging but they are NOT the persons responsible in ensuring that the methods for patient positioning or portal imaging are appropriate. This is the professional realm of the RT's. They position the determined isocentre of the patient to the isocentre of the machine, the latter, the machine isocentre having been calibrated by the ROMP.	This paragraph has been deleted.
	Lines 1005-1012 The AIR believes that all groups should be responsible forreporting and reviewing their own incidents. RTs should be responsible for reviewing treatment and planning incidents and advise the department's RSO where appropriate. This review entails an analysis of work practices undertaken by the individual professional group and whether a corrective or modified process needs to be implemented to ensure the incident should not occur again in the future. A meeting of the involved professional groups could be held where the incidents are outlined and the remedial action indicated. There may be productive input at this stage by the other professional groups within radiotherapy.	Noted. Clause 3.1.11 of the Code requires the Responsible Person to ensure that a radiation incident is investigated and reported to the relevant authorities, and that measures are implemented to prevent future occurrences of a similar incident. They may delegate this task to a Qualified Expert or an RSO. Section 7 of the revised Safety Guide has been altered to reflect the role of all professional groups in radiation incident monitoring, investigation and prevention.
	Submission No. 18	
	• 978 Responsibility for tuition, documentation and procedures for dose calculations does not rest with ROMPs and should not be assigned to them in the guidelines.	This point has been deleted.
	• 1008 Investigations of incidents and development of corrective measures is a shared responsibility across the three professions RO, RT, and ROMP.	Agreed. Section 7 of the revised Safety Guide on *Radiation Incidents* has been altered to reflect the role of all professional groups in radiation incident monitoring, investigation and prevention.
	Submission No. 19	
	3.6, lines 960-961	

	These lines seem out of place and should be deleted.	Agreed and deleted.
	3.6, lines 968-969 Replace the reference to "national standards dosimetry laboratory" with "primary standard dosimetry laboratory".	This line has been reworded to advise that the equipment should comply with the manufacturer's performance specifications and other national and/or international standards.
	3.6, lines 970 Replace the reference to "national standards dosimetry laboratory" with "primary standard dosimetry laboratory".	See previous response.
	3.6, lines 987-988 Insert between lines 987 and 988 the phrase "providing expert advise on the application of physics and dosimetry principles in brachytherapy treatments;".	This point has been reworded to apply to all radiotherapy treatment techniques.
	3.6, lines 988-989 ROMPs are the only professionals that have intimate knowledge of the dosimetric data, modeling and assumptions contained within the treatment planning system. As such they are a vital part of the planning environment and should be available for consultation and discussion for any patient plan. Suggest re-writing this clause as: "providing expert advice in the application of physics and dosimetry principles for treatment planning"	See previous response.
	3.6, lines 990-991 These lines are effectively a repeat of lines 953-954 and should be deleted.	This point has been removed from this section and is now included in a new section of training (Section 13).
	Submission No. 31	
	3.6 (985-992) Ensuring that: - The dot points below are not grammatically correct.	The wording of the dot points has been amended to be grammatically correct.
3.7 The Supplier		
	Submission No. 31	
	3.7 (1038) The supplier currently does not have a legal responsibility to take back a source once it no longer required. There is nothing in the Code of Practice to enforce it. It should be stated that this requirement could be negotiated by the responsible person as a condition of purchase.	Agreed and this has now been included.
4.2 Design and Operational Considerations		

	Submission No. 31	
	4.2 (1135) This paragraph appears to be stating the obvious and therefore may not be required.	This paragraph has been removed from this section and is now in Section 3.7, *The Supplier*
5 Quality Assurance		
	Submission No. 17	
	Lines 1217-1223 The design and development of the department's QA programs requires the collaborative input from RO's, RT's and ROMP'S, not just the one professional group, as many aspects of a QA program impact on the work processes of the other professions. It should be a consultative process.	Agreed. The QA section has been revised to reflect the collaborative input of all professional groups. Hence the reference to one profession, the ROMP, has been deleted from this paragraph.
	Submission No. 19	
	Section 5, lines 1236-1244 Having referenced the ACPSEM QA protocol just above, it's horribly misquoted here. ACPSEM code says fortnightly to monthly, and also allows for less frequent checking according to clause 12.3.3. Suggest these lines be omitted altogether.	This recommendation falls within the ACPSEM recommended testing frequency of 14 days to one month. The Working Group recommends that these specific tests are performed at intervals of not greater than 14 days as they are the most critical parameters controlling the dose delivered to the patient. This information has been moved to Annex E, *Equipment Quality Assurance*.
	Section 5, line 1275 "the interval between" is unnecessary since we are talking about frequencies	Agreed and deleted. This information has been moved to Annex E, *Equipment Quality Assurance*.
	Section 5 **1238-1246** We need the flexibility to determine appropriate testing frequencies based on measured quality control data. For example in the last 7 years I've not found a single discrepancy between light/ radiation field coincidence on either of our two accelerators. I suggest it would be hard to justify testing every 14 days on this basis. I suggest a testing frequency of "monthly" and immediately after a repair/ change (before equipment goes back into clinical service) is often adequate unless parameters are drifting or show instability. In the latter case checks may need to be carried out at intervals much shorter than 14 days.	See above response. Section 6.3.3, Testing Frequency, has been added to the revised Safety Guide to reflect the factors that need to be considered when deciding upon the frequency of tests. Annex E now covers equipment quality assurance and contains advice on the frequency of equipment testing.
	5, lines 1236-1237 Lines 1236-1237 are slightly unclear in that it is possible to misinterpret the intent of these lines. The logic of using a maximum interval of fourteen days between constancy checks does not comply with the ACPSEM recommendations where daily constancy checks of photon and electron output are recommended using some sort of dose checking device whereas the field instrument	See above responses. The Working Group recommends that these specific tests are performed at intervals of not greater than 14 days as they are the most critical parameters controlling the dose delivered to the patient.

	measurements may be as infrequent as once a month. Change "fourteen days" to "eighteen days" (or even larger) to allow for public holidays and weekends so that, for example, a calibration due on a Friday public holiday can be performed on the following Tuesday when the Monday is also a public holiday (for example the Easter holidays in all years and Christmas/Boxing Day in some years). A period of eighteen days should still mean that the checks are performed every fourteen days when a regular checking schedule is generated at each facility, but it does allow some flexibility. Perhaps it may be simpler to write "at intervals of not greater than every tenth treatment day" or more complex to write "at intervals of not greater than the longer of not the longest of every tenth treatment day, fourteen days or one calendar month" to covey the same or similar intention. Using eighteen days is possibly the best solution.	
	Define "field instrument" in the Glossary. Is it possible to use a dose constancy checking device, such as the DailyQA3 (which has in-built temperature and pressure correction), as a field instrument for these constancy checks or is a field instrument defined to be an electrometer/ion chamber combination for which calibration factors are specifically given in the accepted dosimetry protocols (e.g. TRS-398, TRS-277, etc.)? With modern treatment machines, the use of a device such as DailyQA3 may be sufficient given that both the treatment machine and the constancy checking device would need to fail with the failure being in the same numerical direction so that an error is not detected. The annual use of a calibrated electrometer/ion chamber combination may be sufficient to meet the guidelines in the Safety Guide as it stands. Is this is what is intended?	"Field instrument" has been changed to "field or local standard dosemeter" for consistency with the terminology used and defined in the ACPSEM QA recommendations and the ACPSEM dosimetry protocols. The use of a dose constancy checking device would therefore not be suitable for these output constancy checks.
	5, lines 1276-1277 The statement of maximum periods between output checks of "one month" on lines 1276-1277 is not precise enough, in that it is not clear whether making a measurement on the first of one month and the end of the next month would comply. Perhaps this clause should instead state an interval not exceeding forty days.	See responses above. These are recommendations. Stating the maximum period between output checks should be "not greater than one month" would be interpreted by most people as being no more than 30 days between checks.
	5, line 1294 Typo. Use "cm^2" instead of "cm2".	Agreed and amended.
	5, line 1310 Additional points: The Quality Assurance program for acquisition of planning images should be designed to ensure that: • Simulators meet the image-quality specifications of diagnostic x-ray equipment and the spatial accuracy specifications of linear accelerators.	This is covered in the *Safety Guide for Radiation Protection in Diagnostic and Interventional Radiology* (RPS 14.1).

	• CT scanners are spatially accurate, have known CT-number-to-density conversions, and support the localisation/immobilisation of patients to the same specifications used during treatment.	This is now stated in Section 8.1.2 of the revised Safety Guide.
	• MRI, PET and other tomographic image scanners support the localisation/immobilisation of patients to the same specifications used during treatment, and that a system of fiducial markers exists to aid the co-registration of image sets.	This is now stated in Section 8.1.2 of the revised Safety Guide.
	Submission No. 31	
	5 (1178-1208) This section seems overly explained. It could be cut down to four or five sentences.	Disagree. This introduction has been revised to more clearly explain the requirements of a QA program.
	5 (1294) No 2 should be superscript	This has been amended.
6 Radiation Incidents		
	Submission No. 12	**This now Section 7 of the revised Safety Guide.**
	Radiation Incidents • Level of incidents – are there more levels required	These are the internationally agreed categories.
	• No discussion regarding 'potential' or 'near misses'	These are included in errors of total dose between 5% and 10% in any individual treatment. Also, Annex F states that the National Directory for Radiation Protection has general provisions for the reporting to regulatory authorities of other incidents, which could include near misses.
	• Agree with making forms anonymous	Noted.
	• Should a nationally endorsed radiation incident form be produced?	Reporting requirements are a matter for the relevant regulatory authority.
6.1 Management of a Radiation Incident		
	Submission No. 12	
	21) Line 1333- should be added that errors in dose received by a patient can also be caused by incorrect calibration of radiation sources or entry of data into planning systems. Not all errors	Agreed and wording changed.

	are caused by incorrect positioning of the patient on the treatment unit. **Submission No. 14** 6 Radiation incidents and Annex E Dealing with incidents in radiotherapy is very important and it is currently being discussed by the Tripartite group (RANZCR, AIR, ACPSEM). The College agrees that minor incidents should be dealt with in house, and that only major incidents need to be reported to the radiation regulator. As the issue of radiotherapy incidents is currently under discussions by the tripartite group, the College considers it is preferable not to be too definite about what constitutes levels 1, 2 and 3 errors. For instance not all States accept the 10% deviation as a type 3 error. The College regards this as a very important issue but that it is more appropriate to await the recommendations of the professional groups about the details of how to record and manage such incidents. **Submission No. 18** • 1340 This does not correspond to the reporting requirements under our State authority approved Radiation Safety and Protection Plan	Noted. The National Directory for Radiation Protection contains provisions for incident reporting that have been accepted by regulatory authorities from all jurisdictions, and for reporting radiotherapy incidents this is when the dose delivered differs from the total prescribed treatment dose by more than 10%. See previous response. This is the requirement in the National Directory for Radiation Protection, which has been accepted by all jurisdictions.
7 Treatment Planning and Delivery		
	Submission No. 12 Is section 7 necessary in a document "Safety Guide Radiation Protection in Radiotherapy"? We don't believe that a safety guide should be a document on how to manage a radiotherapy department. We believe dose prescription and reporting standards are important, and applaud the various clinical trials for enhancing this practice. We believe that there are sufficient standards, both nationally and internationally. We do have some specific comments if this section remains in the document. **Submission No. 14** The Quality and Standards Committee of the Tripartite group (RANZCR, AIR, ACPSEM) have been developing recommendations about the documentation of prescription, planning and treatment delivery and recording of radiotherapy. While that is still being finalised, it may be prudent to keep statements in this section general, and not be too prescriptive.	**This now Section 8 of the revised Safety Guide.** Disagree. Aspects of planning and delivery of radiotherapy address radiation protection of the patient and their radiation safety particularly. The Safety Guide information only relates to this aspect of treatment planning and delivery. The Quality and Standards Committee are not addressing matters of radiation protection. Their draft recommendations are not duplicating this Safety Guide and are not in conflict with it.

7.1 Treatment Planning

Submission No. 12	
Target localisation and simulation (line 1491) • OAR and some target volumes are outlined by RT's. They need to be approved/authorised by RO, but not completed by them.	Agreed. This section of the Safety Guide has been reworded to make this clear.
Computer Planning (line 1502) • Complex planning can be performed by any RT (under guidance of an experienced RT.	See response to Submission 4 above.
• Will ROMP's be required to do competencies on treatment planning techniques.	This is a matter for the National Directory for Radiation Protection.
22) Section 7 – should treatment prescription really be described in radiation safety guidelines.	Yes, the treatment prescription addresses radiation protection for the patient.
23) Line 1432-1435 – how is this a radiation safety requirement	The principles of justification and optimisation apply to all medical exposures, including exposures from diagnostic radiology techniques, such as CT scans, used for radiotherapy treatment planning. Using additional information from other diagnostic techniques will help in being able to define the target volume accurately.
24) Why is patient immobilisation in radiation safety guidelines, and why is target localisation part of radiation safety guidelines. Once again these are part of a clinical decision making process.	These are important elements of the treatment prescription and hence for radiation protection and safety of the patient.
25) Lines 1504 -1509 – it should be noted that radiation therapists are the qualified experts in radiation therapy planning.	Noted.
Lines 1487-1488 Suggest removing "mould room"	These words have been deleted.
Lines 1504 Suggest removing "experienced". Radiation Therapists become experienced in computer planning during their specifically designed tertiary course.	"Experienced" here refers to "experience with the particular computerised treatment planning system". It has been reworded for clarity.
Lines 1505-1509	This Section has been reworded to reflect the input of all professional groups into the computerised treatment

	Suggest replacing "an experienced ROMP" with "experienced planning professional".	planning of the more complex and non-standard treatment techniques.
	Submission No. 17	
	Line 1434 As not all departments have access to MRI and PET imaging, as such we recommend that this sentence reads ..... *whenever available and appropriate*	Agreed and amended.
	Line 1452 Consent forms are not used by all departments, as legal advice in the past has been that they do not offer the practitioner legal protection.	The wording has been changed to reflect that a record is made of the fact that the informed consent of the patient was obtained before treatment commenced.
	Lines 1487-1488 The AIR believes that this sentence should read by 'adequately and appropriately trained staff', as not all departments have dedicated mould room technicians.	Agreed and wording amended.
	Lines 1504-6 Standard plans should be performed by an experienced RT.... The AIR is concerned that this section does not address the following issues: • at what level is a practitioner considered an experienced RT? • how does a practitioner gain experience, if they are unable to complete standard computer treatment planning to gain experience? The AIR is also concerned about the statement commencing in 1505 relating to advice from an experienced ROMP. In many departments physics staff are frequently trained in the use of planning software by experienced RTs.	See responses above. "Experienced" here refers to "experience with the particular computerised treatment planning system". It has been reworded for clarity A sentence has been added to describe how the necessary experience may be obtained. See responses above. This Section has been reworded to reflect the input of all professional groups into the computerised treatment planning of the more complex and non-standard treatment techniques.
	It is not the experience level of the RT performing the planning that is most important, it is the means by which the quality of the process and how the end result of that process is managed. The Safety Guide should not document what the processes should be, it should simply state that QA and QC processes should be in place and documented.	Agreed.
	Submission No. 18	
	• 1504-1507 The wording here implies that ROMPs will be the department's computer planning	See responses above.

	experts and further it is an inaccurate description of how dosimetry will be assigned. All Radiation Therapists are educated in computer planning, however skill level, as would be expected, increases with experience. If standard planning is to be performed only by experienced staff, it begs the question of how inexperienced Radiation Therapists are supposed to get experience. Considerable thought and effort is put into ensuring staff skills development in dosimetry and multiple layers of checking are employed to ensure that plans are optimal and accurate. The reality is that our Senior Planning Radiation Therapists and Technical Trainer (for the planning software) are our clinical dosimetry experts. **Submission No. 19** **7.1, line 1376** The prescription should include the additional redundancy of "dose per fraction". **7.1, line 1436** Additional point: Where possible other CT, MRI and/or PET scans should be acquired with the patient in the intended treatment position. This may require a flat couch (or couch insert), treatment immobilisation devices and attachments, and accurately aligned external lasers. Where possible, other scans should also be acquired with fiducial markers (ball bearings, radionuclide spheres etc) to facilitate co-registration of image sets. **Submission No. 31** **7.1 (1380)** Brachy therapy to replace radionuclide therapy **7.1 (1391-1397)** This information does not appear to have much relevance.	Agreed and words added. Agreed. Wording altered to include this. Agreed and changed. Disagree as it describes when manual planning may be used.
7.2 Treatment Delivery		
	Submission No. 12 26) Line 1513-1517 – should this be included in a radiation safety guideline. **Submission No. 19** **7.2, line 1518**	Yes, this section is about the safe delivery of radiotherapy to the patient.

	Additional point: The treatment planning records for both brachytherapy and external beam should include a record of the planned doses delivered to the critical normal tissues, in line with the prescription. This is important and in reality must be reported especially when dealing with complications and any associated medico-legal events. This requirement, most importantly, will provide basic reliable information that is valuable for future decision making with regard to reducing the severity and frequency of treatment complications.	Agreed and this has now been included in the appropriate sections.
8 Radiation Protection in the Care of a Patient with Brachytherapy Sources In Situ		
	Submission No. 11	**This now Section 9 of the revised Safety Guide.**
	1: Line 1707 I suggest changing: "If a patient is to leave the ward during brachytherapy treatment, the following…" to **"If a patient with active brachytherapy sources in situ** is to leave the ward during brachytherapy treatment, the following…"	This has been reworded for clarity. See Section 9.2.5 of the revised Safety Guide.
	2: Lines 1756-71: In what circumstances would a radioactive sealed source be removed by the patient? I cannot think of such a likely event: Iodine and palladium seeds are permanent; Iridium is temporary, as is Caesium, Rhenium or Yttrium, and Gold or Strontium sources should not leave the hospital. I do not think that this section (lines 1756-71) is good or sound medical practice let alone safe from a radiation exposure point of view and such practice should be strongly discouraged. As such it should not be in the SG. See lines 2132-2142 for a better wording of this situation.	This section has now been removed from the Safety Guide. In response to the questions, permanent implant seeds can become dislodged from the body (eg. Prostate Iodine seeds). Also, patients from remote areas may be instructed about the removal of radioactive moulds used for skin treatment.
	Submission No. 19	
	8, line 1548 Query whether this paragraph is intended to apply to I-125 eyeplaque patients. Eyeplaque patients do not need to be isolated (from all contact with everyone).	This paragraph has been removed from the Safety Guide.
	8, line 1640 Query whether this paragraph is intended to apply to I-125 eyeplaque patients. These checks are probably not necessary for eyeplaque patients.	This paragraph has been reworded for clarity and is now the last paragraph of Section 9.2.3 of the revised Safety Guide.
	8, line 1676	This is now addressed in Section 9.2.8, *Ward Staff*, of the

	Query whether this paragraph is intended to apply to I-125 eyeplaque patients. Personal dose meters for nursing staff are probably not necessary for infrequent I-125 treatments.	revised Safety Guide. It clarifies the requirements of the Code for the wearing of personal monitoring devices by ward staff.
	Submission No. 31	
	8 (1728) The word radioactive should be removed from this point.	This paragraph has now been deleted from the Safety Guide.
	8 (1776) The ultimate responsibility lies with the Responsible Person.	This is true but the decision is usually a medical and radiation protection one, so in practice the Radiation Medical Practitioner and the RSO or Qualified Expert, authorised by the Responsible Person, make the decision on the Responsible Person's behalf.
9 Radiation Protection in the Event of the Death of a Patient Undergoing Treatment with Brachytherapy Sources In Situ		
	Submission No. 14	**This now Section 9 of the revised Safety Guide.**
	The College notes the comment about the recommendation to prevent cremation should the activity significantly exceed exemption levels in IAEA BSS115, 1996. The most common isotope used for permanent brachytherapy is iodine-125. It would be helpful if this guide included more detailed and specific advice about I125 as a guide to doctors and crematorium workers, rather than just referring to an IAEA document that is not readily available in Australia.	Agreed and more detailed advice has now been included.
	Submission No. 31	
	9 NHMR *Code of practice for the safe handling of corpses containing radioactive materials (1986)* should be referenced.	Disagree. Most of the material in RHS 18 (Corpses) is now in the Medical Code and Safety Guides, and the document will be rescinded once a proposed RHC Statement, containing guidance for funeral parlour and crematorium workers, has been prepared. The Statement should be ready for publication in early 2009.
11 Storage and Transport		
	Submission No. 31	**This now Section 14 of the revised Safety Guide.**
	11 (1864) Heading should be "Security, Storage and Transport"	Agreed and heading changed.

11.1 Storage and Handling		
	Submission No. 11	
	3: Line 1889: What if the source is not to be returned (for eg, iodine-125 seeds)?	Permanent implants by definition are expected to remain in the patient for the remainder of the patient's life. Provision for unexpected dislodgement should be made. See Sections 9 and 10. This information can be recorded in a source register as the whereabouts of the source is known.
	Submission No. 19	
	11.1 & Annex G, lines 1910 & 2923 The approval criterion for wipe tests of 20 Bq at line 1910 on page 48 contradicts the stated value of 200 Bq at line 2923 on page 76. These values need to be made consistent.	Typographical error. Altered to be 200 Bq in both places. This information is now in Annexes G and I respectively of the revised Safety Guide.
	Submission No. 31	
	11.2 (1929) Wording should change to "the" Responsible Person , "the" supplier	Agreed and changed.
11.2 Transport		
	Submission No. 11	
	4: Section 11.2: Does the first part of this section refer to sources leaving the Department or arriving at it? If leaving then the Responsible person should indeed be responsible, but if the sources are coming to the Department then I fail to see how the RP can be responsible for something that is outside their control. Perhaps the wording should be that the RP should ensure that the sender (is this the consignor?) is aware of their responsibility in sending the product safely.	Noted. This section has been reworded for clarity.
	5: Section 11.2 Line 1954: What RP in their right mind would not pass on this responsibility to the supplier if given the opportunity? Particularly given the previous part of this section. Why not just state that the RP should give this responsibility back to the vendor/new purchaser but ensure that they are aware of this responsibility?	The section has been reworded to clarify issues of communication and responsibilities.
12 Repairs and Maintenance		
	Submission No. 12	

	This section assumes that a ROMP is available. Suggest that this section is reworked to allow the authorisation to return equipment to clinical use to other responsible staff groups. For example, as this section stands, if the CT scanner requires some maintenance, a ROMP would have to authorise its return to clinical use. This won't happen in our state so we believe that the safety guide should reflect current practice and not attempt to prescribe work practices. Once again, we believe that all radiation workers have a responsibility to promote radiation safety.	This section has been deleted and the material included in other sections, where relevant. This is now covered in Annex D of the revised Safety Guide, under the subheading "Servicing".
	Submission No. 17	
	Lines 1979-1991 Similar comments as above apply.	
	In general, departments should have a policy that defines what level of clearance is required for specific repair work and who can authorise the return of equipment to clinical operation. These matters should be a matter of local internal governance.	Agreed. New wording in Annex D reflects this.
	Submission No. 19	
	Section 12, lines 1987-1991 I agree this should be in the safety guide, but we have been using signs and record books for a couple of years now, and it seems to be a near-impossible task to achieve compliance. And arguably the wrong sign poses a greater risk than no sign system at all.	Noted
	Submission No. 31	
	12 There is no mention that a service engineer is required to be appropriately licensed.	Disagree. This is included in Section 3.8, *The Equipment Servicing Agency*.
Annexes		
	Submission No. 14	
	Overall the annexes seem to contain a large amount of detail. If there is too much detail the documents become too unwieldy to read. In addition radiotherapy is a rapidly changing field with enormous technological change. As new complex technology is introduced, what constitutes 'appropriate quality assurance testing' might change. One has to be careful not to be too dogmatic in detail that should be followed, as what is regarded as appropriate procedures could change. In addition, some international organisations such as ESTRO are continually producing international	Agree. This Safety Guide provides guidelines for good practice in achieving radiation protection and is not now prescriptive. The information in the annexes has been reviewed and made more succinct. Any duplication with the body of the document has been removed.

	recommendations and guidelines. Thus the College queries the need for so much detail, some of which is also duplicated in the body of the document.	
Annex A		
	Submission No. 11	**Much of the material in this annex is now included in other sections and annexes, where relevant.**
	6: Line 2106: what is a significant dose-rate? Is this meant to apply to permanent LDR implantation as well as PDR or HDR temporary implantation?	LDR, PDR and HDR brachytherapy are now defined in Section 9 of the revised Safety Guide. The in-hospital management of a patient undergoing brachytherapy is also covered in section 9, and this has been removed from Annex A
	7: Line 2216: reviewed by who? 8: Line 2218: Who carries out the audit? The ROMP who maintains the register? That would not be appropriate.	This is now in Annex C. It has been amended to state that these reviews and audits should be carried out by the custodian of the register
	Submission No. 12	
	Line 2124 Suggest adding "emergency procedures. Any instructions provided by the RSO (or delegate) need to be adhered	This paragraph has been deleted from the Safety Guide.
	Submission No. 31	
	Annex A (2184) A specific name should be stated rather than just the Responsible Person.	Disagree. It is a requirement of the Code (Clause 3.3.11) to report any radiation incident to the Responsible Person. This material is now in Section14.
Annex B		
	Submission No. 19	**This now Annex H of the revised Safety Guide.**
	Annex B, line 2324 "source wall information" is an outdated concept for modern brachytherapy planning systems (eg TG43). Perhaps this section should reflect that basic data will need to be verified, without specifying exactly what the basic data is.	Agreed and term removed. This subsection has been moved to Section 8.1.3 of the revised Safety Guide.

Annex C		
	Submission No. 11	**This now Annex G of the revised Safety Guide.**
	9: Table 1, line 2433: Is Palladium used in Australia? My understanding was that it could not be imported. I have not heard of its use in breast cancer.	Noted.
	10: Line 2505: I think this was a fad that is no longer being quite so regularly clinically utilised. Perhaps avoid the use of the word "increasingly" in line 2507 to avoid dating the document.	Agreed. "Increasingly" has been deleted. This subsection is now in Annex H.
Annex D		
	Submission No. 12	**This now Annex C of the revised Safety Guide.**
	Suggestion is made to include a record of equipment inspection/ maintenance history.	This has now been included in the subsection on Equipment Inventory in Annex C of the revised Safety Guide.
Annex E		
	Submission No. 31	**This now Annex F of the revised Safety Guide.**
	Annex E (2737) The Responsible person should be required to contact the relevant authorities.	This is specified in the Code and does not need restating in the Safety Guide.
References		
	Submission No. 14	
	There is a reasonably comprehensive list of important publications, however, it is disappointing that ARPANSA in the references has ignored the recent IAEA publication: *IAEA safety report series 38, 2006. Applying radiation safety standards in radiotherapy. (That is also jointly sponsored by ESTRO.)*	IAEA Safety Report Series No. 38 has been added to the reference list.
Glossary		

	Submission No. 17 Unlike the safety guides for either diagnostic and interventional radiology or nuclear medicine there is no definition in the glossary of a radiation therapist. The AIR requests that a definition is included and recommends it should read as follows: ***A person who holds a Bachelor of Applied Science in Medical Radiation Science or equivalent from a course that has been accredited by the Australian Institute of Radiography and is eligible for accreditation by the AIR and registration or licensing by the appropriate State Regulating Authority.***	Agreed. The definition of a Radiation Therapist has been added to the Glossary.
General		
	Submission No. 1 Re the draft code of practice, and the safety guides, it seems that the controversial, arbitrary, draconian, unsubstantiated, etc etc 0.3 mSv per annum design constraint has disappeared from the NM and diagnostic safety guides, but is still a part of the radiotherapy safety guide. Such a low value must not be! Good that it's not in the code of practice, but even in the safety guide it makes me shudder.	The lines regarding the design dose constraint of 0.3 mSv per year have now been deleted.
	Submission No. 6 The following comments are sent on behalf of Brian Porter, Deputy Chief Radiation Therapist, Radiation Oncology Royal North Shore Hospital and myself.	
	1.. Terminology in title and throughout document: Replace the term "Radiotherapy" with "Radiation Therapy".	Radiotherapy is the term used in the Code.
	2.. Re: Use of term "written" (Context examples line 148 & line 502) - This term may imply that protocols, records of treatment, etc must be written and in paper-based format when in practice these could be in electronic format. Written documentation is somewhat obsolete in this day of electronic records.... Recommend that this ambiguity be clarified in the Glossary. Overall, the document is very comprehensive	Agree. “Written” has been defined in the Glossary to include handwritten, typewritten or electronic documentation.
	Submission No. 12 As part of my role as Qld branch secretary for the Australian Institute of Radiography I notified the	

	members on our mailing list about the safety guides and draft legislation up for review. Our members were encouraged to make comment on these documents and send these comments either directly to ARPANSA or through me. I am attaching documents which provide comments from some of these members. These are personal submissions. As you will see all of these comments to the safety guides for radiation therapy practice. As a general comment I would like to note that these guides were not well received by many members of the radiation therapy community in Queensland. It was felt that there was not enough acknowledgement of the training and skills of the radiation therapist and that the document seemed to be weighted in favour of one particular professional group. This document was seen by some radiation therapists as way of providing a pathway for role expansion and extension for one professional group to the detriment of the other professions involved in radiation oncology. Please note the above comments are not the opinion of the Australian Institute of Radiography - the Board of the AIR will be submitting their response to these documents. I merely wished to give you a general idea on how these documents were perceived by people in my particular profession (radiation therapy) in Queensland. **Attachment 1** **<u>Response to the ARPANSA Safety Guide – Radiation Protection in Radiotherapy</u>** <u>General Comment</u> • Why the need for this document when the RANZCR have just completed the quality standards documents? **Attachment 2** Comments on Radiation Therapy Guidelines General – There seems to be several sections in the safety guide which is a repetition of the draft legislation, is it necessary to repeat this information in what is already a bulky document. There are also several sections which to me stray into the clinical area and are not specifically associated with radiation safety. Although these sections may discuss what could be best practice I do not believe that this document is the appropriate forum for setting these guidelines. These would have already been addressed in the Standards which have been developed by the Tripartite group.	Noted Noted. As above, the Safety Guide has been revised to address this imbalance with a focus on the tasks to be performed, rather than who performs them. The Safety Guide only addresses issues related to radiation protection in radiotherapy. It does not set performance and quality standards in other aspects of radiotherapy, which the RANZCR is aiming to do. The Safety Guide is not in contradiction of the Draft Quality Standards Document, nor does it duplicate their work. Agree, repetition of the Code has been deleted along with other repeated material. Disagree. Matters of clinical decision making and clinical practice are not included. Section 2 of the safety Guide specifically states that clinical decisions are to be made by the Radiation Medical Practitioner in accordance with guidelines established by their professional body.

		Disagree. The RANZCR Quality Standards do not address the same issues.
	Standard treatments are mentioned several times throughout the document. What is a standard treatment in these times of volumetric and 3-dimensional planning. The paradigm has changed and in my department there are very few "standard treatments" given to patients.	Standard has largely been removed from the document and clearer descriptive terms used where ever possible.
	Radiation therapists are one of the few professional groups who have had explicit training in safe handling of radiation producing equipment, planning and treatment of patients and radiation safety as part of their basic professional qualifications. This document does not reflect the expertise of this professional group in these areas and insinuates that the only qualified expert is a ROMP. This is clearly not the case and should be addressed in revised versions.	Agreed. The document has been revised to address this imbalance. See previous comments.
	Attachment 3	
	The Senior Radiation Therapists – Planning Group (Queensland) are the Senior Radiation Therapists in charge of the planning sections, both imaging and dosimetry sections of their respective radiotherapy centres. This group meets regularly to discuss clinical and other issues for the mutual benefit of all Queensland public hospital Radiation Therapy services.	Noted.
	The Senior Radiation Therapists – Planning Group (Queensland) would like to take the opportunity to comment on the Code of Practice for Radiation Protection in the Medical Applications of Ionizing Radiation. In particular, we are concerned with the assumptions and presumptions made in the associated Safety Guide, Radiation Protection in Radiotherapy. Many of the duties and responsibilities contained in the guide relates directly to our daily occupation.	Noted.
	At the outset, we would like to acknowledge that radiation safety (occupational, medical, and public) is the responsibility of everyone. We regard health workers involved in the therapeutic use of radiation have a greater responsibility to maintain and promote radiation safety because of their greater knowledge and training. It is therefore concerning that professional groups such as physicists are defined in this document as having a greater control and responsibility than other fully trained radiation workers.	Agree that radiation safety is the responsibility of everyone. Rewording in the revised document acknowledges this.
	We have noticed that this document mentions ROMPs many times. It is our collective experience that Medical Physicists make up the majority of physicists in our centres. In fact, one of our centres does not have a ROMP on staff. We believe that the safety duties and responsibilities should be documented. This is the most important issue.	Agreed. See previous responses.

	Submission No. 14	
	Safety Guide for Radiation Protection in Radiotherapy The College considers that the Radiotherapy Guide is much more onerous than the radiology and nuclear medicine guides.	The Safety Guide is a guide for best practice. The compulsory requirements are contained in the Code, which applies to Nuclear Medicine, Diagnostic Radiology and Radiotherapy. Thus mandatory requirements are the same for all 3 groups. As much larger doses of radiation are used in radiotherapy, there is a greater potential for harm if an error occurs. Greater attention to technical detail and radiation protection and safety is justified, in our opinion.
	Submission No. 17	
	The Australian Institute of Radiography (AIR) appreciates the opportunity to comment on the Australian Radiation Protection and Nuclear Safety Agency's (ARPANSA) draft Code of Practice for '*Radiation Protection in the Medical Applications of Ionizing Radiation'* and the accompanying Safety Guides for Radiation Protection in Diagnostic and Interventional Radiology, Radiotherapy (*should read Radiation Therapy*) and Nuclear Medicine.	Noted.
	AIR representatives were in attendance at the recent ARPANSA National Conference on Radiation Protection in Medicine held in Melbourne on the 3rd October 2007. In keeping with ARPANSA's request for public comment on the current draft documents as part of the consultation process, the following recommendations are submitted by the AIR.	
	The AIR commends ARPANSA on the development of the single Code of Practice with separate Safety Guides for each discipline. We believe that this format is very logical and simplifies the application within the individual disciplines. In keeping with this format the AIR has provided comments separately (attached) for the Code of Practice and the Safety Guides for Diagnostic Imaging and Radiation Therapy.	Noted.
	Thank you for considering this submission and we look forward to further correspondence once the public consultation period has been completed.	
	General Comments	
	Although not strictly in the Code of Practice, the AIR is concerned with the interpretation that ARPANSA places on radiation incident and that they do not fully appreciate the distinction between a 'radiation incident' as outlined in legislation and the numerous other types of incidents that are associated with the delivery of radiation for therapeutic or diagnostic purposes, which may or may not also involve radiation. Not all 'incidents' within a department are reportable under legislation	The Code, the National Directory for Radiation Protection and the regulatory authorities determine the requirements for reporting incidents and incident investigation.

	but are still dealt with in a timely manner including 'near misses'.	
	Of further concern is that ARPANSA considers their organization as the most appropriate body to manage/monitor any Radiation Oncology Incident Monitoring agency that may be established in the future. It is felt that ARPANSA's approach is too pure, too idealistic and too remote from the clinical environment to fully appreciate the complexity of the issues that may arise. Such incidents require proactive and rapid action to alert the appropriate service providers and authorities of a potential problem.	ARPANSA has a statutory responsibility to regulate all aspects of radiation protection in Australia, including the medical uses of radiation.
	Radiation safety (occupational, medical and public) is the responsibility of everyone. Health workers involved in the therapeutic use of radiation have a responsibility to maintain and promote radiation safety because of their knowledge and training. It therefore concerns the AIR that professional groups such as physicists are defined in this document as having a greater control and responsibility than other trained and qualified radiation workers.	Agreed. See previous response.
	The AIR believes that the Safety Guide is far too verbose and as such detracts from its functionality. The Safety Guide should be comprehensive but presented in a concise and flowing format. An example of this starts at line 541 in section 3.5 where the document begins by talking about the Radiation Safety Officer (RSO) but then goes to room design before returning to the RSO descriptor.	Agreed. The document has been revised to remove repetition, be concise and pertinent.
	The AIR is concerned that there has been considerable input into this document from the Radiation Oncology Medical Physicist's (ROMP) with what seems an inadequate balancing of the input from the other key stakeholders; the Radiation Oncologists (RO) and the Radiation Therapists (RT). The document fails to adequately acknowledge the expertise of the other professionals who operate within the Radiotherapy department with the requirement in the majority of Australian States for both of these professions to be licensed and registered.	Agreed. See previous responses.
	Radiation safety (occupational, medical and public) is the responsibility of everyone. Health workers involved in the therapeutic use of radiation have a responsibility to maintain and promote radiation safety because of their knowledge and training. It is therefore of concern to the AIR that professional groups such as physicists are defined in this document as having a greater control and responsibility than other trained and qualified radiation workers.	Agreed. See previous responses.
	The document does not recognise the expertise that a radiation therapist has and degrades the Degree level education and technical knowledge they have. It ignores the critical thinking gained through the tertiary education and the advanced reasoning skills inherent in the training. The radiation therapist is trained and has skills in radiation protection and this should be recognised within this document.	The definition of a Radiation Therapist has been added to the Glossary. It acknowledges the level of qualification and training.

	The AIR believes that this document should reflect current practice and not be too prescriptive into work practices that within many jurisdictions would not be workable and complied to. This again reinforces the belief that all radiation workers have a responsibility with regard to radiation safety. **Submission No. 17** **Further general comments from members include:**	Agreed.
	Radiation therapists should be at remote after loading brachytherapy. In some States, these are the only health professional there in the ward at the time of connection.	There is nothing in the Safety Guide which precludes this.
	Where the words 'persons administering radiation therapy' appear throughout the document it should be replaced with 'radiation therapist'.	Disagree. There are a number of situations where another professional administers the radiotherapy and the Safety Guide needs to cover all practices.
	ROMP's are not on units for external beam radiotherapy and again should be removed throughout the document. Like the radiation oncologist they attend the treatment unit when there may be a difficulty or problem regarding a particular patient's treatment, but not for all treatments. The radiation therapist is qualified and in a number of States registered to undertake this activity independently.	This has been deleted.
	The document must be written for the future and be relevant. Therefore it must include electronic prescriptions and the movement of departments to a paperless department. To date there is no mention of this in the document.	Agreed. The definition of "written" has been added to the Glossary to address this.
	The prescriptive way this document is written does not take into account the varying needs of the different centres. This is demonstrated with respect to the RSO being stated as a ROMP. These descriptions should concentrate on the standards and not the personnel. Any qualified radiation professional should be able to undertake this position. It is not to say that most times it will be a physicist but it should be open.	Agreed. The document has been revised to reflect this.
	The ROMP must discuss many of the activities that are described as being under their control with the other radiation professional staff. There is no point developing an unworkable solution. A point in case is the documentation supplied for dose calculations. The format of this documentation needs to be easily read by radiation therapists to be able to safely undertake the calculation in a timely manner.	Agreed.
	The AIR points out that there is no mention of competencies for physicists with regard to a number of areas that the document says they should be involved in, whereas the radiation therapist will have completed documented competencies to gain the required skills and knowledge. This applies	Competences are a matter for the National Directory for Radiation Protection.

	particularly to inpatient positioning and stabilization, portal imaging and treatment planning.	
	Radiation therapists have gained expertise in the outlining of the various volumes on the treatment planning system. The radiation oncologist would approve the voluming undertaken by the radiation therapist but in many cases and centres the oncologist will not do the initial outlining. The oncologist can better utilize their time caring for the patient's well being.	Agreed. This is included in the subsection *Target Localisation and Simulation* in Section 8.1.2 of the revised Safety Guide.
	Complex planning can be performed by any radiation therapist as long as they are mentored and guided by an experienced and expert radiation therapist.	Agreed.
	The section of radiation incidents is of concern to the AIR. We believe that for expediency of incidences being reported and investigated they should initially be reported to the particular area eg. radiation therapy to the Chief Radiation Therapist etc. The incident can be dealt with and the appropriate professionals contacted for consultation in a timely manner. At a later date the incident can be reviewed by a group from all the professions in radiotherapy.	This should be addressed in the facility's generic plans/protocols for dealing with radiation incidents, as outlined in the Safety Guide.
	The AIR would like to see this area to also cover potential or near miss incidents or deviations. These incidents should remain anonymous when discussed in a wider context and that there is no stigma attached to reporting incidents. It is believed that if there is a blame attitude attached to this reporting there maybe a reluctance to report them.	The requirements for investigation and reporting of incidents are included in the Code. Also see previous response.
	Submission No. 18	
	This document misrepresents the current roles and responsibilities of the team members involved with radiotherapy in a number of areas. It concerns me that this document fundamentally alters professional roles toward a UK model in which the medical physicists and therapeutic radiographers have different role responsibilities to Australian ROMPs and Radiation Therapists.	See previous responses. The Safety Guide has been revised to focus on tasks to be performed , rather than which professional should do them, other than where the Code specifies that the tasks can only be performed by a particular type of professional.
	In general it appears to represent a "ROMPcentric" view and if it had to be followed to the letter, would severely impact on the capacity of a department such as ours to function. If the purpose of these guidelines is to ensure that all aspects of radiotherapy are carried out in a safe manner, it is what is done rather than who does it that is important provided the person has the required knowledge base and skills.	See previous responses.
	The following points refer to sections of the guidelines that I believe are too prescriptive in who should perform certain functions or are unclear in meaning.	See previous responses.
	It is recognised and appreciated that the Medical Physicists play an extremely necessary and important role in radiation protection. I strongly believe though, that the roles of the other professions have not been adequately acknowledged. I feel compelled to advocate the interests of	See previous responses.

	my profession, Radiation Therapists, and expect that many Radiation Oncologists will feel similarly disaffected. My major concerns are these. Firstly, that this document, though a Guide, could have the weight to negatively impact on the way that we currently function. Of more concern, it alters the respective roles of members of the radiotherapy team either by intent or implication and has the potential to be quoted in other contexts to the detriment of our profession.	
	Submission No. 19	
	The use of the words "hospital or clinic" should be avoided and the word "facility" used instead to be consistent with the Radiation Oncology Treatment Standards (in draft form being prepared by the AIR, the RANZCR and the ACPSEM).	Agreed. The words have been changed to use" facility" throughout.
	Submission No. 24	
	I am sorry I have not had the time to look at the draft Safety Guide until this last minute. I have examined it only briefly, but am surprised at this late stage considering previous comments and presumably corrections at the state of the draft.	
	I began to make comments, but soon realized I would need considerable more time than I had available to do the document justice. Below are some initial comments. I took the draft from the web page today, so I assume it is the latest version. It is dated August 2007. I have attached a WORD document of the comments as well as writing them below. Unfortunately I have only had time to comment on the first 12 pages.	Noted.
	Comments:	
	In general the structure of the document is hard to follow. For example, the subsection, "Education and Training", Line 617 is placed under the section 3.5 Radiation Safety Officer (RSO) despite the fact that the RSO is not mentioned once in the subsection or appears to have any relationship to it. The second paragraph of that same subsection has nothing to do with "Education and Training", but rather supervision. Again, the Heading "Commissioning and Equipment Servicing" Line 791 makes no mention of an RSO and in fact Line 795 -796 specifically states that this is delega5ted to a ROMP. There are several examples of where topics just seem to be thrown together in random fashion.	Agreed. The document has been revised to aid clarity of all sections. A new Section "Training" has been added (Section 13).
	In relation to structure, an additional level of numbering may improve the document. For example although lines 642ff indicates that "Shielding Design" and "Room Design Features …" are subsections of "Protection and Monitoring" it is not at all obvious from the structured outline.	See previous response. The document has been revised to aid clarity and remove duplication. Shielding and room design have been moved to a new section entitled "Site Requirements" (Section12).

	As a general comment there also appears to be a lot of repetition. For example under section 3.5 with respect to the requirement for the presence of a ROMP during LDR we find statements at Lines 407 – 408, Lines 422 – 423 and Lines 435 - 440 in relation to LDR, and again.	
	Submission No. 31	
	Generally it is felt that the Code and safety guides adequately cover the relevant area of medical radiation practice. There however appears to be inconsistencies in the way various sections are addressed.	Noted.
	An example of this is the treatment of radiation safety officers. In most safety guides it appears in the body of the document where as in the Diagnostic and Interventional Safety Guide it is an annex. Generic wording for common practice could be used within the safety guides.	See previous responses. The document layout has been changed to be similar in design to the other two Medical Safety Guides.
	Thank you for the opportunity for DECC to provide input into these documents.	
	Department of Environment and Climate Change (NSW) Comments on ARPANSA's Comments provided by DECC on the Code of Practice: *Radiation Protection in the Medical Applications of Ionizing Radiation*	
	Attachment 3	
	Comments on Radiation Protection in Radiotherapy Safety Guide	
	General Comment	
	The Safety Guide covers all areas of radiation safety in radiation therapy. There seems to be a bit of repetition throughout the Guide with information being provided in more than one place. The level of detail in certain area appears to be greater than required. Information could be consolidated in places. It appears to be long winded and overly complicated. The document requires editing to breakdown the long paragraphs into simple subclauses.	See previous responses. This has been taken into account in revising the document.