

## SUMMARY OF RF STANDARD REGULATORY IMPACT STATEMENT SUBMISSIONS AND RESPONSES.

The draft Regulatory Impact Statement on the RF Standard was released for public consultation on 26 October 2001, for a period of 4 weeks, closing on 23 November 2001. Eighteen submissions were received. The submissions and responses to those submissions are summarised in the table below:

No.	Summary of Comments Received	Response
001	<ol style="list-style-type: none"> <li>1) A legal status of the standard being developed by ARPANSA as a national standard is not clearly specified.</li> <li>2) The draft Standard does not clearly specify its place within Australian standardisation system (such as Australian Standards).</li> <li>3) Certain aspects (with emphasis on induction heating) are too imprecise which makes reliance on some of the standard requirements (as common reference) difficult.</li> <li>4) Open to interpretation (see eg 337-338).</li> <li>5) Document can involve costly measures that are difficult to predict and quantify in terms of a commercial burden.</li> <li>6) Document can involve too much reliance on external expertise such as consultancy potentially with subjective outcome (eg ln 805-808).</li> <li>7) The limits of RF exposure may be based on incomplete or guessing research outcome, or on selective research activities.</li> <li>8) Lack of exact measuring techniques and procedures. A limit setting standard, in our view, must be accompanied by a measurement standard.</li> <li>9) We could not find much in terms of comparison to other national standards.</li> </ol>	<ol style="list-style-type: none"> <li>1) &amp;2) The CEO of ARPANSA has the function of promoting uniformity in radiation protection. One way of assisting uniformity is the formulation of national codes and standards via the Radiation Health Committee. As with Australian Standards it is voluntary unless adopted in regulatory instruments by State, Territory or Commonwealth jurisdictions.</li> <li>3) Firstly, it should be noted that there is very little change in the draft standard from the previous standard (AS/NZS 2772.1(Int):1998) in the frequencies relevant to induction heaters. Secondly, it is acknowledged that users of industrial induction heating equipment may face particular problems with interpretation and implementation of the draft limits. ARPANSA agrees that a Code of Practice appropriate for this area of industry field would be desirable.</li> <li>4) A large effort was made to remove or clarify any obvious ambiguity from the document.</li> <li>5) A code of practice for the induction heating industry would help resolve these concerns.</li> <li>6) See 3). Development of a Code and a measurement standard (AS/NZS) would resolve this concern.</li> <li>7) The limits of the RF Standard are based on substantiated scientific data and are consistent with world's best practice.</li> <li>8) The proposed RF standard is not a measurement standard and it is not within its scope to prescribe measurement guidelines. Annex 5 was included in the document in order to provide supplementary information and to direct interested readers towards appropriate sources of information.</li> <li>9) Tables comparing the draft standard with ICNIRP and with AS 2772.1 (Int):1998 have now been included in Schedule 1 (Rationale) of the Standard, along with a statement on various</li> </ol>

		countries that are using the ICNIRP guidelines.
002	<p>1) Re: Option 1 – Self-regulation by the industry. This is not an option because industry cannot be trusted to regulate.</p> <p>2) Re: Option 2 – Adopt the proposed Radiation Protection Standard. A radiation protection standard is required, but not one that does not include or take into account the non-thermal effects of radiofrequency radiation. This draft standard does not even recommend a “precautionary approach” to exposure levels. It is only mentioned in an appendix. The proposed standard states that it’s aim is to achieve unnecessary exposure to radiation if it does not cost too much.</p> <p>3) Re: Option 3 – Adopt an International Standard without an Australian Radiation Protection Standard. This option is worse than adopting the Australian Standard. ICNIRP is a guideline and differs little from the proposed Australian Standard. It does not take into account the non-thermal effects of radiation. I am not aware of an international standard.</p> <p>4) None of the options are acceptable.</p>	<p>1) The adoption of the proposed RF Standard eliminates Option 1.</p> <p>2) The draft standard is based on the most current and substantiated scientific data. The possibility of non-thermal effects was considered in developing the standard. Research of bio-effects at low-levels is described in Annex 4. The Standard includes a precautionary clause (section 5.7(e))with information on the precautionary principle described in Annex 6.</p> <p>3) The adoption of the proposed RF Standard eliminates Option 3.</p> <p>4) Noted.</p>
003	<p>1) As with almost all other standards (Australian and International), the risks from lower level exposures are not adequately dealt with because there is still no conclusive information or agreement on causal links and levels of risk.</p> <p>2) Section 1.16 does include discussion about how the standard would not operate in isolation from Australia's legal framework, which Council assumes refers to common law and statutory law. Council also assumes that this means that there would be a requirement for a duty of care to be exercised and that the management of risk is also included in OH&amp;S legislation.</p> <p>3) Although the RIS refers to a conservative approach and to cost effective reduction of risk to workers and the public, it stops short of discussing Prudent Avoidance as a strategy for managing risk.</p> <p>4) The objectives of the Standard are very general and talk about reducing risk, but the RIS does not talk about what the existing levels of risk are or what level and types of risks are acceptable.</p> <p>5) The RIS provides a discussion of three options (although there is no discussion of how or why these are the three options that the RIS considers). Possibly there are more options that could have been developed and considered.</p> <p>6) Although Regulation will provide consistency and clarity with international guidelines there is no discussion of what is happening in Asia or</p>	<p>1) The possibility of risks from lower level exposures was considered and the review of research into bio-effects at low levels is given in Annex 4.</p> <p>2) Yes. The standard is also expected to be adopted by ARPANSA, ACA and other State/Territory regulators.</p> <p>3) Although the principle of Prudent Avoidance is not specifically mentioned, measures of the principle are discussed throughout the document. The principle of Prudent Avoidance is described in Annex 6 of the draft Standard.</p> <p>4) The RIS does talk about what the existing levels of risk are or what level and types of risks are acceptable throughout the document.</p> <p>5) The three options described are the only realistic alternatives to the status quo.</p> <p>6) There are now tables that describe the differences between the draft standard and ICNIRP and AS/NZS 2772.1(Int):1998, along with details of other countries that adopt ICNIRP.</p> <p>7) Agreement with option 2 noted.</p> <p>8) The partial body SAR limit has changed to bring it into line with ICNIRP. This is based on research that gives a better understanding of how SAR is distributed in the body than was</p>

	<p>developing Nations.</p> <p>7) Agrees with Option 2.</p> <p>8) The proposed ARPANSA standard includes an increase from the old AS/NZS of 25% in both occupational and public exposure limits.</p> <p>9) The proposed Standard also continues to rely on a limit and ignores concepts such as Prudent avoidance that has a potential to further reduce exposures at no or little extra cost.</p> <p>10) Is still concerned that documents of this type are not comprehensible to the general community.</p> <p>11) We need an indicator range of the spectrum type that will peg EMR emission levels from low to high and set equipment such as TV, PCs, mobile phones, medical devices, industrial machinery as well as items such as overhead power lines, domestic supply cabling and trams against the spectrum.</p> <p>12) A reference matrix could be prepared, if there isn't one already, to rate machinery and equipment in terms of EMR and distance, shielded and unshielded.</p> <p>13) We still don't know enough about emission levels from existing facilities, or what it means for having the levels from these facilities measured.</p>	<p>previously the case.</p> <p>9) The draft standard goes well beyond simply being a technical Standard. As such it doesn't just rely on a limit <u>eg</u> the draft states "<i>the principle of minimising, as appropriate, radiofrequency exposure which is unnecessary or incidental to achievement of service objectives or process requirements, provided this can be readily achieved at reasonable expense. Any such precautionary measures should follow good engineering practice and relevant codes of. The incorporation of arbitrary additional safety factors beyond the exposure limits of the Standard is not supported</i>".</p> <p>10) The RF standard is necessarily a very technical document, however, supporting documentation, written in plain English, has been provided on the ARPANSA web site to make it more comprehensible to the general community. In addition, a plain English guide in question and answer format is being prepared as an accompanying document to the standard.</p> <p>11) Not the role of the Standard.</p> <p>12) Not the role of the Standard.</p> <p>13) Both measurement and prediction methodologies about emission levels from existing facilities are well established. Results have been nationally and internationally documented <u>eg</u> Line P, Cornelius W, Bangay M and Grollo M "Levels of Radiofrequency Radiation from GSM Mobile Telephone Base Stations" Technical Report 129, ARPANSA available at <a href="http://www.arpansa.gov.au/pubs/eme_comitee/rfrep129.pdf">http://www.arpansa.gov.au/pubs/eme_comitee/rfrep129.pdf</a>.</p>
004	<p>1) Do not support the draft Standard.</p> <p>2) The Government should get legal advice on the insurance implications and make it available.</p>	<p>1) Noted.</p> <p>2) The ARPANS Act specifically contemplates in section 15 Functions of the CEO that the CEO will undertake a number of functions including the giving of advice and the promotion of uniformity in relation to radiation protection and nuclear safety. This section is explicit recognition by the Parliament of the Commonwealth of Australia that an agency of the Commonwealth, ARPANSA, has these functions. An expression of this function includes the promulgation of standards. An agency of the Commonwealth such as ARPANSA insures itself against any action that may arise as a consequence of a person relying on such advice. This is in the form of</p>

		professional negligence insurance. It must also be recognised that a successful action in tort necessarily relies on all elements of the action being established. Reliance on a standard promulgated by an agency of the Commonwealth may form only part of the surrounding circumstances which may have contributed to any loss or damage, for example, which is suffered by a plaintiff.
005	Supports Option 2	Support noted.
006	Supports Option 2	Support noted.
007	<ol style="list-style-type: none"> <li>1) Public concern that the new levels would allow for higher emissions from mobile phones was not addressed by the RIS at any point.</li> <li>2) The RIS's summary of the public submissions is cursory.</li> <li>3) The RIS does not address the content of the public submissions, either individually or as identified in a single sentence summary.</li> <li>4) The RIS fails to include the options identified in the public submissions, namely: <ul style="list-style-type: none"> <li>- Retaining Interim Standard AS/NZS27721, (INT) 1998 .</li> <li>- Adopting a more stringent standard than AS/NZS2772.1 (INT.) 1998, in regards to emission levels.</li> </ul> </li> <li>5) The RIS has ignored the fact that the public submissions reject the options (provided by the RIS).</li> <li>6) The RIS has limited its options to its own preference for higher emission levels.</li> <li>7) It is remarkable that the RIS should fail to consider the existing standard. It has repeatedly stated that there is no standard in place and that this is a situation which should not continue, yet fails to include for consideration the most recently operating standard.</li> </ol>	<ol style="list-style-type: none"> <li>1) See 2)</li> <li>2) A summary of submissions and responses will be placed on the ARPANSA web site.</li> <li>3) See 2).</li> <li>4) See 7).</li> <li>5) Only some of the public submissions reject the options provided by the RIS</li> <li>6) The RIS has outlined the only applicable options available. Options were not chosen on the predetermined basis of higher emission levels.</li> <li>7) The Standards Australia committee (TE/7) made several attempts to update the standard to take account of current scientific findings and compliance verification techniques. These necessary changes were unable to be achieved and the Interim Standard expired in April 1999.</li> </ol>
008	<ol style="list-style-type: none"> <li>1) COMMUNITY : <ol style="list-style-type: none"> <li>(a) The community needs an effective and more stringent standard</li> <li>(b) Need to take community concerns seriously</li> <li>(c) More public education</li> </ol> </li> <li>2) LEVELS INCREASE: <ol style="list-style-type: none"> <li>(a) Increase will have a significant health impact</li> <li>(b) Limits should not exceed those specified in AS/NZS 2772.1(INT)</li> <li>(c) The absence of an established mechanism in the RFR involvement with human health should not be used for increasing the levels</li> </ol> </li> <li>3) HEALTH EFFECTS:</li> </ol>	<ol style="list-style-type: none"> <li>1) The draft Standard is a health-based standard and as such its main aim is the protection of the public from RF emissions. Educating the public on EME is an issue for CEMEPHI (Committee on Electromagnetic Energy Public Health Issues).</li> <li>2) While there are some differences from the previous Standard, the limits are based on more recent scientific data and they clearly prevent known health effects.</li> <li>3) It has been known for a long time that RFR at high levels of exposure can potentially be harmful, however, at relatively low levels of</li> </ol>

<p>(a) RFR is a potentially harmful biological agent  (b) RFR is a cause for lowered health status  (c) We reject ARPANSA’s arbitrary statement that “... any undetected health effects must be small.” (Risks of RF Hazards 4.6 )</p> <p>4) ESTABLISHED MECHANISM:  (a) That there is as yet, no established mechanism of how cancer may result from RF fields is insufficient reason to</p> <ul style="list-style-type: none"> <li>• ignore the many reports of cancer cases occurring within the influence of RFR from RF transmitting antenna.</li> <li>• to avoid controlling unnecessary RFR exposure.</li> </ul> <p>5) LOW LEVELS:  (a) More research needed  (b) Working Group overlooked low level research</p> <p>6) PRECAUTIONARY APPROACH:  (a) Precautionary action should be taken based on reported cases of health effects  (b) The Precautionary Principle should be applied in any standard  (c) A precautionary approach should be applied to low levels of exposure.</p> <p>7) COSTING:  (a) The draft will place a financial burden on the community  (b) Compliance costs cannot be used as an argument not to reduce the levels  (c) Commercial considerations should not be used in setting the Standard</p> <p>8) OCCUPATIONAL EXPOSURE  (a) Safe standards should be applied equally in the community and in occupational environments  (b) OH&amp;S requires that workers are informed and protected from RFR.</p> <p>9) We consider the reference list cited in the RIS (at - 13 REFERENCES,) is inadequate to address a document as vital to community health as is the Draft Standard.</p> <p>10) We recommend that the public submissions be more thoroughly considered.</p> <p>11) Exposure to RFR may impact adversely upon the health of those vulnerable members of the community i.e., the very young, the adolescent, pregnant women and the elderly and infirm, is probable and must be addressed and opened for public comment.</p> <p>12) Labelling of goods and warning signs on RF transmission sites is imperative in the interests of public health.</p> <p>13) As those levels below 3kHz are not addressed in the</p>	<p>RF exposure the evidence for production of harmful biological effects is ambiguous and unproven. It is a very arbitrary statement to say that RFR is a cause for the lowered health status of humans. The statement made in (Risks of RF Hazards 4.6) is not arbitrary but rather it establishes what the findings of epidemiological studies tell us about low level RF and associated health effects. These are reported in detail in Annex 3.</p> <p>4) The possibility of carcinogenic effects of exposure to RF fields has received considerable attention in the last 20 years. Studies have examined the possibility that RF energy may cause DNA damage or influence tumor promotion. The balance of evidence suggests that exposure to RF fields is not mutagenic and therefore unlikely to act as an initiator or promoter of carcinogenesis.</p> <p>5) Low level effects research is continuing. The possibility of non-thermal effects was considered by the Working Group and the review of research into bio-effects at low levels of exposure is given in Annex 4.</p> <p>6) The draft Standard has adopted health-based limits based on substantiated scientific research. The draft Standard also contains a precautionary clause. Additional arbitrary precautionary factors that will undermine the science will not be applied.</p> <p>7) The draft is a health-based standard however it is a requirement of the COAG Guidelines that the costs and benefits of any proposed national standard be evaluated.</p> <p>8) The draft standard adheres to the case for appropriately safe standards in the general community applying equally to workplace environments. OH&amp;S issues are covered in section 5 of the draft.</p> <p>9) In addition to the documents cited in the RIS, there are extensive reference and bibliography lists in the draft Standard, including the Schedules and the Annexes.</p> <p>10) The public submissions were thoroughly considered by the Working Group developing the Standard and responses were drafted addressing the points expressed in the submissions.</p> <p>11) The purpose of the draft Standard is to set the exposure levels so as to avoid any possible harmful effects. These levels have been established by taking into account the most</p>
---	--

	<p>Draft Standard we disagree with the statement “the Draft Standard addresses RF exposure across the spectrum and applies to the full range of activities that use Radiofrequency Fields (RF)” - The “full range” of RF energy includes the lower levels of RF - below 3kHz - on which many appliances and devices operate must be addressed.</p> <p>14) Option 2 cannot be accepted in its present form.</p>	<p>vulnerable members of the community (although it is not always possible to accommodate hypersensitivity) and include the possibility of resonance phenomena.</p> <p>12) This is an issue for the regulators.</p> <p>13) Frequencies below 3kHz are classified as ELF and are beyond the scope of the Standard. A separate standard will be developed for this frequency range.</p> <p>14) Noted.</p>
009	<p>1) Agrees that Option 2 should be adopted.</p> <p>2) The standard is a good basis to ensure the health and safety of employees who work in and around RF fields and the general public. Industry should already be complying with the previous standard, therefore the increase in costs to adhere to this standard should be minimal.</p>	<p>1) Agreement noted.</p> <p>2) Comment on minimal increased costs noted.</p>
010	<p>1) Recognises the merit of minor technical amendments and numerous clarifications that have enhanced the ICNIRP document as a more comprehensive and workable standard.</p> <p>2) Caution has to be exercised to ensure that what is technical, what is discussion or comment, what is recommended practice, and what is legally enforceable, is clearly distinguishable.</p> <p>3) Interpretation of “should” and “must” not clarified.</p> <p>4) Requests clarification on whether “agreed” means agreed by the ARPANSA working committee, agreed by the government or regulator, agreed by general consensus in the industry, or agreed in some other sense. The failure to specify which agency is the appropriate arbiter can be expected to incur significant legal costs in resolving disputes between industry, government regulators and councils.</p> <p>5) The word “evaluation” is not defined but it is presumed to mean calculations or any other accepted engineering practice. Would prefer that this were explicitly stated for clarity.</p> <p>6) Concerned that the Standard’s approach to risk management in occupational exposure has been formulated without proper regard to the existing operation of laws in this area, or the recognition of certain relevant Australian Standards.</p> <p>7) It is not clear on what basis the RIS can state that no modifications will be required to products to comply with the requirements. Further, to state that industry will be under no more onerous an obligation than already exists under occupational health safety and environmental laws raises a question as to the need for the precautionary approach at all.</p>	<p>1) Noted.</p> <p>2) Changes have been made in the draft Standard.</p> <p>3) Changes have been made in the draft Standard.</p> <p>4) The particular sentence referenced containing the word “agreed” has been deleted in the draft Standard.</p> <p>5) Noted.</p> <p>6) The section describing risk management (Section 4) has been changed quite significantly on the basis of comments by NOHSC.</p> <p>7) The statement that no product modifications are likely was on the basis of expert advice from members of the working group. In addition, section 5 of the draft standard has been extensively re-written so that the precautionary approach now applies to public exposure and risk management principles apply to occupational exposure. However, the paragraph in the RIS comparing precautionary approach to OH&amp;S laws has been removed to avoid confusion.</p> <p>8) The paragraph in the RIS comparing precautionary approach to OH&amp;S laws has been removed to avoid confusion.</p> <p>9) The intention was to state that the existing body of laws do not ‘specifically’ deal with the problem of RF radiation and the particular paragraph in the RIS has been changed to reflect this.</p>

<p>8) The RIS makes no attempt to evaluate the effectiveness of this existing, broad ranging regulatory regime on the issues it is seeking to address through the introduction of the precautionary principle.</p> <p>9) There is absolutely no basis for the assertion in the RIS at 4.1 [is actually 4.14] (in so far as it relates to the precautionary principle) that “the existing body of health and safety laws do not adequately deal with the problems of RF radiation”.</p> <p>10) Despite the general application of the statutory obligations, the variation in the more detailed plant regulations and codes of practice can create an unlevel playing field and inconsistent application of standards.</p> <p>11) The inappropriate selection or screening of staff for RF duties can incur significant costs on both employer and employee.</p> <p>12) Questions whether “<i>an appropriate medical specialist knowledgeable in the medical effects of RF exposure</i>” is really required for assessments of metallic implants and implanted medical devices, as mandated in Annex 7.</p> <p>13) For medical examination after suspected over exposure, Section 5.6 also requires a “<i>medical assessment in conjunction with a medical specialist knowledgeable in the medical effects of exposure to RF fields</i>”. Are advised that there is no category of medical registration in Australia (or elsewhere) which recognises such medical specialists. It is therefore an instruction or recommendation which cannot be achieved by any employer without further clarification, and it is considered unlikely that any medical authority would endorse it.</p> <p>14) There appears to be an excessive emphasis placed on whether females are pregnant.</p> <p>15) The present draft fails to recognise the accepted methods of medical practice for eye injury patient care in Australia, leading to the situation of imposing significant costs on employers which provide no demonstrated benefit for employees.</p> <p>16) Believes the present four screening questions in Annex 7 relating to special risk are inadequate or inappropriate. Only one of the four (those with metallic implants) is a valid and necessary question for placement purposes.</p> <p>17) Clause (b) in Annex 7 states that “employers of RF workers must maintain <i>accurate estimates of RFR exposure</i> in respect of both <i>individual workers</i> and <i>particular tasks</i>.” This requirement is unachievable,</p>	<p>10) Beyond the scope of the Standard. This is a matter for each regulator. In addition, one of the functions of the CEO of ARPANSA is to promote uniformity of radiation protection practice amongst the Commonwealth, State and Territory regulators.</p> <p>11) Questions on the placement examination are consistent with what is recommended by occupational medicine.</p> <p>12) Questioning of this medical issue is noted.</p> <p>13) The sentence states a medical specialist <u>knowledgeable</u> in the effects of RF. The word “knowledgeable” recognises that there isn’t such a category of medical registration.</p> <p>14) View is noted.</p> <p>15) See 11)</p> <p>16) See 11)</p> <p>17) The word ‘accurate’ has been replaced by ‘adequate’ in the Standard.</p> <p>18) The rationale for the precautionary clause is provided in Annex 6.</p> <p>19) The RIS does provide a rationale and Annex 6 provides reasoning and background for a precautionary approach.</p> <p>20) Company has not provided the ‘oft-cited’ references.</p> <p>21) The RIS was deemed by the Office of Regulatory Review to provide an adequate analysis. Further, the COAG Guidelines provide for a qualitative analysis to be undertaken where there is insufficient information for a quantitative analysis.</p> <p>22) Company has not provided any information on the ‘unnecessary increased costs’ referred to, and how this would impact on rural Australia.</p> <p>23) The inclusion of the precautionary clause is there to protect the health of people from any unknown effects. Therefore its inclusion introduces a beneficial and not an adverse outcome for the community.</p> <p>24) The inclusion of a precautionary clause will increase public confidence towards a protective Standard.</p> <p>25) Agreed.</p>
---	--

	<p>may result in the imposition of significant costs on the industry, has no practical value, has no precedent in any other national or international standard, and must therefore be deleted.</p> <p>18) No reasonable evidence is offered to support the need for the precautionary clause on health and safety grounds in either the standard or the RIS.</p> <p>19) Lack of rationale for precautionary approach for low level RF exposures.</p> <p>20) An oft-cited criticism of precautionary approaches is the lack of clear definition in its terms.</p> <p>21) The draft RIS makes no attempt to assess the cost impacts of the precautionary approach, as required by the ORR guidelines.</p> <p>22) Cannot support the unnecessary increased costs for the provision of basic telephone and communications services to rural Australia that such a regulatory measure may introduce.</p> <p>23) A regulatory measure such as the precautionary approach, which delays or denies access to the social, economic and public safety benefits of radio technology will have some adverse impact on the community.</p> <p>24) The inclusion of the precautionary approach would encourage inappropriate risk behaviour.</p> <p>25) The adoption of the 1998 ICNIRP Guidelines as the technical basis for the standard has been a welcome step on the road to harmonisation with the rest of the world.</p> <p>26) Is of the opinion that some parts of the standard which deviate from international practice are serious matters for concern.</p>	<p>26) The draft does not differ from international practice.</p>
011	<p>1) ARPANSA has requested comment on a Draft RIS which recommends the adoption of Option 2 without giving respondents the benefit of knowing the contents of the standard to be adopted. As a consequence, the company is unable to provide fully informed comment to ARPANSA on this important matter.</p> <p>2) The RIS fails to define key words so that readers can gain a clear understanding of their meaning. In particular, the meaning of “high level RF“ and “low level RF” have not been defined making it unclear as to its meaning. It is our view that it is ambiguous.</p> <p>3) The RIS includes a number of value statements which we understand are at odds with the proposed standard. In particular statements which categorically call for a need for a precautionary approach without qualification, refer 2.2, foreword</p>	<p>1) Noted, however the public consultation version is still available.</p> <p>2) A glossary of terms is included in the draft Standard.</p> <p>3) Section 2.2 of the RIS has been modified.</p> <p>4) The last sentence of section 2.2 in the RIS has been deleted thus removing any contradiction.</p> <p>5) Support for option 2 noted.</p>

	<p>to the Draft Standard lines 39-42 and the introduction to section 5. It is our view that such statements set up a virtually impossible regime for infrastructure providers. While compliance is required to the standard, the RIS has status as an interpretation of the standard or a summary of its intent and could be used as the basis for interpretation in say any future court cases. It is our understanding that the standard in fact does not support any approach which seeks the incorporation of arbitrary additional safety factors beyond the exposure limits - should be reflected in this RIS.</p> <p>4) Within the Draft RIS there appears to be some inconsistency regarding the approach at the “low levels” of RF, note paragraphs 1.10 and 2.2. The first statement appears to endorse, in our view correctly, the approach we understand has been taken in the standard reflecting the state of objective knowledge. Paragraph 2.2 would seem at odds leaving open a requirement for an “uncertainty” margin above the standard set on the assumptions in paragraph 1.1.</p> <p>5) Supports Option 2.</p>	
012	<p>1) The RIS talks of broad industry based consultation and the composition of the panel, but does not appear to have had representatives from the general manufacturing industry that use high frequency for induction heating and welding.</p> <p>2) The RIS does not comment at all on our request to develop a standard for frequencies to 1 MHz. The Senate enquiry was prefaced as RF in the telecommunications industry, whereas the low end of the draft has been maintained at 3KHz which cuts across our usage range. We also have 400 Hz welders and various frequencies up to 3 KHz which are not addressed. Our OH&amp;S focus is for all our equipment and we require guidelines that are directly applicable.</p> <p>3) The draft standard maintains basic restriction levels which are difficult to measure in the workplace. This renders the standard of little use when addressing specific OH&amp;S and compliance issues.</p> <p>4) Para 1.7 - The Stewart Report is telecommunications specific. Mobile telephones are mentioned several times in the RIS because they are of broad public concern but issues with mobile telephones cannot be extrapolated to other industries.</p> <p>5) Para 1.14 - The final sentence is not accurate as we believe that the differences between the old interim AS and the draft standard will have an impact on our businesses. This was stated emphatically in our comments on the draft standard.</p> <p>6) Para 2.4 - The description of externalities uses as an example RF Heaters and welders. As a major user</p>	<p>1) The induction heating and welding industries were consulted as part of public comment on the draft.</p> <p>2) The Radiation Health Committee has agreed to the development of a standard for ELF covering 0-3 kHz. This work will commence on completion of the RF Standard.</p> <p>3) Agreed, however these issues are to be addressed in the proposed code of practice for the induction heating industry.</p> <p>4) Yes, mobile phones are mentioned in the RIS because they are of broad public concern, however the RIS and the draft standard do not extrapolate these issues to other industries.</p> <p>5) There is very little change in the draft standard from the previous standard (AS/NZS 2772.1 (Int):1998) in the frequencies relevant to induction heating.</p> <p>6) The example used for externality has been changed.</p> <p>7) The absence of research does not necessarily imply a non-issue in relation to health effects.</p> <p>8) The RIS does not recommend an industry based Standard. On the contrary it specifies that the draft is a broad based standard to protect against health effects and spans the entire RF spectrum. It would be more appropriate for industry-specific requirements to be incorporated in codes of practice rather</p>

<p>of induction heating and welding, we have seen no evidence where there are any community costs associated with the RF. The fields generated in our industry are bound very closely to the coils and have a very low probability of influencing any person other than the immediate workers. Australian industry is generally very health conscious, leading us to believe that if there was a connection between general health issues and RF we would have seen some evidence over the 40 years of using the equipment.</p> <p>7) Para 4.6 - Most research appears to be either power frequency based or in the upper telecommunications and microwave area. It should be noted that the absence of research in the induction heating / welding frequencies implies extremely low incidence of actual or anecdotal health issues.</p> <p>8) Para 7.1, 7.2 and 7.4 - These paragraphs draw a long bow to the need for an Industry Standard and equipment specific National Regulation. In our previous submissions, we commented on our belief that many users of induction heating equipment were not aware of AS 2772, but were still able to maintain work places that did not expose workers to harmful electromagnetic fields. The wording of paragraph 7.1 does not reflect what is happening in industry. Paragraph 7.4 continues with the broad based assumption that commercial objectives will override workers health issues. Industry is well versed in the use of risk assessment for determining what course of action to take and is supported and guided by the National Safety Council of Australia.</p> <p>9) Para 7.18 - Company has spent considerable sums of money modifying imported equipment to meet AS 2772, and regularly improving the shielding and safety procedures as the various editions of AS 2772 have devolved. This paragraph may be applicable to mobile telephones but is definitely not applicable to welders and induction heaters.</p> <p>10) Para 7.20 - This paragraph plays down the impact of the draft standard on our industry. There is no evidence that meeting the basic restrictions will improve worker health, particularly since there is little (if any) evidence of ill health. Company believes that it can maintain a safe workplace and comply with OH&amp;S laws without the draft standard. The draft standard will draw a line in the sand to designate safe / unsafe, but OH&amp;S legislation will move that line into the context of the work situation. This is further muddled by the inability of typical industry electricians to measure and interpret the proposed basic standards.</p> <p>11) Para 9.1 to 9.3 - Consultation is implied, but there is little reference to the submissions on the draft standard and no evidence that the submissions have</p>	<p>than the standard.</p> <p>9) As there is very little change in the draft standard from AS/NZS 2772.1 (Int): 1998 at the frequencies used in induction heating and welding, the statement in the RIS that there should not be increased compliance costs is valid. In addition, there is a change of emphasis in the draft standard such that it allows calculation of compliance with the basic restrictions rather than measurement of more restrictive field strength- based reference levels.</p> <p>10) The objective of the standard is to <u>prevent</u> health effects and there is ample evidence provided in the rationale as to the risk of health effects occurring if the basic restrictions are exceeded.</p> <p>11) The RIS does not comment on the quality or timeliness of the submissions, but gives a brief summary of the issues raised, and how the consultation period was managed. This is required under COAG guidelines. The submissions to the draft Standard were considered by the Working Group and a large number of amendments were incorporated accordingly. The RIS has been amended to include the main issues raised in the public submissions to the draft RIS.</p> <p>12) The next sentence states: "Earlier review would be undertaken if there are identified problems in the implementation of the standard or if international or national radiation protection objectives change, or if there is new information from international research in the RF field".</p> <p>13) Noted</p> <p>14) The standard's objective is to prevent health effects across the RF spectrum. The suggestion to segment the standard across industry groups is impractical and would add compliance costs in maintaining a range of standards, and would also raise the possibility of inconsistent standards being applied in different industries.</p>
--	---

	<p>or are being acted on. The make up of the Committee does not appear to have any representatives from the low frequency user groups. We believe that the comment in Paragraph 9.3 about the quality and timeliness of the public submissions is inappropriate in this Regulatory Impact Statement. The one fact analysed (comments on cost implications) is wrong because I have read two submissions and both comment on the cost effects of implementation. The submission also covered the competitive disadvantage against imported products.</p> <p>12) Para 12.2 - This paragraph includes an escape clause, but to plan to review the draft Standard in 10 years seems too long in a rapidly changing technology (mobile phone and microwave users). The AS2772 was revised every 3-4 years.</p> <p>13) All paragraphs - Insignificant point - the numbering does not line up with the numbering on the headers.</p> <p>14) Company does not believe that the Regulatory Impact Statement has clearly demonstrated the need for regulation or identified available options. In particular the option of segmenting the bandwidth so that Regulations can be tailored to specific industry groups without becoming administratively onerous has not been examined even though strongly recommended by the Senate Enquiry and our submission. Other prime aims of the RIS have been dealt with superficially.</p>	
013	<p>1) We believe that the existing draft is not an appropriate standard and that regulation of this document is not in the best interests of the Australian public. Accordingly, we recommend that the draft standard not be implemented and that the existing exposure limits, as regulated by the ACA, be retained.</p> <p>2) The standards setting process is flawed.</p> <ul style="list-style-type: none"> <li>• At the working group there was considerable input from attendees with the official status of “observers” who have or had strong connections to industry.</li> <li>• While observers at working group meetings may have not been officially designated members of the working group, they nevertheless had exactly the same opportunities as members of the working group, particularly as no vote was taken by members of the working group.</li> <li>• It was most inappropriate to use as a starting point for the discussion the failed TE7 draft document. It was precisely because there were flaws in this document that it was not endorsed by the Standards Australia TE7 Committee.</li> <li>• No vote was ever taken on the draft document.</li> </ul> <p>3) The scientific basis of the draft is flawed ie</p>	<p>1) The existing exposure limits as regulated by the ACA only apply to communications equipment and do not regulate the span of the RF spectrum.</p> <p>2)</p> <ul style="list-style-type: none"> <li>• There were 5 observers in the Working Group developing the draft Standard and none of them has or ever had connections to industry: 2 of them were from ARPANSA, 1 from NOHSC, 1 from the Royal Brisbane Hospital (representing the ARPANSA Radiation Health &amp; Safety Advisory Council) and 1 from the ACA.</li> <li>• The draft Standard was developed by a Working Group and not a Committee. Decisions were taken upon consensus of the WG participants. Where consensus could not be reached different options were presented to the Radiation Health Committee for the final decision.</li> <li>• Even though the TE7 draft was not endorsed by Standards Australia, its content was seen as an appropriate starting point.</li> <li>• The draft Standard was developed by a Working Group and not a Committee. Decisions were taken upon consensus of</li> </ul>

<ul style="list-style-type: none"> <li>• Premise 1 Heating is the only health risk.</li> <li>• Premise 2 The body can safely absorb 4 W/kg</li> <li>• Premise 3 Parts of the body can safely absorb 100 W/kg.</li> <li>• Premise 4 “Safety factors” provide additional protection</li> <li>• Premise 5 We can average exposure over time and mass of body tissue</li> </ul> <p>4) Questions raised:</p> <ul style="list-style-type: none"> <li>• Can children absorb 25 times as much radiation as adults at the head?</li> <li>• Do all people respond in the same way, or do we absorb radiation differently?</li> <li>• Can pregnant women dissipate heat as effectively?</li> <li>• Do we dissipate heat as well in summer or after exercise?</li> <li>• How do we know that adverse health effects don’t occur if only parts of the body (particularly the brain) are heated to 100 W/kg?</li> </ul> <p>5) Para 1.7 - “Many European countries also adopt ICNIRP:1998.” This is no justification for introducing an inappropriate standard. Many overseas countries have also adopted more stringent application of standards, including Switzerland and Italy. Australia would do better to emulate this more precautionary approach.</p> <p>6) Para 1.8 - There is, in reality, no difference between public and occupational exposure (see above).</p> <p>7) Para 2.2 - The draft standard does not reflect the “precautionary approach to low levels of RF exposure” the regulatory impact statement claims is needed.</p> <p>8) Para 3.1 - The desired objective that “occupational groups and the public are restricted to safe levels” is not met by the draft standard which does not provide any protection from athermal levels of exposure.</p> <p>9) Para 3.3 - The draft standard does not “foster public confidence in the measures taken to protect the health and safety of” Australians.</p> <p>10) Para 4.1 - Maintaining the status quo is preferable to introducing the draft standard which increases radiation exposures – by four times at some frequencies. Many submissions specifically recommended against increasing exposure, including that of the NSW Cancer Council.</p> <p>11) Para 4.2 - It is a mistake to assume that “The major concern is that of heating effects...”</p> <p>12) Para 4.8 - An admission that the RF risk is likely! It will be many years before we understand the full ramifications of this new technology, operating at a</p>	<p>the WG participants. Where consensus could not be reached different options were presented to the Radiation Health Committee for the final decision.</p> <p>3) The proposed limits are more detailed than implied here. The peak SAR limit effectively constrains whole body exposure and has been introduced as a basic restriction in the draft standard. Averaging times must be specified. (eg refer <a href="http://www.arpansa.gov.au/mw_averaging.htm">http://www.arpansa.gov.au/mw_averaging.htm</a> ). Measurement averaging times for both WBA SAR and spatial peak SAR are based on the relevant thermal equilibration time, consistent with heat flow parameters. Averaging times for other limits are consistent with relevant mechanisms. For example an averaging time of 100 microsecond corresponding to fastest nerve reaction period is required to protect against low frequency electro-stimulation effects.</p> <p>4)</p> <ul style="list-style-type: none"> <li>• The effect of RF on immature systems is an area of continuing research, however no consensus currently exists in the literature as to whether children are more vulnerable than adults.</li> <li>• Absorption of RF can vary depending on the geometry of the body. Research on varying absorption dependent on genetic makeup is inconclusive.</li> <li>• The exposure of pregnant women is a special case. At the level of the occupational exposure limits there is no scientific evidence that the foetus is at more risk from RF field exposure than the mother, but the data is limited. However, there is evidence that exposure to field strengths substantially above the occupational exposure limits may cause harm to the foetus. Because the pregnant woman has her physiological systems for heat regulation already under stress, it is considered that the limits for occupational exposure may not provide a sufficient safety factor. The draft Standard limits the exposure of a pregnant woman to general public limits and therefore provides an additional safety margin so as to minimise any risk from accidental exposure where the foetus could be exposed to high field strengths.</li> <li>• Yes, the human body dissipates heat just as well in summer or after exercise provided the RF exposure is below the draft limits.</li> <li>• Adverse health effects do occur if individual parts of the body are exposed to</li> </ul>
--	--

<p>range of frequencies and powers, having a synergistic effect with chemicals - upon people with different levels of sensitivity. Already there are indications that some people are being adversely affected by mobile phones and others by mobile phone antennas.</p> <p>13) Para 4.9 - This is not a very convincing argument! An inadequate standard is of no value to “workers, consumers and the general public”!</p> <p>14) Para 4.10 - In order to minimise “potential social costs” of RF exposure, it is necessary to implement a standard that genuinely protects public health. The existing draft does not.</p> <p>15) Para 4.13 - This section is extremely misleading. It suggests that failure to introduce the present draft standard will result in no protection for, among others, the “8 million users in just the mobile phone industry”. This is not true. While there is currently no “standard” per se, the ACA has mandated exposure levels. This draft would actually make the situation worse for mobile phone users by allowing them to be exposed to more radiation than at present. It is hardly fair to claim to be restricting radiation exposures, when the intention of the draft is to relax them!</p> <p>16) Para 5.1 - The decision to intervene is based on erroneous logic. Believe that it would be more appropriate to retain the existing exposure limits rather than implement the draft standard.</p> <p>17) This document is an interesting exercise in the application of dubious logic and flawed arguments, in the thin guise of justification, to achieve a predetermined outcome.</p> <p>18) There can be no justification for increasing public exposure levels at a time when the public and workers are clamouring for precaution. There can be no justification for increasing public exposure from the perspective of protecting public health.</p> <p>19) The only possible justification for increasing public radiation exposures can be to accommodate industry – and industry has admitted that it needs a more relaxed standard in order to operate its third generation technology!</p> <p>20) In order to win the confidence of the public, the government must implement a standards-setting process that is fully equitable, honest, transparent and independent.</p>	<p>100 W/kg. However, under the proposed spatial peak limit they wouldn't be exposed to those sorts of levels.</p> <p>5) This para does not imply that the ICNIRP guidelines were adopted because other countries have them but rather it is trying to show that countries adopt the ICNIRP guidelines because they are scientifically sound.</p> <p>6) The draft Standard applies the two-tier system ie occupational and general public exposure. Occupational exposure is permitted only after thorough risk analysis has been performed and the appropriate risk management and control regimes are in force (see Section 5 of draft). General public exposure is less controlled and in many cases members of the general public are unaware of their exposure to RF fields. Moreover, individual members of the general public may be continually exposed and cannot reasonably be expected to take precautions to minimise or avoid exposure. These considerations underlie the application of more stringent exposure restrictions for the general public than for the occupationally exposed population.</p> <p>7) The latest draft of the Standard includes a precautionary statement in the mandatory section of the Standard (see 5.7(e)), as well as an Annex discussing precautionary approaches.</p> <p>8) The health implications of RF at low levels are not completely known and therefore research dealing with the subject could not be used for setting the levels of the basic restrictions in the Standard.</p> <p>9) Disagreed.</p> <p>10) Maintaining the status quo means in effect not having a standard. While ARPANSA mandates the Interim Standard for Commonwealth entities, and ACA uses some limits from the Interim Standard in its requirements, the Interim Standard did not generally applied to protect workers and the public from exposure to RF. This option was eliminated at the stage of considering the “need to intervene”.</p> <p>11) Currently the state of the science indicates that.</p> <p>12) We can only base standards on the available evidence.</p> <p>13) Noted The draft Standard is based on the most</p>
--	---

		<p>up to date scientific evidence and does provide an appropriate level of protection.</p> <p>14) See 13).</p> <p>15) The RIS discusses in some length why the current situation is inappropriate. Paragraphs 7.16 and 7.17 of the draft RIS discussed why the proposed standard provides adequate protection.</p> <p>16) See 15)</p> <p>17)Opinion noted.</p> <p>18)The limits are based on the most recent and substantiated evidence.</p> <p>19)The limits were not raised to accommodate industry. The limits in the draft Standard are actually more scientifically correct than previous ones.</p> <p>20)The standards setting process is fully equitable, honest, transparent and independent.</p>
014	<ol style="list-style-type: none"> <li>1) Is an omnibus standard that has a focus on RF exposure the appropriate instrument for the metals industry.</li> <li>2) The frequency range of application of the standard 3kHz – 300 GHz arbitrarily cuts across the application frequency range.</li> <li>3) The standard does not allow time-averaging of exposures (&lt; 100kHz).</li> <li>4) Application of the Basic Restrictions is difficult and may be impractical in an industrial environment.</li> <li>5) The general nature of the standard may not attract the attention of smaller firms in the Metals Industry. Furthermore, the requirements may not be understood.</li> <li>6) There is a good case for developing a Code of Practice for induction heating applications. Appropriate assessment procedures should be developed that account for the nature of the exposures and for the frequencies involved. The question of how exposure assessments against the Basic Restrictions are to be made could be addressed.</li> </ol>	<ol style="list-style-type: none"> <li>1) A Standard to cover the frequency range 0-3 kHz is also proposed. In addition, ARPANSA agrees that it would be appropriate for a Code of Practice to be developed for this area of industry.</li> <li>2) See 1)</li> <li>3) Time-averaging is inappropriate below 100 kHz because the biological mechanism is neuro-stimulatory effects, which are produced by induced/contact currents that have an immediate effect.</li> <li>4) Basic restrictions are not measurable, however, magnetic field strength can be measured and instantaneous induced currents calculated accordingly allowing compliance to be determined.</li> <li>5) It will be an issue for regulators to bring the requirements to the attention of the relevant industries. It is also proposed to produce a plain language guide to the Standard in question and answer format, as well as make considerable supporting information available via the ARPANSA web site.</li> <li>6) Agreed.</li> </ol>
015	<ol style="list-style-type: none"> <li>1) The timeframe in which to respond to the RIS was inadequate to allow for proper consultation with other interested New south Wales Government agencies</li> </ol>	<ol style="list-style-type: none"> <li>1) The comment period met the minimum required under the COAG guidelines. The draft Standard itself had also been released for a period of over 2 months.</li> </ol>

<p>2) The proposed ARPANSA Standard adopts a precautionary approach to low-level radiofrequency radiation exposure that could require industry to ensure that their activities do not pose undue risks to health and safety of employees. It is claimed that these requirements are no more onerous than existing occupational health and safety obligations, but no evidence is included to support this opinion.</p> <p>3) One area of activity that would have been amenable to quantitative studies is that of radiofrequency welding (sections 1.12(c) and 7.2), where shielding would have to be installed to protect workers from exposure to radiofrequency fields in this industry. However, the draft RIS makes no attempt to quantify the size of this industry or the effect that shielding would have on compliance costs.</p> <p>4) The preferred option includes the continuance of the current radiofrequency emission working group that developed the ARPANSA Standard, to monitor research in this rapidly developing field of science and review the Standard as required. No costs for maintaining this working group and reissuing the standard is included in the RIS. It is expected that ARPANSA should reasonably be able to quantify these costs.</p> <p>5) The draft RIS concludes by recommending adoption of the ARPANSA Standard as <i>'the compliance costs to industry are outweighed by its benefits'</i>. However, none of the compliance costs or benefits are quantified anywhere in the draft RIS.</p> <p>6) It is our view that the draft RIS has not been completed in accordance with COAG Guidelines since no attempt has been made to quantify any of the costs or benefits, even in the case of those costs and benefits that would be expected to be readily available to ARPANSA. Since the draft RIS is qualitative rather than quantitative, its acceptance could lead to adoption of the Standard by the New South Wales Government without knowing whether this is the most efficient outcome. In addition, the draft RIS would not satisfy the requirements for adoption into the National Directory for Radiation Protection.</p> <p>7) The current draft RIS is not acceptable and a quantitative RIS should be undertaken in accordance with the COAG Guidelines. This should include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li>• The regulatory costs to Commonwealth and State bodies;</li> <li>• Costs of maintaining the proposed working group to review the Standard;</li> <li>• Compliance costs to industry, including the costs of the proposed reduction of occupational exposure to pregnant employees; and</li> </ul>	<p>2) The paragraph in the RIS comparing the precautionary approach to OH&amp;S laws has been removed to avoid confusion.</p> <p>3) &amp; 5) - 8) ORR determines whether an RIS meets COAG requirements, and they have advised that the analysis is appropriate. The RIS has been prepared in accordance with the COAG Guidelines, as these guidelines do make provision for qualitative analysis.</p> <p>4) There is no proposal to continue the existing working group, and as such no costs for this are included in the RIS. It will be the role of the Radiation Health Committee (an existing standing committee funded by ARPANSA ) to advise on the need to review the standard.</p>
---	--

	<ul style="list-style-type: none"> <li>Benefits to the community of the regulation of radiofrequency exposure, either directly or in terms of the estimated public acceptance of the options affecting industry.</li> </ul> <p>8) If the benefits cannot be quantified, the cost-effectiveness of the proposed options should be examined.</p>	
016	<p>1) The ARPANSA standard must be applied with equal rigor, and without discrimination, to all sources of radiofrequency (RF) exposure. However, proponents of precautionary policies are particularly focused on mobile -telephony technologies.</p> <p>2) Endorse Option 2 as set out in the RIS but could not support any arbitrary interpretations of the phrase "unnecessary or incidental to achievement of service objectives or process requirements". Any interpretations should be articulated as a separate policy (WHO approach) - an example of this is the draft ACIF Code <i>The Deployment of Radiocommunications Infrastructure</i> (DR2 ACIF C564).</p> <p>3) Would support the development of specific codes of practice for other uses of RF energy.</p>	<p>1) The draft Standard is intended to apply across the whole RF spectrum with equal rigour and without discrimination.</p> <p>2) Endorsement of option 2 noted. It is agreed that codes such as the ACIF code are an appropriate means for standardising interpretations of precautionary approaches.</p> <p>3) Agreed.</p>
017	<p>1) While generally agrees with the Draft Regulatory Impact Statement, believes that it contains several anomalies.</p> <p>2) The new standard will have minimal impact on the industries involved as the only major change from the 1998 standard is an increase in the spatial peak exposure levels at high frequencies.</p> <p>3) Section 1.13 of the RIS and several parts of the standard refer to the fact that the standard applies to "occupational groups and the general public (of any age or health status)". However, section 4.3 notes that disease and medication can affect the body's ability to cope with exposure. Also, in Schedule 1 of the draft standard, when referencing levels from various studies it refers to "healthy adults" or "healthy males" Thus, saying that the standard applies to "occupational groups and the general public (<b>of any age or health status</b>)", is just not true and leaves the government open to possible litigation should it be able to be proven in the future that a baby or a person with, for example AIDS, were adversely affected by the levels in the standard - especially the spatial peak levels.</p> <p>4) Agree very much with the statements in 1.14 and 1.16 but I feel that the government has failed it's duty of care in the past in informing industry and the public of the things mentioned in these statements. I feel that a good example of this is that, while it is very beneficial for the packaging of mobile phones to have their SAR values printed on them by law, what is the point if most of the population and the</p>	<p>1) Noted.</p> <p>2) Agreed.</p> <p>3) The levels in the draft Standard have been established by applying safety factors which will protect the most vulnerable members of the community (although it is not always possible to accommodate hypersensitivity) and include the possibility of resonance phenomena.</p> <p>4) Noted. A plain language question and answer format document is being produced as a guide to the standard. ARPANSA's web site will also be used to provide a range of information to support and explain the standard.</p> <p>5) The interim Standard had an expiry date set for March 1999. Australia currently doesn't have a standard and therefore needs a new one. Also the new draft Standard is far more complete and scientifically sound than the Interim.</p> <p>6) Section 5 has now been re-drafted. A precautionary statement has been included in the draft Standard (section 5.3(e)). Also Annex 6 is devoted to describing precautionary policies.</p> <p>7) The Working Group developing the draft didn't just consider ICNIRP but also the most recent substantiated research on the subject</p>

<p>mobile phone sales people have no idea what it means. Perhaps it will be the role of the body mentioned in 4.10 to significantly improve this situation. Personally, I almost see the need for this body as being more important than the standard. If the body was successfully "<i>advising stakeholders and providing information and clarification</i>" based only on ICNIRP guidelines then I think it would be achieving a lot.</p> <p>5) While I personally think that there is a need for a new standard, in light of the fact that there is very little change between the expired interim Standard [AS/NZS 2772.1(Int):1998] and the new draft, it could be argued that it is sufficient to continue referencing the old document in ARPANSA. ACA and OHS regulations. After all, on a day to day basis, is it not the regulations that will restrict RF exposure levels rather than the standard itself?</p> <p>6) If section 3.2 is truly a desired objective then I think the precautionary approach with respect to exposure to low level RF fields must get the same prominence in the standard as the pages of tables giving the maximum levels.</p> <p>7) The ICNIRP:1998 guidelines are now three years old and that is a long time in this area. The basis of "average temperature rise" rather than "cellular temperature rise" is somewhat contradictory when even the standard in Schedule 1 lists the effects of elevated temperature on various cells. Also, some of the newer research would seem to indicate that average tissue temperature rise and cellular temperature rise are not directly related. Section 4.2 mentions the "heating effects on cells", but all of the levels in the standard are based on tissue temperature rise.</p> <p>8) The variation of the response of different people to various things such as viruses, allergens and RF radiation is absolutely huge. From the "Duty of Care" perspective for governments and employers this could be a very serious issue. The fact that in an epidemiological study, for example, only five out of 1000 people appeared to be affected, to me means that, if you happen to be one of the five, the situation is rather serious. However the result of such an epidemiological study would conclude that the effect is not significant. While I agree that because "there is no clear or consistent result" yet from these studies the information should not be used for setting limits, I think that the standard should note the possible effect of the variability of the human body on its response to RF radiation.</p> <p>9) I agree that total industry self regulation would not work because the areas of possible RF exposure are far too disparate and cover areas of little knowledge of RF. However, I would like to suggest a middle</p>	<p>published since ICNIRP. Given the nature of RF absorption and the thermal properties of tissue, including blood flow and cooling mechanisms, isolated cells will not attain a temperature significantly above that of larger volumes of tissue. Spatial peak SAR limits will provide adequate protection. It is recognised that pulsed or modulated fields may introduce more non-uniformity in temperature rise, however, the draft is conservatively formulated to provide adequate protection.</p> <p>8) See 3)</p> <p>9) It is recognised that within the framework of an exposure standard covering the RF spectrum, that there is the need for codes of practice which are industry-based (such as the ACIF code), or which are developed through the Radiation Health Committee.</p>
--	--

	<p>ground, one which may give a win - win situation giving various industries a much more focused and detailed (for their industry) document to work with than the general standard. I am suggesting that each industry sector involved be required to generate a code of practice which must be ratified by ARPANSA. Through this ratification process ARPANSA could advise on appropriate new information for an industry sector. This, combined with the "<i>body advising stakeholders and providing information and clarification</i>" may give a better overall outcome than one overall standard. The argument that some industry sectors are not capable of doing this is not true - they can easily employ or contract an appropriate person to do it for them.</p>	
018	Supports option 2.	Support noted.