24 October 2007

The Hon. Lara Giddings MHA
Minister for Health and Human Services

Dear Minister

In accordance with Section 83 (1) of the Radiation Protection Act 2005, I submit the 2006-2007 Annual Report on the operation of this Act for presentation to each House of Parliament.

Dr Roscoe Taylor
Director of Public Health
The Radiation Protection Act 2005 and the Radiation Protection Regulations 2006 came into force on 1 June 2006, on which date the Radiation Control Act 1977 was repealed and the Radiation Control Regulations 1994 rescinded. My functions, as Director of Public Health, under the Radiation Protection Act 2005 include ensuring that the provisions of this Act are complied with. I am assisted in this by the Health Physics Unit of the Department of Health and Human Services, which carries out the day-to-day administration of the Act. Officers in the Health Physics Unit are also authorised officers for the purposes of the Act.

Transitional arrangements

One of the changes brought about by the new legislation was a change to the period during which a licence was in force. Under the Radiation Control Act 1977, this period was from 1 July in one year until 30 June the following year. Under the Radiation Protection Act 2005, the corresponding period was from 1 September in one year until 31 August of the following year.

Under the transitional arrangements of the Radiation Protection Act 2005, all licences under the Radiation Control Act 1977 continued in force until 31 August 2006. Because of the small fee involved, the administrative effort to collect this fee and the need to issue an annual fee soon after, it was decided to waive the fee for this licence period from 1 June to 31 August.

The new legislation also made provision for premises approvals that were issued and quality assurance assessments of radiation sources that were conducted under the Radiation Control Act 1977 to be taken to be certificates of registration for the places and certificates of compliance for the sources under the Radiation Protection Act 2005.

Thus, at the commencement of the Radiation Protection Act 2005, 210 certificates of compliance for radiation apparatus and 359 certificates of registration for places were already issued. Some places, although assessed and found to be satisfactory under the Radiation Control Act 1977, had not been formally approved. The process of issuing registration certificates for these places took place during the year 2006-2007.

Certificates of compliance for sources require re-issue at periods from one to four years, depending on the type of radiation source. Certificates of registration apply until the place or use of the source is changed or the source is removed.

Certificates of Accreditation

Section 16 of the Radiation Protection Act 2005 enables the appointment of accredited persons to carry out assessments of radiation sources and places in order to determine whether the sources and places satisfy the relevant requirements prescribed in the Radiation Protection Regulations 2006 or specified by me in a Code of Practice, approved in accordance with Section 57 of the Act.

This being the first year in which such an accreditation system was operated in Tasmania, some establishment issues, such as the need to appoint accredited persons and then to conduct a large number of assessments in a short time, were raised and addressed. During 2006-2007, 10 people were accredited to test radiation sources and 3 to assess radiation places for which Codes of Practice were available. Some
compliance testing however remained outstanding at the end of June 2007. This will be addressed in the coming year.

**Codes of practice**

17 Codes of Practice, as listed below, were prepared by the Health Physics Unit, approved by the Director of Public Health and made available during 2006-2007.

**August 2006**
- Certificate of compliance: standard for sealed radiation source - (in stream analysis)
- Certificate of compliance: standard for sealed radiation source - (bench top analyser)
- Certificate of compliance: standard for sealed radiation source - (gas chromatograph)
- Certificate of compliance: standard for sealed radiation source - (mobile soil density and moisture gauge)
- Certificate of compliance: standard for radiation apparatus - x-ray diagnostic (veterinary)
- Certificate of compliance: standard for radiation apparatus - x-ray industry (baggage)
- Certificate of compliance: standard for radiation place for radiation apparatus - x-ray
- Certificate of compliance: standard for radiation place for radioactive material - sealed sources
- Certificate of compliance: standard for radiation place for radioactive material - sources for HDR brachytherapy

**September 2006**
- Certificate of compliance: standard for sealed radiation source - mobile bore hole logging
- Certificate of compliance: standard for radiation apparatus - laser medical and dental (Class 3B or Class 4 laser)
- Certificate of compliance: standard for radiation apparatus - low intensity laser (Class 3B)
- Certificate of compliance: standard for radiation apparatus - laser industry (Class 3B or Class 4 laser)
- Certificate of compliance: standard for radiation apparatus - laser entertainment (Class 3B or Class 4 laser)
- Certificate of compliance: standard for radiation apparatus - x-ray industry or research (x-ray analysis)
- Certificate of compliance: standard for radiation apparatus - x-ray industry or research (enclosed special)
- Certificate of compliance: standard for radiation apparatus - x-ray industry (industrial radiography)

**Appointment and delegations**

Section 53 of the *Radiation Protection Act 2005* allows the Director of Public Health to appoint a departmental officer to be an authorised officer and to specify the powers and functions of that officer.

In 2006-2007, two summer student Health Physicists in the Health Physics Unit of the Department of Health and Human Services were appointed as authorised officers under the *Radiation Protection Act 2005*, for the duration of their three month appointments.

**Certificates of Authorisation**

Section 55 of the *Radiation Protection Act 2005* allows the Director of Public Health to authorise an authorised officer to issue certificates of compliance for radiation sources and places, subject to the
provisions of sub-section 55(3). In 2006-2007, the Unit’s Health Physicists were formally authorised to issue certificates of compliance for radiation places that had previously been assessed under the Radiation Control Act 1977 and for radiation sources for which there was no other person accredited to do so. In all, 63 such certificates of compliance were issued for places and 57 for radiation apparatus.

**Licence activities**

The new legislation required that the specific dealings, to “repair”, “maintain”, “install” and “transport” that had previously been covered by a licence to “use” or to “possess” now had to be licensed explicitly. 22 applications for corresponding amendments to licences had been received in June 2006 and 10 were approved that month. The remainder were processed in 2006-2007.

The transitional arrangements allowed all licences issued under the Radiation Control Act 1977 to continue in force, under the Radiation Protection Act 2005, until 31 August 2006. All licences then had to be renewed on 1 September 2006.

The new licence renewal process required that all persons named on the renewal application provided information that had not been required under the previous Act and personally signed a declaration. This requirement caused some delays in the renewal application from licence holders for larger organisations, who had many people authorised on the licence.

The new licence renewal process also required that each licence holder authorised to possess a radiation source submit a Radiation Management Plan, to be approved by the Director of Public Health. The Health Physics Unit published sample Radiation Management Plans for several types of practice on its website in order to assist licence holders with this requirement.

By 30 June 2007, all licence holders had paid for their licence renewal but some documentation was still outstanding. This was not unexpected due to the considerable administrative changes required by the new legislation.

<table>
<thead>
<tr>
<th>Licences</th>
<th>Radiation apparatus</th>
<th>Radioactive material</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licence renewals</td>
<td>212</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Outstanding licence renewals at 30 June 2007</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Licence cancellations</td>
<td>22</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Licence amendments</td>
<td>34</td>
<td>24</td>
<td>99</td>
</tr>
<tr>
<td>Applications received for new licences</td>
<td>12</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>New licences issued</td>
<td>11</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examinations for proposed users of soil moisture &amp; density gauges</th>
<th>Number sat</th>
<th>Number passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination for proposed users of soil moisture &amp; density gauges</td>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Those people who did not pass the exam were required to continue with training and were not granted authorisation to use a soil density and moisture gauge without supervision.
Certificates of Accreditation

<table>
<thead>
<tr>
<th></th>
<th>Radiation apparatus</th>
<th>Radioactive material</th>
<th>Places</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications received</td>
<td>15</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Certificates of accreditation issued</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Some applications were still pending at the 30 June 2007 and others had decided not to continue with their application at this stage.

Certificates of compliance for places issued by accredited people

<table>
<thead>
<tr>
<th></th>
<th>Place for radiation apparatus</th>
<th>Place for radioactive material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificates of compliance issued</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Certificates of compliance for radiation sources issued by accredited people

<table>
<thead>
<tr>
<th></th>
<th>Radiation apparatus ionizing</th>
<th>Radiation apparatus non-ionizing</th>
<th>Sealed radioactive material sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificates of compliance issued</td>
<td>131</td>
<td>0</td>
<td>49</td>
</tr>
</tbody>
</table>

Revenue

For fees listed in Schedule 1 of the Radiation Protection Regulations 2006: $121,584
Other activities

Administrative Changes due to RPA 2005

The radiation licensing system (database, custom forms, licence conditions, Standards and software) for the Radiation Control Act 1997 (RCA 1977) was re-designed by the Health Physics Unit to incorporate the new “dealings” with radiation sources as well as other required information specified in the Radiation Protection Act 2005 (RPA 2005).

The database re-design required incorporating new information such as:
- the options of sole trader, partnership or company as licence holder;
- partnership or company details, including ABN/ACN and names of company directors;
- probity of individuals;
- certificates of compliance for radiation sources; and
- radiation management plans.

In addition, 77 conditions of licence were reviewed and amended as appropriate and 15 licensing, registration and accreditation related forms were developed by the Health Physics Unit and approved by the Director of Public Health, in accordance with the RPA 2005.

A major change to the radiation licensing system also involved the incorporation of a new fee schedule for licences. All RCA 1997 licences were subject to a flat fee regardless of the number of radiation sources or people authorised by a licence. RPA 2005 licences are now subject to a fee that is based on the number of radiation sources authorised on the licence and a “sliding scale” of charges, which reflects the difference between small, medium and large radiation practices.

Following the implementation of the new fee schedule in the radiation licensing system the Health Physics Unit, in collaboration with the Finance Branch, developed custom software to allow the radiation licensing system to import and export data to the Department's “Finance One” financial system.

The ability to transfer debtor data between the radiation licensing system and Finance One means that standard Departmental invoices can now be issued by the Health Physics Unit, and the Finance Branch is no longer required to manually enter debtor information for radiation licences into Finance One.

The implementation of this system has also provided licence holders with more flexible payment options via the Internet, phone and Service Tasmania.

Upon completion of these changes and in consultation with stakeholders, applications were processed for some 33 licences where amendments were required for authorised personnel to undertake some or all of the new dealings specified in the RPA 2005.

School Sources

In collaboration with the Department of Education the Health Physics Unit assisted with the disposal of old radioactive sources that had been used for teaching purposes, state-wide. The Health Physics Unit is continuing its collaboration with the Department of Education and the private schools so that schools using radioactive sources for teaching are doing so safely and are compliant with legislative requirements.

Request for review of the Radiation Protection Regulations 2006
In June, the Minister had received notification from the Parliamentary Committee on Subordinate Legislation that a hearing into the effect of the Regulations on dentists would be heard early in July. No change was made to the *Radiation Protection Regulations 2006* once this process had been completed.

However, I undertook to clarify the requirement in sub-section 20(2) of the Act that a report from the Commissioner of Police could be obtained for all applicants and persons referred to in an application. This had been intended to apply to persons dealing with security sensitive substances rather than being generally applicable. The opportunity for such clarification did not arise in 2006-2007 but will be included with other minor amendments to the Act for 2007-2008.

**Solaria**

Officers from the Health Physics Unit continued their information gathering about the operation of solaria in Tasmania by undertaking a survey of 30 operators. Each operator was asked a series of questions based on the Australian/New Zealand Standard on ‘Solaria for cosmetic purposes’, AS/NZS 2635:2002 and certain requirements for solarium unit operation and signage in the premises were assessed.

One of the main findings of the survey was that solarium operators were caring and concerned for the health and well being of their clients and that operators generally aimed to meet the requirements of the Australian/New Zealand Standard.

However, the survey also found there was no formal training that met the criteria specified in AS/NZS 2635. This may have contributed to the identification of the following areas where operators did not achieve full compliance with AS/NZS 2635:

- Eye protection:
- Timing of sessions:
- Remote termination of session:
- Age restrictions:
- Skin type exclusion:
- Repeat exposures:
- Health claims:

Regulation of the solarium industry is technically required under the *Radiation Protection Act 2005*. The Health Physics Unit will continue to gather further, technical information about solarium units in 2007-2008 to help determine the best approach to any such regulation, and advise the Minister for Health and Human Services. I am also mindful of advice from the Radiation Advisory Council that any regulation of the solarium industry should be done in a nationally consistent manner and that the outcomes of the deliberations of the Radiation Health Committee (a committee of the Australian Radiation Protection and Nuclear Safety Agency) should be awaited before any definitive action is taken.

**Intense Pulse Light sources (IPLs)**

The *Radiation Protection Act 2005* also has provision for the regulation of IPLs. As with the regulation of solaria, the Council has advised that a national approach to such regulation should be implemented. At a national level, work is ongoing regarding the inclusion of IPL regulation in the National Directory for Radiation Protection and Tasmania is participating in this work.

In the interim, the Health Physics Unit is collecting information on the operation of IPLs in Tasmania. The Unit wrote to approximately seventeen businesses that had been identified as potential users of IPLs, providing them with information about the recommendations likely to be adopted into the National
Directory, and inviting them to complete and return a proforma giving basic information about their
practice and the training undertaken by users of IPLs. As a result, a couple of business owners telephoned
the Unit, expressing firstly their support of regulation of the industry, secondly some concerns about the
practicalities of the involvement of medical practitioners in the proposed recommendations and thirdly the
associated costs to their business.

**Radiation Advisory Council**

The Radiation Advisory Council, established under the *Radiation Protection Act 2005*, consists of not more
than nine persons appointed by the Minister. The functions of the Council are to advise the Minister and
the Director of Public Health on radiation protection and nuclear safety matters and on matters relating to
the administration of the Act. Such administrative matters include advising on applications for authorities
that may be referred to it by the Director of Public Health.

The Council meets six to eight times a year and is kept informed of current radiation protection and
nuclear safety issues and of matters on which the Minister or the Director of Public Health seek advice, by
the Department’s Senior Health Physicist.

**Membership of the Radiation Advisory Council 2006-2007**

*Chair*

Dr Avner Misrachi, Senior Medical Advisor, Population Health Service, Department of Health & Human
Services

*Members*

Dr Fiona Murton, Nuclear Medicine Specialist, Hobart Isotope Imaging and Royal Hobart Hospital
Dr Geoff Fenton, Honorary Research Associate in Physics, University of Tasmania
Dr Ian Newman, Deputy member for Dr Geoff Fenton
Dr John Ward, Radiation Oncology Specialist, W P Holman Clinic, Royal Hobart Hospital and nominated
representative of the Royal Australian and New Zealand College of Radiologists
Dr Michael Groth, Scientific Officer, Scientific and Technical Branch, Department of Primary Industries &
Water and Nominated representative of the Department of Primary Industries and Water
Mrs Ann McDevitt, Senior Radiation Therapist, W P Holman Clinic, Royal Hobart Hospital and Radiation
Therapy representative of the Tasmanian Branch of the Australian Institute of Radiography
Dr Gerald McInerney, Radiologist, Royal Hobart Hospital and nominated by the Royal Australian and New
Zealand College of Radiologists
Mr Robert Greenwood, Specialist Radiographer, Royal Hobart Hospital and Radiography representative of
the Tasmanian Branch of the Australian Institute of Radiography
Mr Andrew Boon, Senior Engineer Mobile Network Engineering Telstra and nominated by the Institution of
Engineers, Australia
Mr Michael Green, Deputy member for Mr Andrew Boon

**Advice sought from Council**

*Application for the sale of a Bone Mineral Density System*

Council considered an application received from the supplier of an X-ray unit that measured bone density
from X-radiation of the hand. Council acknowledged that this particular unit emits only a low dose of
radiation but the question of justification needed to be addressed by the applicant before the application
could be determined. Council also requested clarification of the type of premises in which the supplier
proposed that the unit could be used and by whom. The applicant was contacted about these issues but no response was obtained.

**Recommended Working Life of Sources – Soil Density & Moisture Gauges**

Council was asked by a licence holder to consider an extension to the working life of some older sources in their soil density & moisture gauge.

Council had previously considered a similar request for sources in static radiation gauges, and again recommended that an extension of 5 years to the recommended working life of each source could be approved provided that the source was first downloaded and leak tested to the same standard against which it was assessed when first released.

**Portable Dental X-ray Systems**

An application from the supplier of a portable dental x-ray unit had been before Council for some time, with Council awaiting additional information from the supplier as well as the outcome of national deliberations at the Radiation Regulator’s Forum relating to the licensing of this type of x-ray unit in all states and territories.

Some Tasmanian dentists had expressed an interest in using a portable dental x-ray unit, particularly in cases where patient mobility or incapacity is an issue or the dentist is consulting in aged care facilities. The Australian Dental Association (Tasmanian Branch) expressed the view that the units had potential uses in dental radiography, but they were awaiting the results of further independent testing and trials on the units.

The Radiation Regulator’s Forum subsequently outlined an agreed national position in a letter to the supplier, indicating that if the unit is to be used in hand held mode, it must comply with three conditions; namely justification acceptable to the (relevant) authority, specified controls (e.g. digital imaging, fast film, etc), and the unit must meet required standards for leakage and image quality.

The supplier was still seeking approval for use of the portable dental x-ray unit in Tasmania as a hand held device on live humans, whereas the national position was that while the need in these circumstances would be limited, some relevant applications could apply for field use of this type of unit, for example in forensic work.

Council agreed that an amendment of the licence conditions for users of dental x-ray units be considered to reinforce the requirement of the Australian Standard that an operator maintains at least 2 metres distance during an exposure and that hand held use is not permitted. The supplier was informed accordingly. Licence conditions were subsequently amended.

**Investigation by Chiropractors and Osteopaths Registration Board (Tasmania)**

Council was informed of, and asked for comment on, some concerns raised by the Chiropractors and Osteopaths Registration Board following an inspection of the practice of a chiropractor in Hobart. While some of the concerns raised by the Board related to clinical issues, some also related to practical and radiation protection issues.

The Health Physicists conducted a follow-up investigation and reported that although some minor problems still existed in the practice, most matters raised by the Board had been addressed.
Licence application - MIBG Therapy

MIBG Therapy is used as part of the treatment for certain types of cancer. MIBG is the name of the chemical that is used. It stands for Meta-Iodo-Benzyl-Guanidine. It is used to treat cancers formed from the same sorts of tissues as found in the adrenal glands.

Before injection, the MIBG is attached to a radioactive form of iodine. The cancer takes up the MIBG chemical. The cancer cells are then killed off by the radioactivity. No surgery is involved.

An application for a licence amendment submitted by the Royal Hobart Hospital to use MIBG therapy for a patient with a neuroendocrine tumour was considered by Council. The patient had been assessed as a suitable candidate for this I\textsuperscript{131} therapy, which is used relatively frequently at the Peter McCallum Clinic in Melbourne.

Dr Murton, the nuclear medicine physician on the Council, outlined the procedure, including the suggested dose and treatment regime, and discussed the options available within the hospital for providing a lead shielded infusion system as per the work protocols.

Council agreed with the proposed work protocols and emergency procedures for the conduct of this procedure, which is a new therapy in Tasmania using a previously approved isotope.

The licence amendment was approved following this advice.

Radiation Surveys – Industrial Site

Council was consulted about a request from a licensed provider who conducts regular radiation surveys at a Tasmanian industrial site to reduce the frequency of those surveys from annual to bi-annual.

Council agreed that the radiation surveys should continue to be conducted at least annually; at the same time as the annual wipe testing of gauges is conducted. This advice was referred back to the licensed provider.

Regulation of solaria and IPLs

The Council has provided me with valuable advice on both these matters. In particular, Council identified possibilities for intervention in the operation of solaria as including banning solarium use, maintaining the status quo, self regulation with training, public education, warning labels on solaria and businesses and licensing the manufacturers and/or suppliers and operators. Council recognised that the potential regulation of solaria was a wide problem and enlisted support of national groups to raise awareness of this important health risk. Council therefore wrote to the Chief Executive Officer of ARPANSA requesting that a national working group be established to address this issue.