Independent Gambling Authority

Inquiry into Smartcard technology

Report

ISBN 1-921070-06-4 (print)

Independent Gambling Authority
Level 4
45 Grenfell Street Adelaide

Post Office Box 67
Rundle Mall South Australia 5000

+ 61 8 8226 7233 (voice)
+ 61 8 8226 7247 (facsimile)

www.iga.sa.gov.au
iga@iga.sa.gov.au

CONTENTS

1. EXECUTIVE SUMMARY

This inquiry arose out of the deliberations of the Parliament of South Australia on questions of how many gaming machines the State should have and how they should be managed. Having decided that there should be an historic 20% reduction in gaming machine numbers, and that new sites should only be able to be licensed after an evaluation of the likely social impact, the Parliament decided that specific advice on some related questions was also required.

The Authority has been asked how smartcard technology might be implemented with a view to significantly reducing problem gambling

In seeking to answer this question, the Authority has sought and obtained input from a very wide range of stakeholders and gathered other material. The Authority's analysis of all the available material supports the proposition that smartcard (or like) technology can be implemented with a view to significantly reducing problem gambling, and that this can be done at a reasonable cost.

As to the "how?", the Authority recommends that the adoption of the technology be mandated by the Parliament and that there should be a competitive tender for its provision.

Without limiting the options for the competitive tender, one clear option is for smartcard (or like) technology to be integrated with the central gaming machine monitoring system. For this reason, the Authority has also recommended that the Independent Gaming Corporation, which is responsible under its licence for the monitoring system, be an active participant in that tender process.

Some of the technology providers submitted that they had not only the technology, but also a fully developed harm minimisation program. The Authority has identified some basic pre-commitment parameters (in money and time spent), but otherwise recommends that further work be undertaken to define the "rules of engagement".

Some members of industry have raised what they see as serious concerns about the implementation of smartcard technology, including cost, privacy and inconvenience issues. The Authority has carefully considered these concerns—and they are dealt with in detail. In the end, the Authority was not satisfied that these concerns outweigh the benefits of the technology.

The Authority also noted carefully, and received assistance from, what was submitted from the Concern Sector. While these submissions are generally consistent with the Authority's recommendations, the Authority has not been satisfied of the need for some of the proposed process—such as not being able to acquire a smartcard in the gaming venue. However, a significant position taken by at least one key stakeholder is its support for card-based cashless gaming—an option not presently available to industry.

For the reasons set out above, and more particularly enumerated below, the Authority recommends that a proposal for legislation be put to the Parliament to mandate smartcard technology for the reduction of problem gambling.

2. INTRODUCTION

2.1 Terms of reference

This inquiry is established by terms of reference given by the Minister for Gambling, Hon. Michael Wright MP, under section 13(1)(*b*) of the *Independent Gambling Authority Act* 1995.

The terms of reference for this inquiry are—

1. General Scope

1.1 The Authority must identify how Smartcard technology might be implemented with a view to significantly reducing problem gambling.

1.2 In designing its process and its reporting for this inquiry, the Authority must take into account that a purpose in commissioning this inquiry is to enable the Minister to comply with section 90 of the *Gaming Machines Act 1992*.

2. Specific Issues

2.1 The Authority must consider and identify available and practicable technologies that may be available to facilitate:

(*a*) the setting of limits on gamblers' use of gaming machines, for the purpose of minimising or reducing the actual or potential harm to themselves or those who are dependent on them; and

(*b*) the exclusion of particular gamblers (whether voluntarily or otherwise) from access to gaming machines or from the ability to play gaming machines.

2.2 In making its report, the Authority should set out the cost, ease of implementation, administration and the likely impact on problem gamblers.

It has been indicated that the report should be made available to the Minister for Gambling by 9 June 2005.

The *Gaming Machines (Miscellaneous) Amendment Act 2004* (Amendment Act) was assented to on 9 December 2004.

The Amendment Act was the end product of a very extensive debate in Parliament on a Bill to implement the recommendations of the Independent Gambling Authority in its *Report of Inquiry into the management of gaming machine numbers*, the most notable one being the recommendation to reduce gaming machine numbers by 3 000.

Certain provisions inserted into the Gaming Machines Act by the Amendment Act require the Minister to obtain a number of reports from the Authority. Of particular relevance is the new section 90:

90— Minister to obtain report on Smartcard technology

(1) Within 6 months after the Governor assents to the Gaming Machines (Miscellaneous) Amendment Act 2004, the Minister must obtain a report from the Authority on how Smartcard technology might be implemented with a view to significantly reducing problem gambling.

(2) The Minister must, within 6 sitting days after receiving the report, have copies of the report laid before both Houses of Parliament.

The terms of reference to this inquiry, and the requirements of section 90 of the Gaming Machines Act, enable the Authority to build on some knowledge already developed though its inquiry processes relating to mandatory responsible gambling codes of practice for the casino and gaming machine venues in South Australia.

2.3 Process for the inquiry

The process for this inquiry was designed with a view to the Authority gathering and having before it all the relevant material in time to report to the Minister in June 2005.

The start of the process was to publish terms of reference and call for submissions; this was done by way of advertisements placed in the *Advertiser* on 25 and 29 January and the *Australian* on 25 January 2005. The text of the advertisement is set out in **Appendix A**.

To coincide with this call, a *Guide for making submissions* was issued on 25 January 2005. The guide set out the timetable for public consultation and gave some direction as to making formal submissions to the inquiry. The *Guide* also identified some of the issues it was thought might be usefully addressed by the stakeholders and particular issues which should be addressed by stakeholders who were technology vendors.

A day of open presentations was held on Tuesday, 15 February 2005. Five presentations were received from technology vendors and the day was attended by approximately 50 people, including members and staff of the Authority, technology vendors, other representatives of industry and representatives of the Concern Sector.

As explained in the *Guide*, the purpose of the day of open presentations was for technology vendors to display the capabilities of their products and to allow others attending to gain a better general understanding of smartcard and like technologies. The *Guide* stated that, for people preparing to make a written submission, the day would be highly instructive as to the realistic likely capabilities of the technologies. The Guide also explained that participation in the day of open presentations was not a substitute for a written submission.

Written submissions were received from a number of stakeholders in late March 2005. The submissions are available on the Authority's website.

Lists of those who participated in the day of open presentations and of those who made submissions are set out in **Appendix B**.

The inquiry process was completed by the delivery of this report to the Minister for Gambling.

3. TECHNICAL ISSUES

3.1 What is a "smart" card?

Cards stamped with personally identifying details, originally made of metal and later of plastic, have long been in use by credit providers (such as department stores and banks) to enable easy and accurate identification of account holders and, more particularly, the account to be charged. The raised letters enabled a reliably readable multiple carbon impression to be made of these details on vouchers which were then written up with descriptions and monetary values of transactions.

In the late 1970s, with the initial development of automatic tellers and electronic funds transfers, magnetic stripes were added to the backs of these cards, allowing the details to be read directly into a computer, and allowing in time for paper vouchers to become the secondary record of the transaction. While this arguably increased the smartness of the cards, these cards are now sometimes referred to as "dumb" cards because they can store relatively small volumes of data and are effectively limited to "read only" transactions.

The steps towards "smart" cards have been the miniaturisation of processors and data storage devices and their integration into cards. There is a great diversity in functionality, appearance (including size) and cost of the things that can be classified as smartcards.

Their common features include that they receive as well as send data and are able to "react" to external influences. The differences include whether they need to be physically inserted, merely touch or just be close to the device with which they communicate, whether they are rigid or flexible, thick or thin and large or small and whether they are cheap or expensive.

Most Australian households would have at least one smartcard device: the subscriber identification module (SIM card) of a GSM mobile (cellular) telephone, which not only allows the telephone to communicate with a network but also stores frequently called numbers, etc.

While the terms of reference for this inquiry do require the Authority to look at smartcards, they do not require the Authority to confine itself to technologies which involve "smart" cards as opposed to any other sort of card, or even to confine itself to technologies using cards.

3.2 The South Australian gaming machine environment

3.2.1 Gaming machines and games

The lawful gaming machines in South Australia offer games based on chance. The outcome of the game is determined in accordance with game rules which are programmed as part of the software of the game. Most games involve a single button press or a single pull of the machine's lever.

A small number of gaming machine games, such as those which simulate draw poker, introduce a second stage of play which involves decision making, such as the decision

to draw replacements for some of the "cards" which have been "dealt". While this second stage of play arguably mixes an element of skill with the element of chance, the manner of these games' design ensures that there is no scope for individual player discretion to systematically affect the outcome of the games (although, case-by-case on a random basis, a player could do better or worse than the programmed run of play would otherwise provide). Despite the second stage of decision making involved, these games are properly understood as games of chance.

The vast majority of gaming machines in South Australia present as some form of replication of the electro-mechanical spinning wheel devices popular in the United States and elsewhere in the first half of the 20th century. These machines were typically devices featuring three reels, with the outcome determined by the symbol displaying on each reel at the point where it stopped spinning. The basic principle is the same as the sort of spinning wheel used in fairgrounds to draw raffles or the roulette wheel of casinos, with the involvement of three reels, rather than one, significantly increasing the number of possible outcomes. Their mechanical nature made these devices prone to biased or predictable behaviour due to uneven wear. (This is an issue which casinos are still required to manage for their roulette games.)

Most spinning reel games in South Australia feature five, rather than three, reels displayed on a video screen; some designs use actual mechanical reels as part of the displays. Regardless, in all cases, the game outcome is determined by electronic components, not mechanical ones. If there are mechanical components, they merely display an outcome already determined electronically.

While, in the gaming devices on which modern electronic gaming machines are based, the game's mathematics and method of outcome determination were integral to the device, in the modern machines there is a clear distinction between the gaming machine and the game played on the gaming machine.

The gaming machine is typically a metal box, with a computer screen, a coin slot and coin dispenser, some static displays and a number of buttons. It can have on it one of a potentially unlimited number of games, the software for which has been written onto a computer chip which is physically installed on the machine.

This distinction is important because developments in technology can affect either the game or the gaming machine (or platform) on which it is played. Some smartcard-related functions might refer to aspects of individual games, while others refer to the properties of the machine or generation of machines.

3.2.2 Licensing regimes

One of the requirements for approval of gaming machine game software in South Australia is that the game plays in a manner which is independent of any past or future play of the game on that machine, and of any play on any other machine.

At the heart of all game and gaming machine design is the concept of random number generation, and the random number generators used for gaming machine games are subject to approval processes intended to ensure their integrity.

There are two separate licensing systems for gaming machines and gaming machine games in South Australia.

The *Gaming Machines Act 1992* allows gaming machine licences to be granted to the holders of existing hotel and club liquor licences. Among the provisions of this Act are requirements for the approval of gaming machines and games.

The *Casino Act 1997* allows for the operation of a casino in which games may be played. This Act makes specific reference to gaming machines being approved as casino equipment and gaming machine games being approved as casino games.

In the absence of these licensing systems, the operations of gaming machines and the playing of gaming machine games would be caught by the general prohibitions on illegal lotteries contained in the *Lottery and Gaming Act 1936*.

The licensing systems under the Gaming Machines Act and the Casino Act have a number of features in common. New games and gaming machines are required, in the long run, to return an amount, in prizes, equivalent to at least 87.5% of the amount bet. The machines are required to be operated by coin or token. Automated continuous play is not allowed.

In each case there is an advertising and responsible gambling code of practice applying to the operator of the gaming machines, in substantially the same terms. In addition, there are uniform administrative requirements as to the functionality of gaming machines, and processes for approval. In respect of integrity and technical robustness, the regulatory regimes are the same.

However, there are some legal and functional differences. Two particular instances involve linked jackpots and arrangements for monitoring gaming machines.

3.2.3 Linked jackpots

While the Gaming Machines Act contains a prohibition on the operation of linked jackpots, there is no such prohibition in the Casino Act.

The prohibition applies to the linking of any two or more machines (whether in the same place or in many places) so as to allow winnings to be accumulated between machines. A simple example of a linked jackpot is a scheme where a prize pool is formed by reference to player activity on a group of machines, with the pool being paid out to the player on the occurrence of a particular event on one of the machines.

The jackpot concept is not limited to gaming machines: it is a key design component of the “Powerball” lottery, of the casino table game “Caribbean Stud Poker” and of most forms of bingo. Its attraction is that it allows a much larger prize to be offered, but less frequently. In the case of Powerball, the first prize can jackpot into the tens of millions of dollars because the probability of picking 5 winning numbers out of 45, plus one winning number out of a further 45 (1 in 55 million) means that it is likely that, in any given week, the prize will not be won.

3.2.4 What is gaming machine monitoring?

Gaming machines in South Australia are required to be connected to a monitoring system.

Specific provision is made for this in the Gaming Machines Act, including the establishment of a particular licence for monitoring operations.

Monitoring of casino gaming machines is mandated through the approval of procedures for casino operations.

The function of a monitoring system is to record particular data in respect of each machine at particular points in time or for particular periods. The critical information recorded is the amount bet and the amount won, although much more information than this can be, and is, recorded.

This information is used for, among other things, verification that the game installed on the gaming machine is performing within its approved specifications and identification of the gaming machine's net gaming revenue (which, when aggregated with the net gaming revenue of the other machines in the venue over a relevant period, allows calculation of the tax payable).

Monitoring infrastructure can also support other integrity functions, such as regularly verifying that the game software being used is the legal and approved version for that machine.

Different monitoring infrastructure is in place for the gaming machines in the casino on the one hand, and those in hotels and clubs on the other. The critical difference between them is the communications protocol by which the individual machines communicate with the monitoring system. A second, and significant difference, is the physical means of communication.

A gaming machine is engineered to "talk" the protocol by which it is monitored. If the monitoring protocol is changed, there will need to be a change made to the communications hardware in the gaming machine and possibly also in devices (such as site controllers) through which the machine's communications are routed.

The monitoring protocol used in the Adelaide casino is the same protocol as is used by the central monitoring system for New South Wales hotels and clubs. Because of its age, this protocol is not as fully featured as some others presently in use in Australian jurisdictions. (For instance, it cannot remotely disable a gaming machine and it does not support game software verification.) However, because there are just under 100 000 gaming machines in NSW, there is readily available support for it.

The monitoring protocol for gaming machines in South Australian hotels and clubs is a proprietary protocol developed initially by Video Lottery Consultants in the United States, and now owned and supported by Scientific Games.

The monitoring system in the Adelaide casino operates in what is called "real time". This means that the gaming machines are constantly sending information to the monitoring system, and the monitoring system is constantly up to date.

The gaming machines in hotels and clubs are in constant communication with the venue site controller device through which they are connected to the central host computer. It has been made a requirement for approval of gaming machines and gaming machine games that games are only able to be played when the machine is being monitored in this way.

However, the routine aggregation of data is achieved through routine once-daily communication across secure dial-up telephone lines. This is supplemented by *ad hoc* real time contact as required (for instance, for the enrolment of new gaming machines or games). The use of the public switched telephone network (PSTN) for this sort of wide area network is not exceptional, given that the network was first deployed in 1994.

The monitoring system for hotel and club machines is under review, as the period in which Scientific Games is required to maintain support for the present protocol and host system is nearing its end.

3.2.5 Are there other uses for monitoring data?

In addition to the use of monitoring system data to ensure compliance with licensing requirements, operators use monitoring system data to gain an understanding of which games are played and which are not, and also to drive their loyalty programs.

In the hotel and club environment, approval has been given for the use of a data port (on the site controller for the machines in a venue) which provides a flow of data from the monitoring system to the venues other management systems, indicating the amounts bet and prizes paid for each machines in real time. (The present approval allows data to flow from the monitoring system but not into it.)

One way loyalty systems have been deployed in venues is for a card reader device mounted adjacent to each particular gaming machine to be connected to a loyalty system controller (computer). Data for each machine is fed from the monitoring system site controller data port to the loyalty system controller; the loyalty system matches the identity of the card holder with the related gaming machine activity and records the outcome in a central database, or on the player's card (if it is a smartcard) or in both places.

There is, at present, no provision for external systems to send information to gaming machines other than by the monitoring system host. The extent to which the host itself can communicate with the gaming machines is limited, firstly and principally, by the functionality of the communications protocol and, secondly as implemented for South Australian hotels and clubs, by the need for a PSTN connection to be made between the host and the site controller at the venue.

3.2.6 The role of the Independent Gaming Corporation

The gaming machine monitor licence (for hotel and club machines) is held by Independent Gaming Corporation Limited (IGC), which is essentially a co-operative of the peak industry bodies for hotels and clubs. The IGC is therefore the provider of

the gaming machine monitoring system (GMMS) to which **all but the 830 casino gaming machines are connected.**

The Gaming Machines Act requires gaming machine licensees to have in place a monitoring agreement with the IGC, under which the IGC receives a monthly, per machine, line monitoring fee. The Minister for Gambling approves this fee under the statutory conditions of the IGC's licence.

Under this arrangement, the IGC is responsible for all GMMS capital expenditure, in addition to operating and maintaining the host system. Since the GMMS was first deployed in 1994, there has already been one renewal of the software (the timing of which was driven by year-2000 compliance issues).

It should be noted that the IGC provides, as a separate fee based service, the provision of management information to licensees about the performance of their gaming machines.

The IGC is responsible for ensuring continuity of gaming machine monitoring operations, including necessary capital expenditure. The cost will ultimately be recouped through the line monitoring fee; and it is understood that the present fee level has anticipated the need to sink funds for system renewal.

The IGC has also been responsible for the provision of industry contributions to the Gamblers Rehabilitation Fund and to various charitable causes. It is also understood to be providing funding for direct industry initiatives said to address the harm caused by problem gambling.

3.3 Other issues

3.3.1 Non-cash gaming

Gaming machines are often referred to as "slots" because they have traditionally been associated with the insertion of coins. However, perhaps because the highest denomination United States coin is the quarter-dollar, there has in the last 20 years been significant development in devices which can accept and recognise paper (or plastic) note money. Note accepters are common on all sorts of vending machines; they started to be approved for use on gaming machines in Australia in the mid-1990s. By law, they are not able to be approved for use on gaming machines in South Australia.

In a number of overseas jurisdictions (including New Zealand), operators are either trialling or wholly adopting paper based, non-cash technologies for gaming machines, commonly known as TOTI (for "Ticket Out Ticket In").

A common TOTI implementation is a gaming machine which will pay out a bar-coded ticket, which can be redeemed with a cashier or inserted into the note accepter of another gaming machine. Implementation of this technology reduces the requirement for cash to be counted, allows for easier accounting reconciliation and reduces problems arising from mechanical failures in note accepters (because the tickets are generally in better condition than bank notes and there are fewer of them).

In its basic form, TOTI provides an anonymous way of gambling, making it not amenable to player activity monitoring.

Card systems have also been used for cashless gaming; Australian examples include a system used by Tabcorp in Victoria in the 1990s and some newer systems being deployed in eastern seaboard clubs. Making a card the means by which gaming credits can be purchased provides a simple way to control the money spent on the gaming machine and the time intervals for the spending.

3.3.2 About biometrics

Biometric technology makes use of people's biological individuality to systematically distinguish between people and positively identify them. A core component of biometric functionality is the digitising of biological features, such as a fingerprint or the way a face is arranged. A piece of hardware "reads" the biological feature producing a digital record which can then be compared with similar digital records to determine a level of match.

The Authority understands that some of the necessary "reader" hardware is now widely available, offering high reliability at a modest cost. However, the Authority also understands that, because very large amounts of data are required to make biometric records, the process of comparing and matching large numbers of records requires significant processing power and some time.

Processing power and available time are generally not a problem when the biometric question is whether a fingerprint or face matches a nominated existing record—such as comparing a passport photograph with the face of a person standing at a customs counter, or when an employee swipes his or her identity card and provides a fingerprint as verification. These *authentication* applications are understood to be highly viable, and some of the technology vendors submitting to the inquiry stated that biometrics could be incorporated into system design for security purposes.

However, processing power and time may be more significant impediments to approaches such as the one suggested in the Guide for making submissions—where players would identify themselves to gaming systems by fingerprint (or other biometric) alone.

4. MATERIAL BEFORE THE INQUIRY

4.1 Overview

The Authority has been assisted with its inquiry by submissions from each of the technology provider, industry and concern sectors.

The information submitted by the technology providers (essentially about what they could provide) indicates that some innovative products are close to being commercially available, or are already being offered commercially, that could assist gamblers in setting and complying with pre-commitment limits for gambling.

The views of other industry stakeholders (principally licensees) are directed at cost, at unintended consequences and at the inconvenience that a mandatory pre-commitment scheme might create for recreational gamblers.

Members of the Concern Sector have offered some useful insights on the parameters that a pre-commitment scheme should include.

The submissions are summarised below. They are available, in their entirety, from the Authority's website, www.iga.sa.gov.au.

4.2 Technology vendors

4.2.1 AMC Convergent IT

AMC Convergent IT (AMCCIT) has developed an internet based card technology named Gambler Subtle Assist (GSA) to facilitate harm minimisation and harm avoidance for players of electronic gaming machines.

The GSA system would communicate with gaming machines at gaming venues via either the existing monitoring system site controller or a GSA controller that is installed purpose specific.

The anticipated application process for a GSA card takes approximately 4 minutes depending on the number of pre-commitment limits set. The application process could be partly completed in person or away from a venue, via internet portal, email or post. Final card issue requires the applicant to present at a venue for a 100 point identification check. The card is, in its simplest form, a magnetic stripe card that only contains the GSA number that identifies the player to the GSA host for play authorisation.

The card is used in conjunction with a personal identification number (user changeable) for added security. Biometric devices can also be connected to the GSA; however, AMCCIT submits that the incremental cost of including biometric reading devices at each gaming machine would be high for what it considers to be a small gain in security.

AMCCIT offers GSA in three modes of operation—passive, active 1 and active 2.

In the **passive mode**, GSA has no control of the gaming machine and consequently there is no systematic control over card use or adherence to limits. In this mode, GSA sends a message to a venue operator terminal that there is a player at a machine who has reached or exceeded a pre-committed limit or who is playing without a card inserted. It is then up to venue staff to interact with the player.

In the **active 1 mode**, GSA directly enforces pre-commitment limits by inhibiting the coin mechanism (or if available, note accepter or cashless device) when a pre-committed limit is reached, thus denying the player the ability to deposit additional funds into the gaming machine until the pre-commitment limit is no longer applicable. (The player would be able to continue to play using existing credits and any future winnings.)

In the **active 2 mode**, the gaming machine would only operate if a GSA card were inserted and then only subject to the pre-committed limits. This mode is only available on gaming machines and games with which it is possible for the GSA system to directly interact.

GSA enables a player to set pre-committed limits and other factors on—

- session time and amount of spend, with or without voluntary overrides;
- inter-session time interval (player pauses—the minimum time between the completion of one session and commencing a new one when either the session time limit or session amount spend limit has been reached);
- daily time and amount of spend;
- weekly time and amount of spend;
- monthly time and amount of spend;
- yearly time and amount of spend;
- machine denominations not to play;
- maximum bet in any one play;
- gambling/gaming mode exclusions;
- specific day or date exclusions, e.g. paydays; and
- exclusion—whether self imposed, regulatory or venue initiated.

AMCCIT indicates that GSA is a largely developed application (90%) performing all of the tasks indicated in the submission. Areas requiring development and testing are items such as pilot testing of the hardware components inside a gaming machine in the field and interfacing with loyalty service providers to facilitate the use of the GSA card as the loyalty card for all relevant industry players.

AMCCIT has developed and installed loyalty systems including the "Lucky Buys" loyalty scheme which operates at over 500 sites (including 30 in South Australia) and has a database of 750 000 active cardholders generating 10 million transactions per annum.

AMCCIT estimates that deployment at gaming machine level of GSA would take approximately 24–30 weeks with a further 3 months being required for hardware manufacture.

AMCCIT estimates the hardware cost for the passive and active 1 modes to be $1 150–$1 530 per gaming machine. AMCCIT was not able to provide a complete estimate of the cost of the active 2 mode due to being unaware of the costs that may be incurred as a result of required gaming machine modifications.

4.2.2 Aristocrat

Aristocrat is the longest established gaming product manufacturer and vendor, and is the leading supplier of gaming machines and gaming systems, in Australia. Aristocrat

represented that its experience, product range and presence qualifies it to provide input to the Authority's inquiry into smartcard technology.

Aristocrat has developed several monitoring systems inclusive of smartcard technology that are currently operating in South African casinos. Aristocrat has also developed and installed monitoring systems including loss limits for play that are operating on riverboat casinos in Missouri, USA. However, Aristocrat has not developed a smartcard technology that incorporates a loss limiting functionality.

Aristocrat recognises that there are potential benefits of a system that allows a player to pre-commit including giving the player the ability to—

- limit how much money they spend on gaming;
- limit how much time they spend on gaming;
- set period limits for spending such as weekly or monthly; and
- access details of gaming activities through player statements.

Aristocrat is also of the view that pre-commitment may enable venue operators to identify players that are presenting with symptoms of problem gambling.

Aristocrat suggests that any pre-commitment scheme that is recommended should be voluntary. Asserting that Australians have an aversion to measures that restrict the freedom of choice or have the potential to impact their sense of privacy, Aristocrat considers that the introduction of a mandatory pre-commitment scheme may result in problem gamblers engaging in identity fraud or moving to (unspecified) less regulated areas of gambling, rather than providing a harm minimisation measure in gaming.

At the day of open presentations, Aristocrat provided a brief overview of elements that might be included in a gaming venue system from entrance terminal to in machine interfaces through to a central host server. Aristocrat's model, to be adopted voluntarily by gaming patrons, consisted of a venue entrance terminal that identified patrons through card and biometric signature checks and checked patron details against a register of barred individuals.

Aristocrat stated that biometric methods of identifying players are rapidly becoming accepted as a technical means to overcome present difficulties with identification of barred individuals.

Whilst not strictly addressing the terms of reference of the inquiry, Aristocrat also raised the following factors as barriers to the introduction of smartcard technology—

- the requirement for amendment of gaming machine regulations and guidelines;
- the need to establish a single entity to assume responsibility for the implementation of a smartcard solution across all affected stakeholders;
- the need to identify the entity responsible for running and administering a state-wide smartcard solution (particularly noting the different monitoring regimes of the casino on one hand and hotels and clubs on the other);
- the need to develop a smartcard solution that meets market requirements;

- the requirement for a smartcard solution to be tested to market requirements given the mix of gaming products in the South Australian market;
- testing requirements, including testing by an approved testing facility and field trials;
- the need to retro-fit smartcard reading devices with associated changes to gaming machine firmware or hardware;
- the need for transition from existing player loyalty cards to smartcards.

Aristocrat has estimated the cost of introduction of a smartcard solution (subject to a final specification and allocation of tasks and deliverables to capable providers) to be in the range of $100–$140 million, plus GST.

In the event that the introduction of a smartcard solution also required replacement of gaming machines, Aristocrat estimated the cost of introduction of a smartcard solution to be in the range of $120–$160 million, plus GST

4.2.3 Maxetag

Maxetag Pty Ltd is a technology vendor specialising in solutions for the hospitality industry. Maxetag products include harm minimisation and cashless gaming systems, rewards systems, facial recognition systems and fingerprint identification and verification systems for payroll, security access and exclusion.

"Maxetag" is the name of the device used by the player for the purpose (among others) of harm minimisation. A maxetag is a flexible polyurethane tag suitable for attaching to key rings that contains a contactless smart chip and antenna. It is therefore a proximity device that does not have to be inserted into a gaming machine to operate; the player simply passes the tag over a sensor installed in the gaming machine.

Maxetag has a card that can be used in place of the maxetag for venues that require photo identification and/or integration with older technologies (such legacy magnetic stripe systems).

Under the Maxetag model, the player pre-commits to a daily spend immediately prior to play. The rationale for the timing of the spend pre-commitment decision is that Maxetag believe that a person's spending limits vary from day to day and week to week and the level of spend varies dependent on individual player circumstances. By allowing the player to pre-commit immediately prior to gambling, the player is given the opportunity to open their wallet or purse to then determine how much they can afford to spend. There are no limits on a player unless the player chooses to set them.

The player could set a pre-committed value on a maxetag at—

- the cashier booth (usually when getting coin out, but can be at any time before play);
- a reader alongside a change machine (an interface would be possible on certain models of change machine); or

- a terminal on the gaming machine before commencement of play.

The pre-committed value is a daily spend total that applies across all participating venues.

Maxetag offers 4 levels of harm minimisation model.

Level one involves the player setting a pre-committed value on the maxetag and logging onto and playing a gaming machine. When the pre-committed value has decremented to zero, a warning message and an audible sound will play, advising that the pre-committed value has been expended. The maxetag will be disabled and unusable for a pre-determined length of time (15 minutes–24 hours, set by regulator/legislation) known as "tag exclusion time". The player is able to continue to play following the expiration of the tag exclusion time if wishing to do so.

There is also the option of having a message pop up on the cashier's screen advising that a pre-committed value has been reached on a gaming machine in the venue.

Participation at this level is optional; a non-point based reward system is proposed as an incentive for the player to use a maxetag. In level one, a player would be able to sign up anonymously.

Level two incorporates all of the features of level one and adds the functionality that the gaming machine coin mechanism is disabled once the pre-committed value is reached. A player using the maxetag is then unable to add any credits to a gaming machine meter until the tag exclusion time has expired.

Participation at this level is optional.

Maxetag has suggested that level two could be enhanced by making the maxetag compulsory so that gaming machines will not operate without a maxetag logged on. The option of anonymous sign on remains and every player would have the opportunity for both spend pre-commitment and direct intervention when the pre-committed value is reached.

Level three introduces cashless play by—

- removing the coin mechanism from the machine; and
- using a maxetag to load credits, thereby becoming an integral part of gaming machine play.

At this level, the player loads an amount on the maxetag to play and is given the option to "press the red button" to lock spend values onto the maxetag. If the red button is pressed, no further amounts can be loaded onto the maxetag until the tag exclusion time has expired.

If the player wins, he or she returns to the cashier to "cash out' the Maxetag.

Level four has all of the features of level three but does not allow anonymous sign up. Players must provide 100 points of identification and integrate some form of biometric identification (eg fingerprint, iris scan, photographs, DNA etc) to sign up.

Maxetag has inbuilt exclusion functions that can flag a barred person within its central database. Information can be automatically distributed from the central database to venues.

Maxetag has investigated and distributed a selection of the most widely accepted biometric access control and identification and verification systems currently available in Australia. They include facial recognition, iris recognition and fingerprint recognition technologies. All of the technologies are capable of being integrated with the Maxetag system or working as stand alone systems.

Maxetag estimates the cost of installation of the technology to be $1600 (plus GST) per gaming machine for a 32-machine venue, with the cost decreasing for larger venues and increasing for smaller venues.

There would be ongoing monthly maintenance costs of $200–$500 per month depending on the size of the venue.

The cost of the tags is estimated at $3.50–$4.00 each.

Additional costs would be incurred for purchase and installation of biometric technology.

4.2.4 Safe Gaming System

Safe Gaming System Inc (SGS) is based in Las Vegas, Nevada, USA. It offers an internet based smartcard system that enables the player to initiate and control personal gaming parameters.

Players would register for SGS service via the SGS website. The SGS site guides the player through making decisions about personal, affordable limits on gambling. Money and time limits for gambling are set in advance for a "budget" period. Once the budgeted amount has been expended, no further funds are available for gambling until the next budget period. There is a 48-hour default lag time for limit changes, either up or down.

An SGS account is established on a centrally administered basis. Once registered, the player will be issued with a smartcard that is used to access their SGS debit account for gambling at all venues that subscribe to SGS. The smartcard would contain a stored representation of the players fingerprint which is biometrically verified by a fingerprint scan prior to play beginning.

SGS recommends cashless gambling as a standard. This would provide a secure basis for debits and credits to be made to a pre-committed, central account. Monetary pre-commitment is accomplished by pre-payment for "budget" periods to a centrally administered account held in trust by a large, reputable financial institution. Standard budget periods currently included in SGS are months and quarters. Any other periods desired can be added.

SGS offers a number of service modules which can be selected from to construct a system to prevent and reduce gambling problems. These include—

- a personal, secure initial self assessment of each SGS registrant for gambling sub-type and susceptibility to gambling problems;
- ongoing screening for problem gambling behaviour and providing referrals and guidance for assistance;
- reassessment as warranted or dictated by gambling behaviour changes;
- initiation and control of personal gaming parameters (including time and loss limits) employed in SGS;
- pre-commitment of gaming expenditures based on affordability;
- enabling of cashless gaming transactions, where available;
- enforcement of limits during gambling sessions;
- debiting/crediting of SGS debit account for cashless gaming activities;
- interoperability of SGS debit card with participating venues "players' cards";
- real time monitoring during gambling, with gambler communication as needed;
- online educational programs and gaming tutorials;
- standard and custom reports of gaming activities/behaviour and SGS recommendations;
- referral service for professional assistance as needed at SGS-affiliated resource centres;
- a winnings management program to manage winnings; and
- automated self or legislated venue exclusion management.

The SGS system is premised on players being divided into two mutually exclusive categories of gambler, being "occasional" and "conventional".

An "occasional" gambler can establish an anonymous account. SGS proposes that the upper limits for amounts of time and money expended over a given time period be set by regulation. Gambling access is denied if and when specified limits are reached by turning off the gaming machine's coin mechanism (or, where available, note accepter).

A player who intends or expects to gamble more than the "occasional" limits provided for can choose the "conventional" category. For "conventional" gamblers, limits will be set based on a calculation of a reasonable proportion of the individual's disposable income that may be made available for gambling. Anonymous accounts are not allowed as the player must personally agree that the financial data supplied is accurate and agrees to comply with set limits.

When a conventional player inserts a smartcard and is biometrically identified, a message will ask the player to input the amount of money or length of time desired for

the gambling session. The amount must be within the remaining balances of the user's account.

Each "conventional" gambling session is authorised in real time. In the cashless environment, SGS counts net gains and losses to track against the limits.

Prior to log on, if present, the gaming machine coin mechanism would be "off" in the default or idle mode. Coin mechanisms would only be turned "on" for use on a successful log in.

The smartcard must remain in the reader during the entire gambling session. Removing the smartcard would end the session and turn the coin mechanism to "off". Similarly, using the cash out button would end the session.

When a gambler in either the anonymous or conventional category reaches a pre-committed limit, a message informing the gambler that the limit has been reached will be displayed and the coin mechanism turned off.

SGS manages exclusions by denying access to gambling when the excluded gambler attempts to log on using the secure access device. The player receives a message reminding the gambler of the exclusion.

SGS estimates that a period of 60 weeks would be required for complete roll out of the SGS system.

SGS estimates the cost of the system to be in the vicinity of $6 million. SGS would also charge administration fees to venues participating in the scheme.

4.2.5 Worldsmart Technology

Worldsmart Technology Pty Ltd submitted that it was a leader in the provision of consumer loyalty systems utilising smartcard technology. Worldsmart has been involved in developing and operating smartcard based loyalty systems for over 8 years.

Worldsmart's franchised loyalty system (the Jackpot Club and its related J–Card) has been tested and proven in over 90 licensed gaming venues (involving approximately 3600 gaming machines) in South Australia. The J–Card loyalty program currently has over 250 000 smartcard cardholders in South Australia, with a further 52 000 smartcards in Queensland. The vast majority of the cards issued will support pre-commitment functionality.

Worldsmart provides the loyalty system. This includes reporting services, management of databases, privacy and audit compliance (including funds management). It also manages the hardware and card supplies, ongoing system development and enhancement, terminal maintenance and venue and cardholder support services.

Future cards will incorporate a number of separate technologies on the card including contact applications (requiring the card to be inserted into a reader), contactless or "proximity" cards (where the card is held near the reader) and magnetic stripe cards (which are less secure, of basic functionality and have limited storage capacity).

Inclusion of all three technologies will enable greater usage options for the cardholder and enables a Worldsmart card to be used in a range of terminals, including existing proprietary systems, without the need to replace hardware or undertake extensive database conversions.

The Worldsmart system enables a card holder to place limits on their card. The limits can be personalised and, when reached, will trigger a series of visual and audio warnings at the smartcard terminal located at or in the gaming machine.

Card holders can select from a range of pre-commitment options including—

- maximum amount wagered (per game, per session, per day, per week);
- maximum net expenditure (wagered minus wins) per session, per day, per week.
- maximum minutes per playing session, and, if limit exceeded, minimum time period before play can be resumed (forced break);
- maximum hours of play (per day, per week);
- lockout periods to exclude any hour or time range for each day of the week, any day of the year or recurring dates (such as pension/paydays—every second week on Thursday).

Card issue occurs upon the player completing an application form and presenting some form of identification. The player is then issued with the card and the terms and condition of use of the card. Enrolment procedures typically take less than 5 minutes.

Players have the option of setting limits at the time of card issue or at any subsequent time. Limits can be added or varied by presenting the card at any cashier terminal. Alternatively, a secure web page will be available for the cardholder to log on to and modify any limits.

The Worldsmart system enables players to set the content and timing of personal warning messages (up to 5 messages of 16 characters in length). For example, a player might set a message to flag that 50% of a set session limit has been reached or that 80% of a weekly limit has been reached.

A player can request the smartcard terminal to display the total dollar amount wagered per session and the actual machine return to player.

Visual or audible indicators can be set to alert that player when limits have been exceeded or when a percentage of limits has been reached.

The Worldsmart system allows the player to set “cooling off” periods. A player can set a period of time during which an increase in limits is prohibited and can require that third party intervention (counselling) be sought before any increase in limits is required.

Worldsmart estimates that the cost of installation of its system at $1500, plus GST, per gaming machine. There would be an additional cost for metal mounting brackets, cabling and installation which is site dependent. An indicative cost for a 40 gaming machine site is $3000. There would also be an on going monthly management fee which could not be determined until full system requirements are known.

Worldsmart has the capacity to deploy its existing system to 600 sites and could do so in a 6–9 month time period.

4.3 Industry

4.3.1 Australian Casino Association

The Australian Casino Association (ACA) submitted that it represents the combined interests of the casino sector in Australia. There are 13 casinos in Australia. All were said to promote responsible gambling through a range of programs in each property.

The ACA recognises that problem gambling behaviours are not uniform and that any strategy to reduce the incidence of problem gambling in the community must be based on an understanding of the different "pathways" and profiles that lead to problem gambling.

The ACA summarised its position as follows—

- Smartcard technology is extremely complex and costly.
- There is currently no commercially available solution in the market fit for use with gaming machines.
- If introduced, a card based system could be difficult to administer and would raise a number of issues around privacy and restrictions for the majority of customers who use gaming machines and apparently do not have a problem with their gambling.
- There is no evidence based research to suggest that it will assist those players with problem gambling behaviours; however, research is underway in a number of jurisdictions on this topic and the IGA should await the result of this research before it makes any recommendation.
- Less intrusive options exist which could be investigated to achieve the same aims—facilitating the setting of limits by questions resident on the gaming machine and exclusion using camera technology.

ACA is of the view that it is not realistic to consider that a card based pre-commitment system could operate on gaming machines without changes to the gaming machine software and hardware. Noting that approximately 43% of gaming machines in South Australia are more than 5 years old, ACA submits software changes to older gaming machines may not be possible or commercially viable, the consequence being that such gaming machines would need to be replaced.

The ACA has quantified the potential capital cost of the implementation of a smartcard based system in the range $125–$160 million.

4.3.2 Australian Gaming Council

The Australian Gaming Council (AGC) stated that it was formed by leaders of Australia's gambling industries in June 2000. Its members are from all sectors of the

Australian gambling industry, including manufacturers, wagering operators, licensed gaming operators, hotels, casinos and lotteries.

The AGC stated at the outset that in the absence of scientific, independent research and evaluation it can only speculate about the impact of smartcard technology on individuals.

Based on the principle that player behaviour will adapt to new measures, AGC speculated that players will—

- tend to set high limits of time and expenditure to keep available options to gamble open;
- sometimes spend up to that limit—which may be higher than otherwise would be the case; and
- seek to borrow or purchase cards on a "black market" to keep gambling options open.

The AGC has serious reservations about the practicality and enforceability of a mandatory pre-commitment scheme. The AGC considers that there is reason to believe, in the absence of a foolproof system, that there would be a "black market" trade in cards that would circumvent the intention of the scheme, while imposing serious cost and inconvenience on the majority of consumers.

In respect of self-exclusion, the AGC proposes that programs which seek to assist by treatment and counselling individuals would result in better quality of life outcomes for individuals.

4.3.3 Australian Hotels Association (SA Branch)

The Australian Hotels Association (SA Branch) (AHA) is the peak industry representative body for the hotel industry. Approximately 85% of gaming machine licence holders are members of the AHA.

The AHA's submission raised a number of issues unrelated to the terms of reference for the inquiry.

In addressing the terms of reference, the AHA submitted that it is fundamentally opposed to any form of smartcard technology in relation to harm minimisation strategies. It is the AHA's view that the mandatory introduction of smartcard technology for all gamblers will inconvenience "the 98% of gaming patrons who are not 'problem' gamblers" to the point where some will cease using gaming machines entirely. The AHA also considers that the introduction of mandatory smartcard technology for all gamblers raises privacy issues.

The AHA estimates the cost to the hotel and club industry to convert all existing gaming machines to incorporate smartcard technology to be well in excess of $20 million.

4.3.4 Australian Leisure and Hospitality Group

Australian Leisure and Hospitality Group (ALH) described itself as a leading Australian leisure and entertainment business operating over 130 licensed hotels in 5 mainland jurisdictions. ALH owns and operates 14 hotels in Adelaide, 12 of which offer gaming entertainment to patrons.

ALH states that the introduction of smartcard technology has the potential to significantly change the viability of the hospitality industry in South Australia.

ALH highlights the AGC's view about changes in player behaviour that might occur as a result of the introduction of a mandatory pre-commitment scheme for all gamblers.

ALH states that the impact on recreational gamblers—who constitute 97% of all gamblers—following the introduction of smartcard technology is unknown. The significant variables in the level of intervention by smartcard technology add to the complexity of the potential impact on recreational players, which needs to be understood prior to the introduction of any new measures.

4.3.5 Clubs SA

The Licensed Clubs Association of South Australia Inc (Clubs SA) is the peak industry representative body for the club industry. The range of its members includes some very large football clubs and local community bowling and social clubs. Approximately 10% of South Australia's gaming machines are in licensed clubs.

Clubs SA does not support the mandatory introduction of smartcard technology. Clubs SA submits that if smartcards are to be introduced, they should be voluntary and introduced only after their effectiveness has been nationally validated.

Clubs SA argues that the size, time and features of setting limits should be determined by the individual cardholder. Where an individual is restricted to smartcard use by a binding third party direction, the direction would set the limits.

On the consequences of limits being exceeded/reached, Clubs SA is of the view that it is the individual cardholders choice. In the case where an individual is restricted to smartcard use by a third party direction, the limits and the penalty for the breach should reflect the circumstances that led to the person being restricted.

Clubs SA believes that the mandatory introduction of smartcard technology with accompanying costs would be a severe impost on the capacity of clubs to maintain their community contributions.

Clubs SA believes that club employees would have responsibilities as they will be allocated the task of managing smartcard use and any penalties and any monitoring. Clubs SA is of the view that this is not a reasonable impost on an employee. If wage increments were sought (and won) to recognise this devolved responsibility, Clubs SA argues that the impost on clubs would be significant and their capacity to trade would be undermined.

Clubs SA argues that any use of smartcard technology would force recreational gamblers and casual gamblers into a bureaucratic process that would inhibit their participation in their past time.

Clubs SA argues that compulsive gamblers would take such steps as necessary to ensure they have card access. This would then see the impost of smartcards fall on the recreational gambler——to the cost of all concerned with no solution to the problem gamblers.

Clubs SA argues that if a voluntary system is introduced the Independent Gaming Corporation should manage and determine the system(s).

Clubs SA argues that the use of card-based systems (magnetic stripe, smart card or any other suitable technology) in conjunction with gaming machines should not be mandated. There are many venues that simply cannot afford the cost of such technology. Gaming machine legislation or standards/specifications can and should allow for cash and/or card and/or other methods of operation.

Clubs SA argues that any while any voluntary based system for smartcards should incorporate any practical initiatives that can be used to assist problem gamblers, their main purpose should be to act as a means of improving the integrity and efficiency of gaming machine operations in clubs for both the patron, employees and the club.

Clubs SA stresses that while it is accepted that a voluntary card based system will introduce additional responsibility for clubs in relation to protection of player funds, any legislation or guidelines must recognise that patrons using such cards have greater responsibilities—these mutual responsibilities need to be defined on an industry basis.

Clubs SA argues that ideally in a voluntary system, provision should be made for card based systems or variations of card based systems to operate on 'anonymous account' principles, that is, players should be able to participate in card based gaming without a requirement to provide ID. In Clubs SA's view, this does not impact on the ability to use such systems to assist with problem gambling.

Clubs SA argues that technology, and in particular smartcard technology, should be seen as a tool rather than a solution to issues within the gambling industry. It should also be a voluntary tool.

The critical test of a smartcard is that it will provide a solution to problem gambling. Clubs SA argues that it cannot. To claim so is to mirror the argument that the GST would eliminate the cash economy. It does not. Rather, mandatory smartcard use will displace the industry's attention and limited resources away from the few that need them (the problem gambler) to the many who do not, without providing a solution.

4.3.6 Skycity Entertainment Group

Skycity Entertainment Group Limited (Skycity) is a public company listed on both the New Zealand and Australian stock exchanges. In addition to the Adelaide Casino, Skycity owns casinos in Darwin, Auckland, Hamilton and Queenstown and has a significant minority interest in the Christchurch Casino.

Skycity describes itself as one of Australasia's leading entertainment and gaming companies and as an important contributor to the South Australian economy.

Skycity believes the potential capital cost of implementing a smartcard technology system in South Australia is in the order of $125 million to $160 million. Of that, the potential cost components to the Casino could be in the order of over $13 million.

Skycity submits that the introduction of a mandatory smartcard regime will have a detrimental effect on the recreational enjoyment derived from gaming machines, will threaten the viability of the casino's gaming machine business and severely limit the product offerings to its customers.

Skycity claims that there is no other jurisdiction applying a mandatory pre-commitment regime. The gambling market is highly competitive, both inter-state and internationally. A differentiating smartcard regime in South Australia will seriously disadvantage Skycity Adelaide vis-à-vis its competitors in other Australian jurisdictions, with the revenue and tourist expenditure of customers instead being lost to the others.

It is Skycity's view, based on the day of open presentations made to the Authority on 15 February 2005, that none of the technology solutions presented offered a commercially available and/or proven smartcard technology solution that has been successfully used to reduce problem gambling.

Skycity submitted that any recommendation for pre-commitment limits should be optional, noting that a voluntary smartcard system would not have the significantly adverse effect on revenue expected from a compulsory system. This would be due to the fact that the impact on recreational spend (due to inconvenience) would be lower; this is particularly important for Skycity because, it claims, 20% of its visitation is from interstate and overseas.

Skycity argues against imposing a standardized pre-committed monetary limit on the basis that to do so falsely assumes that all people in society share the same levels of disposable income. In Skycity's view, this amounts to state determination of the "appropriate" level of expenditure on a leisure activity. Skycity argues that is unacceptable.

Skycity contends that the cost of card reader components (as identified by some stakeholders) is only a small part of a full system implementation and it is necessary to consider cost elements such as:

- modifying gaming machine software;
- modifying central monitoring system software;
- integrating new hardware into existing gaming machines (if possible at all);
- replacement cost for new gaming machines to replace older machines incapable of accepting card reader equipment or software modifications to interact with the card systems.

Skycity suggests that, given the significant cost of smartcard technology, the Authority should consider additional smartcard functionality that may be of benefit to

gaming operators (on the basis that this functionality would be subject to the requirement that it did not exacerbate problem gambling).

Skycity concluded its submission by asking that the Authority not make a recommendation for the adoption of smartcard technology, but rather recommend further detailed consultation on, and examination of, the options.

4.4 Concern Sector

4.4.1 South Australian Heads of Christian Churches' Gambling Taskforce

There are two core outcomes that the Taskforce identifies as potentially being enabled by the introduction of smartcard technology, being—

- the ability to enforce barring arrangements by patron identification; and
- the capacity to facilitate pre-commitment and associated schemes.

The Taskforce believes that barring is an essential component in a set of strategies that will, in combination, reduce gambling harm. It views technology-based schemes as a mechanism to increase the ability of venues to identify barred patrons.

The Taskforce's view is that, currently, biometric technology applications are not sufficiently advanced to enable reliable identification of barred patrons. The Taskforce envisages that its stated outcomes can be achieved by the introduction of a cashless, non-transferable smart card based system that requires mandatory pre-commitment by the person who wishes to gamble.

The Taskforce explains its perception of an ideal system as follows:

> A citizen who recognises the likelihood that they will wish to gamble at some stage in the foreseeable future purchases a "G-Card" (for lack of better terminology) from a non-gambling venue, for example a Post Office. The customer will need to present 100 points of identification, a process that is already extensively used for opening bank accounts etc. This information and a personal password will be entered on the card (to assist in detecting any transfer of cards). The purchase cost would be minimal, intended to meet the marginal cost of issuing the card only.
>
> At point of purchase the customer will need to program a minimum set of limits, that are pre-programmed on the card, for example:
>
> - maximum dollar spend in any 24 hour period, all gambling activities;
> - maximum monthly spend, all gambling activities;
> - maximum poker machine spend in any 24 hour period;
> - maximum time spent in any 24 hour period, all gambling activities.
>
> The options would also exist for a customer to identify other limits e.g.:
>
> - maximum weekly spend in total and by gambling activity;
> - maximum annual spend, in total and by gambling activity;
> - maximum time spent per week, in total and by gambling activity;
> - the option for second party to set or change limits, with card holder unable to make changes, should also be available.

> These limits would only be able to be changed at a non gambling venue, e.g. the purchasing network or a Break Even service, and could be decreased at any time but could only be increased at least 24 hours from the conclusion of the last gambling session.
>
> The card will also include, as a minimum, the purchaser's signature, but ideally would also include a biometric device or similar (eg finger print) to minimise the risk of transfer, theft or purchase of additional card by an individual gambler.
>
> When the gambler decides to play they can either put money on the card at the gambling venue or could have done that previously through the purchase network.
>
> Play will then occur through a card reader system for any gambling activity.
>
> Should any limit be reached during play, the amount of credits remaining will be transferred to the card and the card returned to the customer, the gambling activity will cease. The customer will then be able to obtain payment of winnings or collect any remaining cash value on the card from the venue.
>
> The customer would be unable to gamble in any gaming venue until their limiting conditions had passed.

The Taskforce proposes that, to support people with gambling problems, the IGA, casino host responsibility coordinators, AHA responsible gambling staff and Break Even staff would be able to apply a barring provision for a customer, to their card, on request.

Under this system all gambling activities will be card activated only, with venues able to put cash on a card and make payouts based on card reading. Venues would be unable to change any pre-commitment settings or to issue cards. Designated officers will be able to apply barring.

The Taskforce submits that the smartcard-based scheme should extend to all forms of gambling, including lotteries.

It is the Taskforce's view that the cost of establishing a smartcard based system should be borne evenly between the industry and the government, as both share the benefit of net gaming revenue.

The Taskforce emphasised that there should be no relationship between a card based, cashless gambling system and loyalty programs.

4.4.2 Sue Pinkerton

Ms Pinkerton stated that she was a registered nurse and a problem gambling research consultant. She stated that she had, over a three year period from mid 1995 to early 1999, played gaming machines excessively, playing them five days a week, up to six hours a day. Ms Pinkerton estimates that she lost $60 000 during the time she played gaming machines.

Ms Pinkerton supports the banning of all gaming machines. Ms Pinkerton states that had there been a mandatory pre-commitment system in place when she first began playing the pokies, she believes that she would not have become a pokies addict. She also states that had a mandatory pre-commitment, automatic lock out smartcard system been introduced at the height of her gambling, she may well have found a way around the restrictions such a system would have placed on her.

With the introduction of a smartcard system, Ms Pinkerton believes that the harmful consequences of gambling that can occur in the course of gambling on gaming machines can be avoided.

Ms Pinkerton stated that an effective smartcard system would —

- reduce the harms associated with loss of control of spending on gaming machines during gambling sessions;
- reduce the numbers of people who become addicted to gaming machines;
- raise consumer awareness of the costs and risks of playing gaming machines;
- prevent underage individuals from gambling; and
- improve the effectiveness of exclusion schemes.

These could be achieved at the same time as limiting infringement on—

- the enjoyment of a legal activity by those who do not experience harm as a result of playing gaming machines;
- the rights of licensees and gaming machine operators and their employees to earn a living from the provision of a legal product.

A smartcard system that reduced the current number of people negatively affected by gaming machines (which number she regards as unacceptably high) would, in her view, have the following features:

- no card, no play;
- one person, one card (with identity verified by PIN or biometric);
- proof of age and identity for card issue;
- a daily spend limit to be set before operating a gaming machine;
- 24–hour limit setting period (to operate as a break in play and cooling off period);
- on screen display of historical activity (dollars spent, numbers of sessions, days gambled) over the preceding month, prior to the commencement of a playing session;
- machines idling for longer than three minutes to shut down automatically;
- automatic interruption of play after 30 minutes of continuous use of a machine by an individual;
- upon application to the IGA or any gaming room manager for self-exclusion, the applicant's card to immediately be rendered incapable of activating any gaming machine in South Australia for a period of not less than 12 months.
- probationary six-month period post self exclusion (with limits set in consultation with a counsellor);
- voluntary restricting parameters to take effect immediately—relaxation of parameters to require 72 hours notice.

4.4.3 Problem Gambling Foundation of New Zealand

The Problem Gambling Foundation of New Zealand (PGFNZ) stated that it is the largest organisation providing counselling and harm prevention program services in the world. It is also a part of an international network of organisations that monitor developments in the gambling industry.

The PGFNZ submits that the introduction of "pre-commit" cards has a theoretical appeal. It submits that they also bring the threat of the gambling industry being able to manipulate the use of their products to the point that not only will there be no improvement in rates and degree of gambling harm, but further deterioration.

For smartcard technology to have a good effect, the PGFNZ holds that the following must occur. It must—

- be only way to play a gaming machine;
- be able to be used in all sites;
- provide information to players;
- keep track of limits;
- be uniquely associated with individuals; and
- must be able to be audited and monitored.

PGFNZ argues that anything less than this would jeopardise the effectiveness of the solution.

PGFNZ thinks that it is crucially important that the information that the system collects and uses is only available to the gambling individual and not the industry.

4.4.4 Salvation Army

The Salvation Army sees potential for the careful application of smartcard technology to reduce problem gambling or to support rehabilitation programs. The Salvation Army's view is that there is substantial smartcard technology and other technologies already in existence that could be applied and developed further with the aim of reducing problem gambling. It sees there being enormous potential for such technology to be effective.

The Salvation Army submits that, on the whole, the systems presented at the day of open presentations on 15th February 2005 do not appear to have taken full advantage of the technology available and appear to be of very high cost relative to current rehabilitation and community education programs. Further, the Salvation Army has identified that the introduction of smartcard technology may create additional resource implications for rehabilitation providers.

4.4.5 Hon. Nick Xenophon MLC

Hon. Nick Xenophon was elected to the Legislative Council of South Australia at the 1997 general election. He stood as an independent with a "No Pokies" platform.

At the outset, Mr Xenophon restated that he does not resile from his preferred position that all poker machines in South Australia be removed. In the absence of legislative changes to affect this, the use of properly implemented smartcard technology has an enormous potential to significantly reduce problem gambling in South Australia.

Mr Xenophon submits that any smartcard system adopted should take into account the issue of impulsivity—there needs to be an informed choice before the gambler pre-commits. There should be a time lapse of at least 24 hours from the time of pre-commitment to the time of being able to play. There should also be an option for a player to pre-commit to an overall figure for a period of, say, a month and then to have 'sub-pre-commitment' for a lesser period. Hon Nick Xenophon raises concerns that a pre-commitment on a per day basis is too short given evidence from problem gamblers that seek to chase their losses when a venue reopens on the following day.

Pre-commitment to the maximum number of lines played could be a useful strategy to allow a player to control the rate of loss; however, the primary focus should be to control the overall monetary limit.

A player should not be allowed to increase pre-committed limits once set but should be able to decrease a set limit in order to maximise the likelihood of reducing problem gambling.

Any smartcard scheme should be able to provide regular statements to patrons, preferably monthly, setting out the player's gambling activity including the total amount gambled, the time and dates of play and confirmation of pre-commitment limits.

Mr Xenophon considers that the Office of the Liquor and Gambling Commissioner would be the most appropriate body to manage the smartcard technology, with the Authority having a supervisory role as currently exists for other aspects of the Commissioner's activities. While the Independent Gaming Corporation may seek to be the centralised location for any smartcard technology, supervision, management and direction of the technology should be undertaken by regulatory authorities.

4.5 Other material before the inquiry

4.5.1 Advice from Independent Gaming Corporation

The Authority wrote to the IGC seeking information regarding the GMMS and smart card technology. In its response, the IGC indicated:

(*a*) The GMMS as presently configured does not support smart card and/or other technologies. The fact that the GMMS is a dial up system does not preclude the implementation of new technologies, but it does restrict the depth of functionality and efficiency of any new technology.

(*b*) Manufacturer maintenance and support of the IGC's current GMMS will cease in July 2008. The IGC is presently assessing system replacement options and hopes to finalise it replacement strategy by 30 June 2005. Implementation of the new system will begin in 2006 with full migration of all gaming machines to be completed by July 2008.

(*c*) There is no present requirement that a future GMMS be online or monitor in real time. However, IGC will be exploring new communication technologies (eg internet) as a part of the GMMS replacement strategy.

(d) The support of a pre-commitment scheme may or may not require online or real time communications. This would depend on the scheme's functional requirements.

(e) The IGC is currently pursuing an option for GMMS replacement that will not require retrofitting of gaming machine hardware and software. If retrofitting becomes necessary, the costs will be borne by the IGC.

(f) The implementation of functionality into the GMMS to allow player tracking for responsible gaming will require retrofitting of all gaming machines and probably a new communications protocol. In addition, a separate software application will need to be installed to manage player tracking,

(g) The method of identifying a player to the system is not limited to smartcard technology. The use of biometrics is possible although currently many biometric components may not be suitable for a "bar" environment.

4.5.2 Information about Crown Casino Play Safe program

Victorian law requires gaming machine operators offering a loyalty program to also offer a loss-limiting program in conjunction with the loyalty program. The law requires, among other things, that loyalty points stop accruing once a limit has been reached.

Since the introduction of this requirement, two of the operators of gaming machines in Victoria (Tattersall's and Tabcorp) have discontinued their loyalty programs. Crown Limited has integrated a pre-commitment system into its Crown Club loyalty program. The system is known as *Play Safe*.

In its simplest terms, Play Safe gives the option to set daily and annual limits on gaming machine play. When either limit is reached, the player is advised (via a text display on the gaming machine) and, regardless of whether play continues, loyalty points are not able to be accumulated again until the relevant 24-hour or annual period has ended.

Consistent with the law, Crown provides the facility for players to be provided with statements showing their activity. Statements are provided upon request; if no request is made in a 12-month period, a statement is sent automatically.

Crown Casino is licensed for 2 500 gaming machines. Gaming machine support functions are supported through a unified technical infrastructure, which is managed and maintained (subject to regulatory supervision) on-site by Crown. Those gaming machine support functions include gaming machine monitoring, jackpot management and loyalty program management (including Play Safe).

The hardware and software for Crown's technical infrastructure were the product of a joint development in which Acres Gaming and Aristocrat Technologies were the external technology vendors. The system is now managed in-house.

Crown has indicated that, due to the nature of the gaming machine management infrastructure, it is not possible to put a separate cost on the development of the Play Safe functionality. However, Crown has suggested that an integrated system, similar to what Crown has and servicing a similar sized site, could be procured in the market for something in the vicinity of $15 million.

Crown's experience to date with Play Safe is that a small proportion only of its gaming machine players have sought to use the pre-commitment facility. However, customer feedback to Crown indicates that players are pleased to have the option of placing some limits on their play, even though they have not personally elected to do so.

5. ANALYSIS AND OPTIONS

5.1 Key Issues

The terms of reference ask whether it is possible to implement some sort of loss limiting strategy and problem gambler exclusion strategy based on smartcard or like technologies—that is technologies which enable a person who is gambling or wishes to gamble to be systematically identified.

Clearly, the first question is whether such technology exists at present or is likely to exist in the near future, and at what cost.

If the technology does exist, there is then a question of what can or should be done in terms of pre-commitment and exclusion.

Depending on the resolution of those questions, there may be issues of whether the technology provides opportunities to reduce operational or regulatory burden in terms of manual processes. (Two clear examples are cashless gaming and systematic enforcement of barring.)

This section of the report seeks to analyse the material put before the Authority by stakeholders, or otherwise available to the Authority, along those lines.

5.2 Technology

5.2.1 Availability

Submissions were made to the Authority by five technology vendors, of whom two offered both hardware and software solutions and a further two indicated that they had well developed software which could be implemented with, yet to be identified, hardware providers.

A fifth technology vendor counselled against the adoption of such technology.

What was demonstrated by Worldsmart Technology is that its technology is capable of identifying the player to the system, and tracking the player's activity; that, with minor modification, its existing system could be used to send messages to players indicating that limits had been reached.

The fact that Worldsmart's product is in 15% of South Australian venues already gives a high degree of confidence that this technology could be scaled to cover the whole state.

The product offered by Maxetag made similar claims, which are not yet able to be proven practically. However, the degree of thought demonstrated across both the software functionality and hardware capacity again strengthens the degree of confidence that it is technically feasible to implement a card based player identification system.

5.2.2 Cost

There was significant divergence (over $100 million) between stakeholders as to what the likely cost of implementation of a smartcard (or other player identification) system would be.

Some stakeholders were at pains to talk about the costs that would be incurred, not just in fitting venues out or in the purchase of card readers, but across the whole of industry. This was extended to issues ranging from staff training to the potential for older gaming machines to have to be retired and further to the potential for manufacturers to have to re-write control software.

Others gave estimates of the costs that they would be likely to charge, and of the other necessary out of pocket expenses such as electrician costs for installing card readers.

In relation to whole of industry costs, the following must be noted.

- **Training** Training will be needed to implement a smartcard system. However, staff are being trained and retrained all the time, including in matters related to card based systems in venues.
- **Machine obsolescence** It is likely that a cohort of older gaming machines in South Australia would not be compatible with a smartcard system. It is also understood that these gaming machines are reaching the end of their service lives for, apart from any other reason, that they are no longer supported by their manufacturers and will be required to be removed from service for integrity reasons.
- **Technical environment** The technical environment for gaming machines is in a constant state of development. Given that there are a variety of technical approaches that can be taken (some of which might not require any modification to existing game software) and that significant lead-times would be involved in the implementation of smartcard technology, there is scope for the necessary changes to be integrated into existing product development activity.

When businesses assess initiatives requiring capital expenditure, a range of cost options is evaluated with a view to identifying the most effective option over the life of the project discounting the value of anticipated future cash flows as appropriate.

While analyses which include global full cost assumptions are instructive and informative, they must be carefully analysed to identify double counting of costs

which would have been incurred independently and to ensure that they do not present a "worst case" scenario.

It is quite possible that a number of the factors which influenced costing assumptions, such as those of the Australian Casinos Association, might simply not be present in reality. One example clearly illustrates this.

- The present gaming machine monitoring protocol already contains provision for the remote disabling of a gaming machine. In the event that a decision were made that a gaming machine could only be activated by the insertion of a card, this facility in the communications protocol could be used to disable or enable the machine in response to the insertion of a card in a card reader adjacent to the machine. At present this cannot be implemented because the monitoring system is not "live" and no software has been written to enable a card management system to communicate with the operating system in this way.
- However, it is known that the whole gaming machine monitoring system is scheduled to be renewed in 2008. It is quite plausible that, as part of that renewal process, decisions will be made to retain the existing communications protocol but to convert the system to a live operation using, for instance, DSL internet connections rather than dedicated PSTN lines. Using this scenario, and assuming that existing games and machines were fully compliant with the present protocol, the significant proposed expenditures estimated for gaming machine modification and game software development would not be relevant.
- It is also known that there are approximately 3 000 very old gaming machines in South Australia which might not be able to be made compliant with the requirements of a smartcard system. Some industry costings would include the cost of replacing those machines. However, there already exist regulatory and other pressures for the replacement of those machines, not the least being that the manufacturers of those machines no longer provide product support for them. Gaming machines that can no longer be supported by the manufacturer can justifiably be removed from the environment because they fail to meet basic integrity criteria.

While there is clearly some interest in understanding the global cost impact of implementing any technology, the crucial factor must rest with identifying the so called "but for" cost: that is extra spending, in cash, required only because of the relevant decision.

The Authority therefore finds encouraging the cost estimates which have been given by those technology vendors who have indicated a willingness and ability to provide a smartcard product.

The Authority is itself aware that there might easily need to be money spent on public education as to the benefits of smartcard technology to encourage its acceptance. These costs would be modest relative to technology cost.

It is noted that some industry submissions have sought to include a more global estimate of cost than would be identified from mere out of pocket costs for implementation. It is also noted that the technology vendors' estimates relate to the

particular functionality of their products, which is in some cases more limited than what Concern Sector stakeholders have argued for (for example, there might be significant cost associated with limiting the number of lines a player could play). Nonetheless, it is difficult to reconcile the gap of approximately $100 million between the industry general estimates (higher) and the vendor estimates (lower).

It may be that these differences can only be resolved through the discipline of a rigorous procurement process involving the calling of a tender.

5.3 Rules of engagement

5.3.1 Viability of suggested structures

A number of very useful suggestions came forward from the submissions of stakeholders, with the most common involving a pre-commitment to dollars and time spent in particular periods.

It would appear that these straightforward play limits are relatively easy to implement in a technical sense—the Crown Casino *Play Safe* program already incorporates them on a voluntary basis.

Other suggestions included limits on the number of credits (dollars and cents) able to be bet per spin and the number of "lines" able to be played. It would appear, from the Authority's understanding of the technical environment, that implementation of these could involve significant alteration of individual game software. One approach would be to require such functionality to be built in to new games and therefore become available over time.

Suggestions that smartcards should not be allowed to be obtained in the gaming venue need significant evaluation and consultation. The Authority can see the potential that this would have a significant impact on recreational gambling; before such an approach were supported, there would need to be an assessment undertaken as to whether the potential benefits for marginal problem gamblers outweighed the inconvenience to others.

5.3.2 Research support

Some industry submissions have urged that no steps be taken until smartcard technology has been the subject of research as to its effectiveness or a trial. They point out that there has not been Australian research undertaken.

There is a risk in this approach; if research is not possible, a decision not to proceed in the absence of research becomes a decision to simply not proceed. It turns from hastening cautiously to not hastening.

There may be good reasons why research into card-based gaming or a smartcard trial has not been undertaken. If such a trial were voluntary the results might therefore be incomplete and of limited value. If it were mandatory in particular venues, there would be a need to account for players moving to venues where they did not need a smartcard (particularly if this were a greater preference for problem gamblers than

others). If there were to be a mandatory trial for the whole State, the capital cost of the trial would not be much less than a full implementation.

There are clearly cases, when addressing policy issues, when traditional research approaches are unrevealing, although there is a clear and logical case for a particular approach. It has been submitted to the Authority in past inquiries that decision making, at times, needs to be informed by intuitive conclusions.

Alternatively, it may be that industry stakeholders could be of assistance in formulating a practical research question to answers to which would be regarded as valid.

It is clearly important that industry, the Concern Sector and Government have an informed and consistent view of the likely impact of the adoption of smartcard technology. However, if it is improbable that research will assist with that, then decision-making must be based on the logical constructs which are available.

5.3.3 Core rules

It is not necessary (and could be unduly limiting) at this stage to specify the structure of a pre-commitment scheme in fine detail.

The would appear to be consensus that pre-commitment must include limits on the amounts of money and time which can be spent in particular intervals, but there may be need to do further work to define those intervals—some or all of hourly, daily, weekly, monthly, yearly.

Suggestions concerning the amount bet per spin and the number of "lines" require further investigation, not only because they present an element of technical difficulty and cost, but also because the complexity of a pre-commitment scheme might become a factor in whether people use it.

A decision to proceed with a smartcard implementation for South Australia will involve long lead times. It is expected that the system would allow for a very flexible technical approach to the rules of engagement, so that they can be easily modified from time to time.

The lead time for implementation would provide ample opportunity for the consultation and further work required to define the rules, around the key core concepts of limits on money and time spent.

5.4 Mandatory or Voluntary?

5.4.1 Players having cards/venues having systems

There are two separate questions: whether it should be mandatory to have a smartcard (or otherwise be systematically identifiable) to play a gaming machine, and whether it should be compulsory to set limits.

It would seem inescapable that, if a smartcard system is to be used for self-exclusion or barring, having a card will need to be mandatory. It would also need to be mandatory for all the gaming machines to require insertion of a card (or other

systematic identification of the player). Similarly, if limit setting is to be truly effective, players should not be able to opt out of the scheme when limits are reached.

It has been argued (specifically by Clubs SA) that the cost would be an unreasonable impost for some venues. If a decision is made to implement smartcard or like technology, the cost to venues should be regarded as being analogous to the line monitoring fee currently required to be paid to IGC.

If gambling in hotels and clubs is a genuine recreational pastime for people, it is the Authority's view that they will have no difficulty adjusting to the idea of using a card in order to play. Indeed, according to Worldsmart Technology, 250 000 South Australians already do this through their participation in the J–Card scheme.

While it is certain that there will be some inconvenience and difficulty in the initial issuing of cards, this process is more a matter of persistence and careful planning rather than an absolute obstacle to the implementation of the scheme. Depending on the technology model adopted, it might even be possible for people to register an existing card as their identification card for the purposes of a pre-commitment scheme.

In any event, this inconvenience seems trivial when compared to the potential benefits to problem gamblers and their families if problem gambling can be significantly reduced.

Objections raised about hotel and club gamblers who happen to be short-term visitors from other jurisdictions, or who happen to leave their cards at home, are generally regarded as spurious. These situations can easily be overcome in venues by the provision of short term, low-value, temporary identification cards—cards which might—depending on the technology solution adopted—be able to be loaded with the player's full history validated by use of a secret identity question.

The situation is somewhat different for Skycity Adelaide if, as claimed in its submission, 20% of its visitors are also visitors to South Australia from other places. There may be ways in which Skycity can persuade the Authority that, due to the size and scale of its operation, there are supervisory strategies which can be deployed to ensure that benefits similar to those allowed across the state-wide network of hotel and club gaming machines derived from smartcards could be realised in the casino. However, as presently informed, the Authority would apply the same policy across all of the State's gaming machines.

5.4.2 Setting limits

As to whether it should be compulsory for people to set limits, there is need for a greater debate.

However, there would appear to be no theoretical obstacle to giving people the option of setting limits, but not requiring or encouraging them to do so until problematic patterns of behaviour emerged.

There is already a precedent, in the form of the *Problem Gambling Family Protection Orders Act 2004*, for there to be third party intervention in a person's gaming machine play.

There could be a "general rule" that people would volunteer to participate in pre-commitment but, where warranted and on an exception basis, limits could be imposed by third parties. This approach would provide a more sophisticated response, to the conflict between people's desired behaviours and their obligations to family or society, than the more blunt instruments of wide venue barrings or total prohibitions on particular forms of gambling.

5.5 Privacy

A number of submissions make reference to "privacy issues".

Privacy law in Australia generally require bodies collecting information from or about customers to collect only that which is required for operations, and to use that information only for the purpose for which it was collected.

While relevant privacy laws and principles impose obligations on those who hold information, they do not, of themselves, provide obstacles to the implementation of smartcard technology. This can be seen from, among other things, the implementation of smartcards for gaming machine loyalty programs.

Clearly, if a decision were made to mandate smartcard technology with a view to significantly reducing problem gambling, careful consideration would need to be given to the way in which player activity data were used, and players enrolling in a smartcard program would need to be clearly advised of those possible uses.

The Authority anticipates that, if a decision were made to mandate smartcard technology, the potential uses of player activity data would include:

- information about the player's own activity being provided to the player upon request and, as per the situation in Victoria, if not requested provided periodically;
- information about the players activity being provided to a law enforcement or regulatory body as required for an investigation concerning compliance with a gambling law or the application of proceeds of a crime or a complaint under the Problem Gambling Family Protection Orders Act;
- player information being used, without identifying the player, for the purposes of research into gambling behaviour.

Clearly, every organisation which handles personal information is required to comply with confidentiality and privacy requirements. These requirements are now part of the normal business landscape. The implementation of smartcard technology to monitor player activity, to allow players to impose limits on themselves and to allow them to exclude themselves does not, of itself, raise special privacy issues.

5.6 Mode of identification

5.6.1 Card or other?

All of the technology vendors who indicated that they could offer a product proposed the use of some sort of card to identify the player.

Reference was made, in the guide for making submissions, to biometric identification, and biometrics were discussed on the day of open presentations and in some of the submissions.

However, the Authority understands that there is presently some practical limitation with respect to biometric technology (see section 3). This is not to say that, if a tender were called for a player tracking system, the use of biometric technologies would be excluded. However, there would need to be clear expectations about the performance of these devices.

Although not mentioned by the technology vendors, it should also (as a matter of logic) be possible for players to participate in gaming through entering an identification number on a key pad. While the inconvenience of remembering a number might be said to outweigh that of carrying a card, it is an option which also should not be excluded from any procurement process.

5.6.2 Card implementation

The submissions raised questions concerning the practicality of issuing cards to players on 3 levels:

- there would be an administration overhead in the issuing of new cards;
- the issuing of cards gave rise to the prospect of identity fraud;
- people would find it inconvenient to use cards.

While it is clear that there would be some sort of administrative overhead in issuing cards to players, this can largely be overcome by a lengthy “phase-in” period. It might even be possible give players incentives to register and use cards through the operation of loyalty programs.

The model proposed by Worldsmart Technology would build upon the 250 000 cards on issue in South Australia. The model proposed by Maxetag also appeared to deal with the issuing of cards in a manageable way.

In relation to convenience, the Authority is mindful that some recreational gamblers might, in the short term, be reluctant to adopt a card-based system. This can be ameliorated, in part, by the manner in which the system is explained to players.

The Crown Casino experience is that Crown Club members were pleased to have the facility to be able to limit their losses, although a clear majority of them chose not to take the options. In the general community, there is a recognition that problem gambling is an issue that needs to be addressed for everyone.

The Authority is confident that, properly explained, a smartcard implementation would be well received by recreational gamblers, despite some of the misgivings articulated by industry stakeholders.

5.6.3 Identity fraud

Identity fraud is a problem in the general community. It is true that some problem gamblers might seek to commit identity fraud in order to gamble. This raises an issue about the level of assistance that a smartcard system should be able to give to the general community, and the extent to which gamblers ultimately must take responsibility for their own activities.

In any event, the institution of a 100-point check provides a level of robustness about identity which makes it unlikely that the system could be significantly compromised by identity fraud.

This is because there are significant obstacles to people creating false identities or obtaining usable duplicate cards. There are also significant decisions that people must make for themselves in order to practise fraud or to seek to defeat the clear purpose of a pre-commitment or exclusion system.

In relation to card swapping, this does require the co-operation of another person. There may even be the temptation for certain venue staff to facilitate card swapping; however, this comes back to the responsibility of venues to understand that they are selling a legal, but potentially dangerous, product.

It would be appropriate for a robust identity verification process to be supported by some form of regulatory or other sanction, with significant consequences applying to deliberate acts of providing false or unwarranted duplicate identity cards.

5.7 Who would benefit from smartcard technology?

There is clearly an intuition that smartcard technology would help serious problem gamblers. Those who wish to voluntarily exclude themselves from the gambling activity would clearly benefit by not being able to succumb to temptation. Those who wish to be able to continue to gamble, but to do so safely, should also be able to benefit from setting themselves responsible limits.

It is this group of serious problem players that apparently concerns those stakeholders who made submissions concerning identity fraud.

The Authority accepts that there may be a level of identity fraud or card swapping whereby the most serious problem gamblers will avoid the operation of the loss limiting or exclusion program.

However, if the discussion is held only at the level of the serious problem gambler, it ignores the significant benefits that player tracking and loss limiting can have for other gamblers. One of the submissions to this inquiry made the point specifically that a pre-commitment scheme would have prevented the author from becoming a problem gambler.

If playing gaming machines is genuinely a recreational activity, recreational gamblers will welcome the opportunity to be properly informed about their gambling behaviour and its cost (through the distribution of player activity statements) and the opportunity to protect themselves from lapsing, perhaps in moments of vulnerability, into gambling behaviour which they cannot afford and do not want. (Of course, if this is true, recreational gamblers have no interest in, or likelihood of, defeating the operation of a smartcard system.)

The answer to the question "who would benefit?" is that all gamblers, and indirectly their families and dependents, will benefit from the implementation of smartcard technology.

5.8 Operational or regulatory relief

5.8.1 Existing exclusion schemes

There is presently a voluntary barring scheme in operation under section 15B of the *Independent Gambling Authority Act 1995*. As at 31 March 2005 564 people had been barred from one or more venues, with some having over 120 people on their lists.

There is a clear benefit in smartcard technology being used for self exclusion in that the process by which venues are notified of excluded people and required to take steps to remove them from gaming areas could be removed. This would significantly reduce the regulatory overhead for venues.

5.8.2 Cashless systems

It is noted that the Heads of Churches Taskforce has supported the concept that gambling could become a cashless activity, if a mandatory player tracking system were introduced.

The present statutory requirements for gaming machines to be operated by coin have been significantly influenced by responsible gambling consideration. Principal among these is the break in play provided by the requirement to insert coin and to obtain new coin.

With any form of cash handling, especially coin handling, there are significant costs for venues. Coin has to be counted. Coin trays have to be emptied and coin hoppers have to be refilled. Automated coin dispensing machines need to be recharged and bank notes need to be removed from them. There would be significant accounting and money handling improvements in venues from the reduced requirements for cash to be handled in venues.

In addition, it needs to be noted that the components of a gaming machine most likely to need mechanical repair are coin mechanism and coin hoppers. There has been experience, in South Australia in the last five years, of a systemic failure in the coin-dispensing unit of certain gaming machines. The removal of coin, and of the need for coin to be counted, would provide significant benefits for the industry and for the integrity of gaming.

5.8.3 General harm minimisation measures

For venues that take active steps to ensure that their players participate in a meaningful way in the loss limiting opportunities available to them, there is significant scope for the reduction of the impact of other responsible gambling regulatory measures. Examples include the prohibitions on play of more than one gaming machine at a time, and the proposals that venues have identification and reporting processes for problem gamblers.

6. CONCLUSIONS

6.1 Overview

On the information presented, it would appear that the technical capability to support smartcard technology exists and is currently commercially deployable. There also appear to be viable models for pre-commitment schemes which, with extensive consultation, should be able to be deployed on the technology.

The available technology solutions appear sufficient that a competitive procurement process would result in acquisition of the technology at reasonable price.

Consideration should be given to a role for the IGC in the implementation of smartcard or like technology, beyond merely ensuring that the hotel and club GMMS is able to provide the necessary support for a system. It would be technically feasible for the IGC to be responsible for the procurement, financing, roll-out and administration of a smartcard system, in conjunction with the renewal of the existing GMMS. The cost could then be recovered within the existing line-monitoring fee regime.

In making this observation, the Authority is saying that a monitoring system-based option should be evaluated alongside any other options coming forward in a competitive procurement process.

Both pre-commitment and exclusion options will only work effectively if there is a requirement that gaming machines will not be able to be played without the player being identified (whether by smartcard or otherwise). Despite it requiring more technical change from the status quo, this approach is clearly to be preferred to those which operate only by the relaying of messages.

A pre-commitment scheme would be auspiced under flexible arrangements and reviewed within its first two years of operation. To assist this, there will need to be funding allocated for research into the patterns of play identified by the smartcard system.

The current exclusion schemes should be revised in light of the enforcement and monitoring opportunities offered by smartcard technology. as could be the codes of practice.

6.2 Formal recommendations

The Authority makes the following recommendations.

1. The Government should procure amendments to legislation to require of the regulatory regime that when people play gaming machines, they do so in a way which ensures that—
   (*a*) their play is systematically tracked over time;
   (*b*) they are able to set limits on their play; and
   (*c*) they are able to be excluded (whether at their own request, by the licensee or under the *Problem Gambling Family Protection Orders Act 2004*).
2. As a separate question subsequent, the Government should ask the Parliament to remove the requirement that gaming machines be operated by the insertion of a coin or token, for the purpose of enabling a smartcard scheme to offer cashless gambling as an option to licensees.
3. There should be a competitive tender process for the provision of the smartcard technology infrastructure and the rules of the pre-commitment schemes. Among other things—
   (*a*) the tender should not be prescriptive as to the means of identification—card (smart or otherwise), biometric, keypad, etc;
   (*b*) the tender should not be prescriptive about the financial model for the technology;
   (*c*) the preferred technology solution is to ensure a high degree of flexibility in the structure of the pre-commitment and exclusion schemes.
4. The Government should procure amendments to legislation to impose a licence condition on the IGC to require it to participate in a smartcard tender process and otherwise to facilitate the most cost-effective means of implementation. If, on consultation following the receipt of this report, it is regarded as necessary for the Minister to have special powers to direct the IGC in this regard, those powers should be included in the amendments.
5. There should be further consultation on the nature and structure of pre-commitment schemes.

GLOSSARY

ACA	The Australian Casinos Association
AGC	The Australian Gaming Council
AHA (SA)	Australian Hotels Association (SA Branch)
ALH	Australian Leisure and Hospitality (Group)
AMCCIT	AMC Convergent IT
Break Even network	The network of counselling services funded through the Gamblers Rehabilitation Fund
Clubs SA	Licensed Clubs' Association of South Australia Inc
Concern Sector	Those stakeholders having concerns arising from their involvement in dealing with the harm caused by problem gambling.
Dumb card	See section 3.1
GMMS	gaming machine monitoring system
GSA	Gambler Subtle Assist
IGA Act	*Independent Gambling Authority Act 1995*
IGC	Independent Gaming Corporation Limited, holder of the gaming machine monitor licence
PGFNZ	Problem Gambling Foundation of New Zealand
Smartcard	See section 3.1
TOTI	Ticket Out Ticket In technology

APPENDIX A

Text of advertisements, 25 and 29 January 2005

Independent Gambling Authority

Smartcard technology inquiry

Call for submissions

The Independent Gambling Authority is South Australia's senior regulator of commercial gambling activities. The South Australian Government has directed it to report on how smartcard technology might be implemented with a view to significantly reducing problem gambling.

The report is required to be completed by 9 June 2005.

An inquiry under the *Independent Gambling Authority Act 1995*, with terms of reference, has been established for this purpose. The Authority now invites interested members of the public to make submissions to this inquiry.

A guide for making submissions, setting out the terms of reference and the key issues, has been prepared and is available from the Authority's office and on its website, **www.iga.sa.gov.au**.

An informal information day for technology providers to make open presentations has been scheduled for **Tuesday, 15 February 2004**. Further information about this day, including venue and commencement time, will be published on the website no later than 9 February 2005.

The closing date for submissions is Monday, 21 March 2005.

For further information, please contact the office of the Authority—

- by mail—Post Office Box 67, Rundle Mall SA 5000;
- by telephone—(08) 8226 7233—or facsimile—(08) 8226 7247;
- by email—smartcard@iga.sa.gov.au.

APPENDIX B

Lists of participants and contributors

Presenters at the day of open presentations held on 15 April 2005

Who presented *(listed in order of appearance)*	*representing*
Mr Rich Johnson	Safe Gaming System Inc (presentation made by telephone and internet conference link)
Mr Jeremy Hearne and Mr Earle Rowan	Maxetag Pty Ltd and Kashe Australia Pty Ltd
Mr Wally Woehlert and Mr Peter Buchanan	Worldsmart Technology Pty Ltd
Dr John Flanagan and Mr John Szymanski	AMC Convergent IT
Mr Dean Egan and Mr John Denlay	Aristocrat Technologies Australia Pty Ltd

Organisations and individuals making formal submissions

AMC Convergent IT

Aristocrat Technologies Australia Pty Ltd

Australian Casino Association

Australian Gaming Council

Australian Hotels Association (SA)

Australian Leisure and Hospitality Group Ltd

Clubs SA (Licensed Clubs Association of South Australia Inc)

SA Heads of Christian Churches' Gambling Taskforce

Maxetag Pty Ltd

Ms Sue Pinkerton

Problem Gambling Foundation of New Zealand

Regis Controls Pty Ltd

Safe Gaming System Inc

Appendix B: Lists of participants and contributors—continued

Organisations and individuals making formal submissions

Salvation Army

Skycity Entertainment Group Ltd

Worldsmart Technology Pty Ltd

Hon. Nick Xenophon MLC

Independent Gambling Authority
Level 4
45 Grenfell Street Adelaide

Post Office Box 67
Rundle Mall South Australia 5000

+ 61 8 8226 7233 (voice)
+ 61 8 8226 7247 (facsimile)

www.iga.sa.gov.au
iga@iga.sa.gov.au