

## CHAPTER 7

### RECKONING OF TIME AND MEASUREMENT OF DISTANCE

#### A. INTRODUCTION

7.1 It is essential to have certainty about the time of expiry of a period prescribed by law. Many statutory and contractual regulations and clauses prescribe a time or period within which or after which certain actions are to begin, or be executed, abandoned or completed. Failure to comply with these provisions may adversely affect the rights of the parties concerned. A number of terms are used for ascertaining time or periods of time, such as reckoning, limitation, computation, construction and calculation of time. It is proposed that the term *reckoning of time* should be used in this paper and the Bill.

7.2 The reckoning of time periods for matters such as service, notice and appeal is of critical importance and can be a vexing exercise. Much uncertainty still exists in this regard. The purpose of a provision governing the reckoning of time is to establish a uniform method of reckoning any period of time prescribed or allowed by statute or by order of a court. A time reckoning provision is to be applied uniformly to all questions of time reckoning unless the terms of the statute specify another method. Where the rules of the Magistrate's or High Court specify other methods of reckoning time for filing or service of documents, the method in the Interpretation of Legislation Bill will not be applicable.

#### B. METHODS OF RECKONING TIME

7.2 In South Africa there are several recognised methods for the reckoning of time. Where the period is referred to in days,<sup>1</sup> section 4 of the Interpretation Act governs the calculation of time. Section 4 states:

4 Reckoning of number of days

When any particular number of days is prescribed for the doing of any act, or for any other purpose, the same shall be reckoned exclusively of the first and inclusively of the last day, unless the last day happens to fall on a Sunday or on any public holiday, in which case the time shall be reckoned exclusively of the first day and exclusively also of every such Sunday or public holiday.

---

<sup>1</sup> The former Interpretation Acts were identical in this respect. With regard to their applicability see *Joubert v Enslin* 1910 AD 25 (Act 5 of 1883) and *Swarts v Minister of Justice* 1940 TPD 210 (Act 5 of 1910).

7.3 Section 4 will not apply where a contrary intention appears from the statute sought to be interpreted. In the case of *Thomas v Liverpool & London & Globe Insurance Co of SA Ltd* 1968 (4) SA 141 (C) the court considered whether section 4 of the Act should be applied to the reckoning of the period of 60 days referred to in sections 11(2)(a) and 11bis(2) of the Motor Vehicle Insurance Act 29 of 1942. The court found that the application of section 4 of the Act would lead to an anomalous situation and would be contrary to the general approach in relation to the suspension of prescription and to the intention underlying the relevant provisions of Act 29 of 1942. Section 1 of the Act therefore applied and the ordinary civil method was to be applied to the reckoning of the days. This decision was confirmed in the case of *South African Mutual Fire and General Insurance Co Ltd v Fouche en 'n ander* 1970 (1) SA 302 (A).

7.4 Where section 4 does not apply, our courts have accepted that the ordinary civil method of reckoning must be applied. In terms of the ordinary civil method, (*computatio civilis*), the first day of the prescribed period is included and the last day excluded. The time is calculated *de die in diem*, ie from the first moment of the day of the relevant event to the first moment of the last day of the relevant period<sup>2</sup>.

7.5 The ordinary civilian method should not be departed from unless the language makes it clear that such departure was intended by the contracting parties or the law-giver.<sup>3</sup> However, where the wording of a statute indicates a contrary intention the courts may adopt one of the following methods:

- (a) the natural method (*computatio naturalis*) where the prescribed time is reckoned from the hour (or even minute) of an occurrence to the corresponding hour or minute on the last day of the period in question (*de momento in momentum*);
- (b) the extraordinary civil method (*computatio extraordinaria*) where both the first and the last day are included in the computation;
- (c) the clear days method where both the first day and the last day are excluded.

---

<sup>2</sup> *Kleynhans v Yorkshire Insurance Co Ltd* 1957 (3) SA 544 (A); *Somdaka v Northern Assurance Co Ltd* 1961 (4) SA 764 (N).

<sup>3</sup> *Kleynhans* (above) at 149.

7.6 In the case of *Makhutchi NO v Minister of Police* 1980 (2) SA 229 (W) the court considered the calculation of the one-month period prescribed in section 32(1) of the Police Act 7 of 1958. The section provided that “notice in writing of any civil action shall be given to the defendant one month at least before the commencement thereof”. The court held that the words “at least” and “before” gave a clear indication that the month should be exclusive of the date on which the action is instituted and the date on which the notice is given. The court concluded<sup>4</sup> of the judgment that the correct method of computation, having regard to the language of the statute under consideration, was the clear days method. King J stated that:

Where words such as “clear days”, “not less than” or “before” are used it is indicative of an intention to exclude both the first and the last days in computing time in order to give the person concerned a clear and defined interval of time between the two days.

7.7 However, in the case of *Minister of Police v Subbulutchmi* 1980 (4) SA 768 (A), in which the method of computation of section 32(1) of the Police Act 7 of 1958 was again to be decided, the court held that the words “at least” read with the words “before the commencement thereof” did not sufficiently indicate an intention that the civil method of computation should not be applied. The civil method of computation was therefore applied.

7.8 In the case of *Pivot Point SA (Pty) Ltd v Registrar of Companies and another* 1980 (4) SA 74 (T) the court had to decide on the method of computation of the time period laid down in section 45 of the Companies Act 61 of 1973, which provides that the Registrar may “within one month after the date of such decision or order, apply to the Court for relief ...”. The court held that the language of the statute clearly indicated that the ordinary civil method of calculating time was not to be employed because of the phrase “after the *date* of such decision”. It held that it is usually accepted that a different intention is indicated when the word “after” is used in a statute. The court referred to the case of *Holmes v North Western Motors (Upington) Ltd* 1968 (4) SA 198 (C) at 204, where Corbett J referred to the case of *Versveld v SA Railways and Harbours* 1937 CPD 55. Here action under the statute had to be commenced “within 12 months after the cause of action arose”. The court held that the day upon which the cause of action arose should be excluded and the period should be reckoned to commence with the first instance of the following day. Watermeyer J said that if time is to run “from” a day or date or the occurrence of an

---

<sup>4</sup> At page 234.

event, the instant would have to be determined either by the relevant intention or by rules of law, because the word “from” is ambiguous; the day or date from which the time runs or on which the event occurs from which time runs may or may not be included in the calculation. But he found that the word “after” is not ambiguous. If time is to run “after” a day or date, then clearly that day or date must be excluded from the reckoning of time.

7.9 The court referred to the statement made by Corbett J in *Holmes v North Western Motors (Upington) Ltd* 1968 (4) SA 198 (C)<sup>5</sup>:

The use of the word “after” in such cases is an important factor but not necessarily a decisive one. The provision in question must be examined in its general context in order to determine whether, in the case of a contract, the parties gave a definite indication of their intention.

7.10 Coetzee J concluded that the use of the phrase “after the *date* of such decision” clearly indicated that the ordinary civil method was not to be employed. The mention of date strongly suggested that the first day is to be excluded. If the phrase “after such decision” had been used it would not have been so decisive. A reference to an event rather than a date is not as decisive.

7.11 In the case of *Kleynhans v Yorkshire Insurance Co Ltd* 1957 (3) SA 544 (A), the court considered the computation of the period of time laid down in section 11(2) of the Motor Vehicle Insurance Act 29 of 1942. In terms of section 11(2), the right to claim compensation “prescribed upon the expiration of a period of two years as from the day of which the claim arose”. The accident occurred on 6 March 1954. Summons was served on 6 March 1956. The court held that the civil method was to be applied and that the action had prescribed as the summons should have been served before the end of the day on 5 March 1956. In a dissenting judgment, Steyn JA and De Beer JA held that the wording of the section indicated that the claimant was entitled to a full two-year period to institute action and that the two year period was not complete until the end of the day on 6 March 1956.

7.12 In the case of *Azisa (Pty) Ltd v Azisa Media CC and another* 2002 (4) SA 377 (C) the court considered the correct method of reckoning time where section 20(2)(b) of the Close Corporations Act 69 of 1984 specified that an application was to be brought “within a period of two years after registration of founding statement”. The court found that the use of the word “after” meant that the first day must be excluded.

---

<sup>5</sup> At page 204.

7.13 The court criticised the civil method of computation. The court referred to the views of Hathorn JP expressed in the case of *Nair v Naicker* 1942 NPD 3 as follows:

It is regrettable that the law relating to the computation of time is still uncertain, although it has been discussed for centuries. Fortunately, however, certainty is gradually obtaining a foothold in South Africa. I regard s 5 of the Interpretation Act, 1910, as a godsend to lawyers who have to advise their clients in cases falling within its terms, though unfortunately its scope is limited to the computation of days, while *Joubert v Enslin* 1910 AD 6, holds a similar position in the realm of contract.

7.14 Nel J stated (at page 389) of the *Azisa* judgment that it was gratifying to come to the conclusion that the first day was to be excluded, as

it is in accordance with the views of the Courts in countries such as the United States of America. It also obviates the need to fall back upon the so-called civil method of computation of time. This was a method used by a largely illiterate and fairly primitive society who did not know the numeral 'nought' or 'zero', and who had to use fingers, pebbles in the sand or the abacus to record time. Hence the practical necessity to record the day on which an event had occurred by using the first finger or by placing the first pebble. The more literate members of the society counted backwards and included both the first and the last days in their computation of time.

7.15 The interpretation statutes of the majority of foreign jurisdictions refer to "reckoning of a period of time" rather than to "reckoning of a particular number of days" as our Interpretation Act does. The New Zealand Interpretation Act provides as follows:

- (1) A period of time described as beginning at, on, or with a specified day, act, or event includes that day or the day of the act or event
- (2) A period of time described as beginning from or after a specified day, act, or event does not include that day or the day of the act or event.
- (3) A period of time described as ending by, on, at, or with, or as continuing to or until, a specified day, act, or event includes that day or the day of the act or event
- (4) A period of time described as ending before a specified day, act, or event does not include that day or the day of the act or event.
- (5) A reference to a number of days between 2 events does not include the days on which the events happened.
- (6) A thing that, under an enactment, must or may be done on a particular day or within a limited period of time may, if that day or the last day of that period is not a working day, be done on the next working day.

7.16 Section 36(1) of the Australian Interpretation Act 1901 reads as follows:

- (1) Where in an Act any period of time, dating from a given day, act or event, is prescribed or allowed for any purpose, the time shall, unless the contrary intention appears, be reckoned exclusive of such day or of the day of such act or event.

7.17 Section 151 of the Australian Capital Territory Legislation Act of 2001 reads as follows:

- 151 Reckoning of time (IA s 36)
- (1) This section applies if a period is provided or allowed for a purpose by an Act or statutory instrument.

- (2) In working out whether the purpose has been fulfilled within the period provided or allowed, the period is taken to begin at the start point.
- (3) For this section—
- (a) if a period is to begin from a particular day—the **start point** is the beginning of the next day; and
- (b) if a period is to begin when an act or event happens—the **start point** is the beginning of the day after the act or event happens.

#### Examples

1 The *ABC Act 1995* provides that a person who ceases to be an inspector must return his or her identity card to the authority within 21 days after ceasing to be an inspector. X is notified that his appointment as inspector ends on Friday 1 November. The period of 21 days starts on Saturday 2 November.

2 The *XYZ Act 2001* requires an application for review to be lodged not later than 28 days after service on the licensee of the decision objected to. The period of 28 days begins with the day following the day of service.

7.18 The Interpretation Act of New South Wales provides as follows:

#### **36 Reckoning of time**

(1) If in any Act or [instrument](#) a period of time, dating from a given day, act or event, is prescribed or allowed for any purpose, the time shall be reckoned exclusive of that day or of the day of that act or event.

(2) If the last day of a period of time prescribed or allowed by an Act or [instrument](#) for the doing of any thing falls:

- (a) on a Saturday or Sunday, or
- (b) on a day that is a public holiday or bank holiday in the place in which the thing is to be or may be done,

the thing may be done on the first day following that is not a Saturday or Sunday, or a public holiday or bank holiday in that place, as the case may be.

(3) If in any Act or [instrument](#) a period of time is prescribed or allowed for the doing of any thing and a power is conferred on any person or body to extend the period of time:

- (a) that power may be exercised, and
- (b) if the exercise of that power depends on the making of an application for an extension of the period of time—such an application may be made,

after the period of time has expired.

7.19 Section 27 of the Canadian Federal Interpretation Act states:

(3) Where a time is expressed to begin or end at, on or with a specified day or to continue to or until a specified day, the time includes that day.

(4) Where a time is expressed to begin after or to be from a specified day, the time does not include that day.

(5) Where anything is to be done within a time after, from, of or before a specified day, the time does not include that day.

7.20 The Queensland Acts Interpretation Act of 1954 contains the following provisions:

#### **38 Reckoning of time**

(1) If a period beginning on a given day, act or event is provided or allowed for a [purpose](#) by [an Act](#), the period is to be calculated by excluding the day, or the day of the act or event, and –

- (a) if the period is expressed to be a specified [number](#) of clear days or at least a specified [number](#) of days - by excluding the day on which the [purpose](#) is to be fulfilled; and
- (b) in any other case - by including the day on which the [purpose](#) is to be fulfilled.

(2) If the time, or last day of a period, calculated forwards that is provided or allowed by [an Act](#) for doing anything falls on an [excluded day](#), the time, or last day, is taken to fall on the next day later that is not an [excluded day](#).

(3) If the time, or earliest day of a period, calculated backwards that is provided or allowed by [an Act](#) for doing anything falls on an [excluded day](#), the time, or earliest day, is taken to fall on the next day earlier that is not an [excluded day](#).

(4) If no time is provided or allowed for doing anything, the thing is to be done as soon as possible, and as often as the relevant occasion happens.

(5) In this section –

"excluded day" –

- (a) for filing or registering a [document](#)--means a day on which the [office](#) is closed where the filing or registration [must](#) or may be done; or
- (b) otherwise--means a day that is not a business day in the place in which the thing [must](#) or may be done.

7.21 The German Civil Code makes detailed provision in sections 187 to 193 on how to reckon periods of time which are applicable to dates and periods contained in statutes, court orders and legal transactions<sup>6</sup>. With regard to the beginning and end of a period, sections 187 and 188 are relevant:

**§ 187. [Beginning of running of period]**

(1) If a period begins to run from an event or a point of time occurring during the course of a day, then in computing the period the day in which the event or the point of time occurs is not counted.

(2) If the beginning of a day is the point of time from which a period begins to run, then this day is counted in computing the period. The same rule applies to the day of birth in the computing of age.

**§ 188. [End of period]**

(1) A period determined by days ends with the expiration of the last day of the period.

(2) A period determined by weeks, by months, or by a period of time covering several months - year, half-year, quarter - ends, in the case provided for by § 187(1), on the expiration of that day of the last week or of the last month which corresponds in name or number to the day in which the event or the point of time occurs; in the

---

<sup>6</sup> Section 186 of the German Civil Code reads as follows:

186 [Applicability] The rules of interpretation of §§ 187 to 193 apply to the fixing of periods and dates contained in statutes, court orders and legal transactions.

case provided for by § 187(2), on the expiration of that day of the last week or of the last month which precedes the day which corresponds in name or number to the initial day of the period.

(3) If, in the case of a period determined by months, the day on which it is due to expire is lacking in the last month, the period ends with the expiration of the last day of the month.

7.22 The issue of excluded days is dealt with as follows in German law:

Section 193 German Civil Code [Sundays and holidays; Saturdays]

If, on a given day or within a given period, a declaration of intention is required to be made or any act of performance to be done, and if the given day or the last day of the given period falls upon a Sunday, a day officially recognised in the place of the declaration or performance as a public holiday, or a Saturday, then the next business day takes the place of such a day.

7.23 GC Thornton<sup>7</sup> recommends that in order to achieve certainty and clarity in regard to the computation of time, the provisions of the Act should specify the interpretation to be followed where certain words are used.

7.24 Certain foreign jurisdictions also specify the use of the “clear days” method in certain instances. Section 27(1) of the Canadian Federal Interpretation Act reads as follows:

27. (1) Where there is a reference to a number of clear days or “at least” a number of days between two events, in calculating that number of days, the days on which the events happen are excluded.

7.25 The British Columbia Interpretation Act of 1996 reads as follows:

25 (4) In the calculation of time expressed as clear days, weeks, months or years, or as “at least” or “not less than” a number of days, weeks, months or years, the first and last days must be excluded.

7.26 Section 24(3) of the New Zealand Interpretation Act, 1991 reads as follows:

(3) For the purpose of calculating whether a period of a given number of days or clear days has elapsed between two events or the days on which the events happened, the days on which the events happened are not included in the period.

7.27 The Courts have adequately interpreted the meaning where “the wording indicates otherwise”. The Courts have held that where there is a reference to a number of clear days or “at least” or “not less than” a number of days between two events, in calculating that number of days both the days on which the events happen

---

<sup>7</sup> *Legislative Drafting* (4<sup>th</sup> Ed) Butterworths 1996 pg 122.

are excluded<sup>8</sup>. Where a provision stated that time is to run “after” a day or date, the courts have held that that day or date must be excluded from the calculation of time<sup>9</sup>.

7.28 Section 2 of the Interpretation Act 33 of 1957 defines the term “month” as a calendar month. In *Words and Phrases Legally Defined*<sup>10</sup> the authors quote with approval from the case of *Migotti v Colvill* (1879) 4 CPD 233 at 238:

In computing time by calendar months, the time must be reckoned by looking at the calendar and not by counting days; one calendar month's imprisonment is to be calculated from the day of imprisonment to the day numerically corresponding to that day in the following month less one.'

7.29 In the Interpretation Acts of foreign jurisdictions the term “month” is often more fully defined. Section 28 of the Canadian Federal Interpretation Act reads as follows:

28. Where there is a reference to a period of time consisting of a number of months after or before a specified day, the period is calculated by

- (a) counting forward or backward from the specified day the number of months, without including the month in which that day falls;
- (b) excluding the specified day; and
- (c) including in the last month counted under para (a) the day that has the same calendar number as the specified day, or if that month has no day with that number, the last day of the month.

7.30 Section 25(6) of the British Columbia Act of 1996 reads as follows:

(6) If, under this section, the calculation of time ends on a day in a month that has no date corresponding to the first day of the period of time, the time ends on the last day of that month.

7.31 Section 1910 of the Pennsylvania Consolidated Statutes reads as follows:

§ 1910. Time; computation of months.

Whenever in any statute the lapse of a number of months after or before a certain day is required, such number of months shall be computed by counting the months from such day, excluding the calendar month in which such day occurs, and shall include the day of the month in the last month so counted having the same numerical order as the day of the month from which the computation is made, unless there be not so many days in the last month so counted, in which case the period computed shall expire with the last day of such month.

7.32 The Colorado Interpretation Act states that

If a number of months is to be computed by counting the months from a particular day, the period ends on the same numerical day in the concluding month as the day of the month from which the computation is begun, unless there are not that many

---

<sup>8</sup> *Makhutchi NO v Minister of Police* 1980 (2) SA 229 (W).

<sup>9</sup> *Pivot Point SA (Pty) Ltd v Registrar of Companies* 1980 (4) A 74 (T).

<sup>10</sup> 2nd edition vol 3 at 291.

days in the concluding month, in which case the period ends on the last day of that month.

7.33 The Commission proposes that the difference between a month and a calendar month be specifically set out in the Act. The method of computing months should be set out in the Act.

7.34 The proviso to section 4 of the Interpretation Act 33 of 1957 reads as follows:

unless the last day happens to fall on a Sunday or on any public holiday, in which case the time shall be reckoned exclusively of the first day and exclusively also of every such Sunday or public holiday.

7.35 The question has arisen whether Saturdays should also be regarded as excluded days. The Labour Appeal Court Sitting as Special Tribunal Act 30 of 1995 and the Mineral and Petroleum Resources Development Act 28 of 2002 describe "day" as follows:

'day' means a calendar day and when any particular number of days are prescribed for the doing of any act, those days shall be reckoned by excluding the first and including the last day, unless the last day falls on a Saturday, a Sunday or any public holiday, in which case the number of days shall be reckoned by excluding the first day and also any such Saturday, Sunday or public holiday;

7.36 Foreign jurisdictions have dealt with this problem in a variety of ways. The Ontario Interpretation Act states:

28 In every Act, unless the contrary appears,

- (h) Where the time limited by the Act for a proceeding or for the doing of anything under its provisions expires or falls under a holiday, the time so limited extends to and the thing may be done on the day next following that is not a holiday;
- (i) where the time limited for a proceeding or for the doing of any thing in a court office, a land registry office or a sheriff's office expires or falls on a day that is prescribed as a holiday for that office, the time so limited extends to and the thing may be done on the day next following that is not a holiday.

7.37 The Fiji Islands Interpretation Act reads as follows:

- (b) if the last day of the period is a Saturday, Sunday or a public holiday (which days are in this section referred to as excluded days), the period shall include the next following day, not being an excluded day;
- (c) where any act or proceeding is directed or allowed to be done or taken on a certain day, then, if that day happens to be an excluded day, the act or proceeding shall be considered as done or taken in due time if it is done or taken on the next day afterwards, not being an excluded day;

7.38 The British Columbia Interpretation Act reads as follows:

25(2) If the time for doing an act falls or expires on a holiday, the time is extended to the next day that is not a holiday.

(3) If the time for doing an act in a business office falls or expires on a day when the office is not open during regular business hours, the time is extended to the next day that the office is open.

7.39 In the Colorado Interpretation Act, week is defined as any seven consecutive days. In the Basic Conditions of Employment Act of 1997 “week” is defined as “the period of seven days within which the working week of that employee ordinarily falls”. The Unemployment Insurance Act of 2001 describes “week” as “any period of seven consecutive days”.

7.40 It was proposed at the expert meetings that a clause be inserted to the effect that where no time is fixed for the doing of something, it must be done within a reasonable time. There are 183 instances in the statute book where it is specified that something must be done “within a reasonable time”. Section 9(4) of the Financial Services and Intermediary Services Act 37 of 2002 provides as follows:<sup>11</sup>

(4) (a) The registrar must within a reasonable time after receipt of any response contemplated in subsection (3) (a) consider the response, and may thereafter decide to- ...

7.41 In the case of *S v Basson* 2004 (1) SA 246 (A) the court held that as the Criminal Procedure Act did not prescribe how long after an acquittal a question of law could be reserved, in the circumstance it had to happen within a reasonable time. The time periods prescribed for appeals gave an indication of what qualified as reasonable. The court in *Sanford v Haley* stated that

It is a given fact that plaintiff must proceed with his action within a reasonable time. What is reasonable depends on the facts and circumstances of each case.

7.42 It appears that it is possible for the Courts to ascertain what a reasonable time is in the circumstances. However, it also appears that where no time period is prescribed in an Act, the court will assume that it had to happen within a reasonable time.

7.43 The Commission proposes the following provisions on reckoning of time:

31. In this Part -

**"excluded day"** means a Saturday, Sunday or public holiday;

**"period"** means a period expressed as –

- (a) a number of days;
- (b) one week or a number of weeks;
- (c) one month or a number of months; or
- (d) one year or a number of years,

---

<sup>11</sup> Another example is the National Water Act of 1998 which provides that the Water Tribunal must, at the request of any party and within a reasonable time, give written reasons for its decision on any matter.

but excludes a period expressed as a calendar month or calendar year or a number of calendar months or calendar years.

**When period starts for purposes of reckoning**

- 32.** (1) When a period mentioned in legislation must be reckoned forward –
- (a) from or after a particular day, the period must be reckoned forward as from the start of the next day;
  - (b) from or after the end of a particular day, week, month or year, the period must be reckoned forward as from the start of the day immediately after that day, week, month or year has ended; or
  - (c) from or after the happening of a particular act or event, the period must be reckoned forward as from the start of the day immediately after the day on which the act or event has happened.
- (2) When a period mentioned in legislation must be reckoned backward –
- (a) from a particular day, the period must be reckoned backward as from the end of the previous day;
  - (b) from the end of a particular day, week, month or year, the period must be reckoned backward as from the end of the day immediately before that day, week, month or year has ended; or
  - (c) from the happening of a particular act or event, the period must be reckoned backward as from the end of the day immediately before the day on which the act or event has happened.

**When period ends for purposes of reckoning**

**33.** When a period mentioned in legislation must be reckoned either forward or backward, that period must be reckoned to the end of the last day of the period, but if the last day of the period falls on an excluded day, that period must be extended to the end of the next day which is not an excluded day.

**Periods expressed in calendar months or calendar years**

**34.** When a period mentioned in legislation is expressed in calendar months or calendar years, that period must be reckoned from the start of the first calendar month or year in that period until the end of the last calendar month or year in that period.

**Reasonable time**

**35.** (1) If legislation states that something may or must be done within a reasonable time, the time within which it may or must be done must be determined in accordance with what is reasonable in the circumstances of the particular case.

(2) Legislation which states that something must be done without stating the time within it must be done, must be read as implying that it must be done within a reasonable time.

**C. MEASUREMENT OF DISTANCE**

8.44 Section 5 of the Interpretation Act reads as follows:

**5 Measurement of distance**

In the measurement of any distance for the purpose of any law, that distance shall, unless the contrary intention appears, be measured in a straight line on a horizontal plane.

8.45 Reference is made in old-order legislation such as in the Election Act of 1979 to distances “as the crow flies”. Section 11(4) of this Act provided that any person who has, on or after the date of independence of an independent State, his home in

the said State, shall, provided he is otherwise qualified for registration, be registered in the division in which is situated the magistrate's office in the Republic which is the nearest to his home as the crow flies.

8.45 The distance between two points is the [length](#) of a straight line between them.<sup>12</sup> In the case of two locations on Earth, usually the distance along the surface is meant: either "[as the crow flies](#)"<sup>13</sup> (along a great circle) or by [road](#), [railroad](#), etc. Distance is sometimes expressed in terms of the time to cover it, for example walking or by car. Sometimes a distance is ambiguous because the means of transport is neither mentioned nor obvious. Distance is sometimes not symmetric, hence not a metric: this applies to distance by car in the case of one-way streets, and also in the case the distance is expressed in terms of the time to cover it (a road may be more crowded in one direction than in the other, for a [ship](#) upstream and downstream makes a difference). The distance covered by a vehicle (often recorded by a [odometer](#)), person, animal, object, etc. should be distinguished from the distance from starting point to end point, even if latter is taken to mean eg the shortest distance along the road, because a detour could be made, and the end point can even coincide with the starting point. The [\(Euclidean\) distance](#),<sup>14</sup> between two points

---

<sup>12</sup> The linear extent in space from one end to the other or the longest horizontal dimension of something that is fixed in place. See <http://www.wku.edu/geoweb/techcrse/491study.htm> (accessed on 4 October 2005).

<sup>13</sup> Measurement of distance as the crow flies: when lost or unsure of their position in coastal waters, ships would release a caged crow. The crow would fly straight towards the nearest land thus giving the vessel some sort of a navigational fix. The tallest lookout platform on a ship came to be known as the crow's nest.<sup>13</sup> Fathom was originally a land measuring term derived from the Anglo-Saxon word "faetm" meaning to embrace. In those days, most measurements were based on average size of parts of the body, such as the hand (horses are still measured this way) or the foot (that's why 12 inches are so named). A fathom is the average distance from fingertip to fingertip of the outstretched arms of a man, about six feet. Since a man stretches out his arms to embrace his sweetheart, Britain's Parliament declared that distance be called a "fathom" and that it be a unit of measure. A fathom remains six feet. The word was also used to describe "taking the measure of" or "to fathom" something. Today, of course, when one is trying to figure something out, they are trying to "fathom it" or "get their arms around it." See <http://www.sailorschoice.com/Terms/scphrases.htm> (accessed on 4 October 2005).

<sup>14</sup> In [mathematics](#) the Euclidean distance or Euclidean metric is the "ordinary" [distance](#) (the property created by the space between two objects or points) between the two points that one would measure with a ruler, which can be proven by repeated application of the [Pythagorean theorem](#). By using this formula as distance, Euclidean space becomes a [metric space](#) (In [mathematics](#), the Pythagorean theorem or Pythagoras's theorem, is a relation in [Euclidean geometry](#) between the three sides of a right triangle.) See [http://www.absoluteastronomy.com/encyclopedia/p/py/pythagorean\\_theorem.htm](http://www.absoluteastronomy.com/encyclopedia/p/py/pythagorean_theorem.htm) (accessed on 4 October 2005).

expressed in [Cartesian coordinates](#) equals the [square root](#) of the sum of the squares of the changes of each coordinate.

7.46 The Australian Commonwealth Interpretation Act of 1901<sup>15</sup> contains a provision identical to that contained in the South Africa Interpretation Act.<sup>16</sup> In the Australian Discussion Paper on the Interpretation Act, the view was expressed that the value of this section was questionable and might be unnecessary since the context would usually make clear how a distance mentioned in legislation is to be measured.<sup>17</sup> It was explained that in many cases the provision will be displaced by a contrary intention, for instance substantial differences would usually be intended to be measured over the earth's (curved) surface and short distances will often be intended to be measured in the shortest straight line between 2 points in any plane.

7.47 Satellite Laser Ranging or SLR is the measurement of the distance to a satellite fitted with retro-reflectors, by measuring the time taken for a laser beam to travel to the satellite and back. These measurements are used to determine satellite orbits and to monitor the movement of the earth.<sup>18</sup>

---

15 Section 35.

16 The Australian Capital Territory Legislation Act also provides in section 150 that in applying an Act or statutory instrument, distance is to be measured in a straight line on a horizontal plane.

17 Para 3.94.

18 See <http://www.dli.wa.gov.au/corporate.nsf/web/Glossary> (accessed on 4 October 2005). The two-color electronic distance measuring instrument (EDM) is an ultra-precise distance measuring instrument with a precision of 0.5 to 1.0 mm for ranges between 1 and 12 km. This instrument is unique for laser distance measuring instruments because it uses two colours to measure the transit time of light through the atmosphere. Commercially available electronic distance measuring instruments (EDM) use one laser, usually red or infra-red, as a carrier. By modulating the laser, the instrument measures the round-trip travel time of light through the atmosphere for that particular wavelength between the active instrument and its remotely located reflector. If the index of refraction for the atmosphere is known through measuring its average temperature and pressure, then the velocity of light is known, and the distance is calculated by multiplying the measured travel time by the velocity. To be able to measure distances to a 1 mm precision over a 10 km long baseline, or 0.1 part-per-million, the average temperature and pressure along the 10 km path need to be known to better than 0.1 degree C and 1 mb. In practice, this is difficult to achieve without instrumenting an aircraft with temperature and pressure probes to obtain a profile of these quantities. However, the two-colour EDM measures the travel time of light for two wavelengths, red and blue. Because the atmosphere is dispersive, there is a difference in travel time which is a direct function of temperature and pressure. The difference in travel time is used to measure the average temperature and pressure in the atmosphere for calculating the index of refraction. With the index of refraction, the distance is computed from the travel time of one of the colours. A mechanical analog is the bi-metallic thermometer where the temperature is measured

7.48 In accordance with American case law, distance is measured “as the crow flies, not as the car drives,”<sup>19</sup> ie, in a straight light line to a specific property’s “nearest boundary line.”<sup>20</sup> Senate Bill 1512 amends section 893.13(1)(c) of the Florida Statutes to increase criminal penalties for the sale, delivery, manufacture, or possession with intent to sell controlled substances within 1000 feet of a library. The Legislature’s policy is to increase penalties that generally apply to controlled substance offences when those offences are committed within a specified distance of certain places. For example, sale of cocaine is generally punished as a second degree felony. If the cocaine is sold within 1000 feet of the real property comprising a state, county, or municipal park, the sale is a first degree felony punishable by a 3 year minimum mandatory sentence. If the sale occurs beyond 1000 feet from this property, it is a second degree felony.<sup>21</sup>

---

by the bending of two bonded pieces of metal having different coefficients of thermal expansion. For two-colour measurements of distance to achieve a 0.1 ppm precision, pressure needs to be known to within 50 mb, and there is essentially no requirement to know the temperature. However, the partial pressure of water needs to be known to 1 mb, but this is not too difficult to achieve by measuring the relative humidity near the instrument. During the past 15 years, Global Positioning Systems (GPS) have been developed as another method to measure crustal deformation over long baselines. This system relies on a suite of 24 satellites and many receivers on the Earth’s surface that are used to measure the location of each receiver. The precision of horizontal, relative positions with GPS is approximately 3 mm for baselines in excess of a couple kilometers. See <http://quake.wr.usgs.gov/research/deformation/twocolor/twocolor.html> (accessed on 4 October 2005).

<sup>19</sup> *Howard v. State*, 591 So.2d 1067 (Fla. 4th DCA 1991).

<sup>20</sup> *State v. Burch*, 545 So.2d 279 (Fla. 4th DCA 1989).

<sup>21</sup> In addition to the penalty enhancement for sale, delivery, manufacture or possession with intent to sell, deliver or manufacture controlled substances within 1000 feet of certain parks, the Bill also enhances the penalties for violations in, on, or within 1000 feet of the following locations:

- the real property comprising a child care facility, so long as the facility is posted with a sign visible to the public identifying it as a licensed child care facility;
- a public or private elementary, middle, or secondary school between the hours of 6 a.m. and 12 midnight;
- a community centre, defined as a facility operated by a nonprofit community-based organization for the provision of recreational, social, or educational services to the public; and
- a publicly owned recreational facility.

For most Schedule I controlled substances and some Schedule II controlled substances, the penalty for a violation of s. 893.13(1)(c), F.S., is a first degree felony with a 3-year mandatory minimum sentence. (This mandatory minimum sentence does not apply to controlled substance offences within 1,000 feet of a child care facility.) For other Schedule II controlled substances, as well as Schedule III and Schedule IV controlled substances, the penalty is a second degree felony.

7.49 In April 2003 Florida Senate Bill 488 amended the law which prohibited offenders, who have committed certain sex offences against minors, from living within 1000 feet of a school, day care centre, park, playground, or other place where children regularly gather. The Bill required that the distance must be measured in a straight line from the boundary of the property to the offender's residence, without considering the distance that an automobile or pedestrian would travel. The law did not previously specify how the 1000 feet should be measured and therefore unintentionally created a possible loophole by which sexual predators could live near their potential preying grounds. By specifying the method of measurement, the possibility of subjective interpretation of the law was removed. "We have seen instances where a convicted sexual offender on probation or community control resides just a few feet from a school or park, but if you were to walk or drive from the offender's front door to the school or park using sidewalks or roads, it would be considered greater than 1000 feet. This Bill simply provides for measuring the distance 'as the crow flies' so there is no misinterpretation of what the original law intended," Senator Villalobos, the sponsor of the Bill explained.<sup>22</sup>

7.50 In the case of *Weinstock & Lowenstein v R*<sup>23</sup> the court held that where it is not possible to measure by chain or tape, the distance must be calculated by means of a map.

7.51 It is proposed that the Bill should provide for the measurement of distances, in addition to the method of in a straight line on a horizontal plane, by means of beacons on a map, diagram or plan or any other acceptable method of measuring distances in a straight line on a horizontal plane:

**Measurement of distances**

- 36.** (1) When a distance must or may be measured for the purpose of any legislation, that distance must be measured in a straight line on a horizontal plane.
- (2) If it is not possible to measure a distance in terms of subsection (1) by means of a measuring appliance, the distance may be measured by means of –
- (a) beacons on a map, diagram or plan; or
  - (b) any other acceptable method of measuring distances in a straight line on a horizontal plane.

---

<sup>22</sup> See <http://www.flsenate.gov/cgi-bin/ViewPage.pl?Tab=legislators&Submenu=1&File=041003.html&Directory=legislators/senate/038/press/> (accessed on 4 October 2005).

<sup>23</sup> 1939 SR 13.

