



**REPORT OF THE**

**STANDING COMMITTEE ON**  
**CONSTITUTIONAL AFFAIRS**

**IN RELATION TO THE**

***ACTS AMENDMENT (AUSTRALIAN DATUM)***  
***BILL 2000***

Presented by Hon Murray Nixon JP, MLC (Chairman)

Report 57

## **STANDING COMMITTEE ON CONSTITUTIONAL AFFAIRS**

### **Date first appointed:**

December 21 1989

### **Terms of Reference:**

- 1 The functions of the committee are to inquire into and report on:
  - a) the constitutional law, customs and usages of Western Australia;
  - b) the constitutional or legal relationships between Western Australia and the Commonwealth, the States and Territories,  
and any related matter or issue;
  - c) a bill to which SO 230 (c) applies but subject to SO 230 (d);
  - d) any petition.
- 2 A petition stands referred after presentation. The committee may refer a petition to another standing committee where the subject matter of the petition is within the terms of reference of that standing committee. A standing committee to which a petition is referred shall report to the House as it thinks fit.

### **Members as at the time of this inquiry:**

Hon Murray Nixon JP, MLC (Chairman)  
Hon Ray Halligan MLC  
Hon Ken Travers MLC

### **Staff as at the time of this inquiry:**

Felicity Beattie, Advisory Officer  
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**ISBN 0 7307 6422 2**

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**REPORT OF THE STANDING COMMITTEE ON CONSTITUTIONAL AFFAIRS**

**IN RELATION TO THE**

***ACTS AMENDMENT (AUSTRALIAN DATUM) BILL 2000***

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**1 REFERENCE AND PROCEDURE**

- 1.1 The *Acts Amendment (Australian Datum) Bill 2000* (the Bill) was referred to the Committee by the Legislative Council under Standing Order 230 (d) on September 6 2000.

**2 CONTENTS AND PURPOSE OF THE *ACTS AMENDMENT (AUSTRALIAN DATUM) BILL 2000***

- 2.1 The Bill is intended to facilitate Western Australia's part of an Australia-wide change in the geographical datum used in this country.
- 2.2 A datum is a reference system that defines the location of features commonly shown on maps. There is more than one system in existence and each system is based on a particular model of the Earth.
- 2.3 Since 1966, Australia has used the Australian Geodetic Datum (AGD). The AGD was established before satellite techniques were available and was based on a model of the Earth which best suited the Australian region at the time. The AGD is based on a model of the Earth which best approximates its surface in the Australian region. However, it is a poor approximation of other parts of the Earth's surface.
- 2.4 The Geocentric Datum of Australia (GDA) is a new coordinate system for Australia which is compatible with modern positioning techniques such as the Global Positioning System (GPS). The GDA will supersede the existing AGD.
- 2.5 The GDA is based on an international mathematical model which best fits the shape of the whole earth. Its centre coincides with the Earth's centre of mass. By contrast, the centre of the datum to be replaced, the AGD, is offset from the Earth's centre of mass by about 200 metres.
- 2.6 Coordinates of the Earth's surface will change approximately 200 metres in a north-easterly direction with the new GDA. The detail on maps will appear to shift, relative to the map grid. The magnitude of this shift depends on the map scale (divide 200

- metres by the map scale to assess the effect). At 1:1 000 000 the shift is barely significant at 0.2 millimetres. It is 0.8 millimetres on a 1:250 000 scale map and 2 millimetres at 1:100 000 scale.
- 2.7 The Committee notes that some maps and charts may have to be re-drawn. Small scale maps will not change and will stay in production. Larger scale maps where the 200 metre shift has a greater effect will be updated during the normal revision process.
- 2.8 Legal boundaries will not change with the adoption of the GDA as they are generally defined by physical features or marks on the ground. Although these boundaries will not change, the coordinates of them may.
- 2.9 All jurisdictions within Australia have committed to progressively adopt and implement the GDA during the year 2000.
- 2.10 The main advantage of the GDA is that GDA coordinates are directly compatible with global coordinates obtained from the GPS and other coordinate systems adopted in many parts of the world. The GDA will overcome the artificial barriers placed by regional coordinate systems and provide improved opportunities to operate in an international community. It will therefore enable closer integration with international coordinate frameworks and navigation systems.
- 2.11 An additional benefit of the GDA is that it will provide a single uniform coordinate system within Australia, allowing the efficient exchange of data and linking of products from information systems.
- 2.12 Although Australia could continue to use the AGD, technology such as the GPS is now in common use. This technology is still useable with the AGD but needs additional processing to be compatible. This is not understood by the wider community and it is therefore becoming increasingly inefficient to work with the AGD coordinates in an international environment where positioning, navigational and information systems relate to a global Earth model. The adoption and implementation of the GDA will be an improvement for those people whose actions rely upon the datums by reference to which Australia's position on the Earth's surface may be determined.
- 2.13 The longer it is left, the more expensive it will be to convert.
- 2.14 Several pieces of Western Australian legislation such as the *Fish Resources Management Act 1994*, the *Mining Act 1978* and the *Petroleum Act 1967* specifically mention or define AGD, the datum to be replaced. The datum is used to specify the limits of permits, licenses, leases and mining tenements granted under those Acts.

- 2.15 With continuing advances in satellite positioning technology and related areas, future refinements to the datum could be adopted every ten years. If such frequent changes to the datum are likely, it would be preferable that datums are not specified within individual Acts.
- 2.16 The effect of the Bill is to remove references to a specific datum in Western Australian legislation. When a reference to a datum is required, that datum will be prescribed by Regulations rather than specified within the Act itself. Therefore any new datum can be adopted by Regulations, which will be more efficient in terms of cost and time than regular legislative change.
- 2.17 The Committee notes that adoption of the GDA will not affect heights. The Australian Height Datum is based on mean sea level and will not change. The Committee also notes that the change in datum will not change cadastral boundaries; that is, boundaries relating to ownership of land. The boundaries of suburban backyards will therefore not be affected.
- 2.18 The Bill contains eight clauses. The Committee has provided comment on selected clauses of the Bill in section 4 of this report.

### **3 INQUIRY PROCEDURE**

- 3.1 As part of its review, the Committee placed an advertisement in *The West Australian* newspaper inviting submissions on the Bill. The Committee received one telephone inquiry as a result of the advertisement. The caller was seeking information about the Bill and did not make a submission.
- 3.2 As a further part of its review, the Committee invited comment from a number of organisations and departments who it considered might wish to make a submission. Those organisations and departments were the:
- Civil Aviation Safety Authority;
  - Department of Transport;
  - Geography Department, University of Western Australia;
  - Office of the Minister for Lands;
  - Perth Astronomical Observatory; and
  - Western Australian Fisheries Industry Council.
- 3.3 Following extensive inquiry and after considering the various responses from the organisations and departments listed above, the Committee considered that it only required evidence from representatives from the Department of Land Administration.

3.4 The witnesses who appeared before the Committee were:

- Mr John Christo, Senior Legal Officer, Department of Land Administration; and
- Mr Robert Holloway, Consultant, Department of Land Administration.

#### **4 SELECTED CLAUSES OF THE ACTS AMENDMENT (AUSTRALIAN DATUM) BILL 2000**

##### **4.1 Clause 3 – *Fish Resources Management Act 1994* amended**

4.1.1 The use of datum impacts on the fishing industry as it affects the accuracy of charts and maps that are used in determining the granting of leases, licences and other permits. New charts will become available as the leases, licences and other permits based on the GDA are issued.

4.1.2 Subclause (2) amends section 216(1) of the *Fish Resources Management Act 1994* by deleting from that section the words “Australian Geodetic Datum” and replacing them with the words “prescribed Australian datum.”

4.1.3 This removes the specific reference to the AGD in the *Fish Resources Management Act 1994* and replaces it with a datum to be prescribed by regulation.

4.1.4 Subclause (3) repeals section 216(2) of the *Fish Resources Management Act 1994* and replaces it with a new section 216(2). New section 216(2) provides that regulations made under the *Fish Resources Management Act 1994* that prescribe, amend or replace a datum may make any transitional or savings provisions that are necessary or convenient to be made:

- (a) in relation to authorisations, aquaculture leases or exclusive licences granted before the regulations take effect;
- (b) in relation to applications for authorisations, aquaculture leases or exclusive licences pending when the regulations take effect;
- (c) in relation to management plans, orders, notices or other instruments made under the *Fish Resources Management Act 1994* and in force when the regulations take effect; or
- (d) for any other purpose.



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**4.2 Clause 4 – *Land Administration Act 1997* amended**

4.2.1 Clause 4 of the Bill inserts a new section, section 6A, in the *Land Administration Act 1997*. Section 6A(1) provides that if, for the purposes of the *Land Administration Act 1997*, it is necessary to determine the position on the surface of the Earth of a point, line or area, that position is to be determined by reference to the prescribed Australian datum.

4.2.2 This ensures that when a reference to a datum is required, that datum will be one that is prescribed by regulation rather than one that is specified in the *Land Administration Act 1997*.

4.2.3 Section 6A(2) provides that regulations that prescribe, amend or replace a datum may make any transitional or savings provisions that are necessary or convenient to be made.

**4.3 Clause 5 – *Mining Act 1978* amended**

4.3.1 Clause 5 of the Bill inserts a new section, section 9B, in the *Mining Act 1978*. Section 9B(1) provides that where, for the purposes of the *Mining Act 1978* or its regulations, it is necessary to determine the position on the surface of the Earth of a point, line or area, that position is to be determined by reference to the prescribed Australian datum.

4.3.2 This ensures that when a reference to a datum is required, that datum will be one that is prescribed by regulation rather than one that is specified in the *Mining Act 1978*.

4.3.3 Section 9B(2) provides that regulations made under the *Mining Act 1978* that prescribe, amend or replace a datum may make any transitional or savings provisions that are necessary or convenient to be made:

- (a) in relation to mining tenements granted or acquired before the regulations take effect;
- (b) in relation to applications for mining tenements pending when the regulations take effect; or
- (c) for any other purpose.

4.3.4 Section 9B(3) repeals section 56B of the *Mining Act 1978*. Section 56B provides that points on the surface of the Earth are to be ascertained by reference to the AGD.

**4.4 Clause 6 – *Pearling Act 1990* amended**

- 4.4.1 Subclause (2) amends section 4(1) of the *Pearling Act 1990* by deleting from that section the words “Australian Geodetic Datum” and replacing them with the words “prescribed Australian datum.”
- 4.4.2 This removes the specific reference to the AGD in the *Pearling Act 1990* and replaces it with a datum to be prescribed by regulation.
- 4.4.3 Subclause (3) repeals section 4(2) of the *Pearling Act 1990* and replaces it with new sections 4(2) and (3). New section 4(2) provides that regulations made under the *Pearling Act 1990* that prescribe, amend or replace a datum may make any transitional or savings provisions that are necessary or convenient to be made:
- (a) in relation to farm leases, licences or permits issued before the regulations take effect;
  - (b) in relation to applications for farm leases, licences or permits pending when the regulations take effect; or
  - (c) for any other purpose.

**4.5 Clause 7 – *Petroleum Act 1967* amended**

- 4.5.1 Subclause (2) repeals section 8 of the *Petroleum Act 1967* and replaces it with a new section 8.
- 4.5.2 New section 8(1) provides that where, for the purposes of the *Petroleum Act 1967*, an instrument under the *Petroleum Act 1967* or its regulations, it is necessary to determine the position on the surface of the Earth of a point, line or area, that position is to be determined by reference to the prescribed Australian datum.
- 4.5.3 The new section removes the specific reference to the AGD in the *Petroleum Act 1967* and replaces it with a datum to be prescribed by regulation. This ensures that when a reference to a datum is required, that datum will be one that is prescribed by regulation rather than one that is specified in the *Petroleum Act 1967*.
- 4.5.4 New section 8(3) provides that regulations made under the *Petroleum Act 1967* that prescribe, amend or replace a datum may make any transitional or savings provisions that are necessary or convenient to be made:

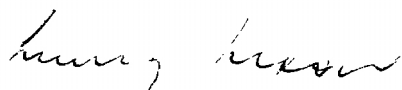
- (a) in relation to permits, drilling reservations, leases, licences, special prospecting authorities or access authorities granted before the regulations take effect;
- (b) in relation to applications for permits, drilling reservations, leases, licences, special prospecting authorities or access authorities pending when the regulations take effect; or
- (c) for any other purpose.

#### 4.6 **Clause 8 – *Petroleum (Submerged Lands) Act 1982* amended**

- 4.6.1 Subclause (2) repeals section 10 of the *Petroleum (Submerged Lands) Act 1982* and replaces it with a new section 10.
- 4.6.2 New section 10(1) provides that where, for the purposes of the *Petroleum (Submerged Lands) Act 1982*, an instrument under the *Petroleum (Submerged Lands) Act 1982* or its regulations, it is necessary to determine the position on the surface of the Earth of a point, line or area, that position is to be determined by reference to the prescribed Australian datum.
- 4.6.3 The new section removes the specific reference to the AGD in the *Petroleum (Submerged Lands) Act 1982* and replaces it with a datum to be prescribed by regulation.
- 4.6.4 New section 10(3) provides that regulations made under the *Petroleum (Submerged Lands) Act 1982* that prescribe, amend or replace a datum may make any transitional or savings provisions that are necessary or convenient to be made:
  - (a) in relation to permits, leases, licences, pipeline licences, special prospecting authorities or access authorities granted before the regulations take effect;
  - (b) in relation to applications for permits, leases, licences, pipeline licences, special prospecting authorities or access authorities pending when the regulations take effect; or
  - (c) for any other purpose.

**5 RECOMMENDATION**

The Committee recommends that all clauses of the *Acts Amendment (Australian Datum) Bill 2000* be passed.



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**Hon Murray Nixon JP, MLC**

**Chairman**

**Date: September 28 2000**