

A COMPARATIVE REVIEW OF UNIT DEVELOPMENT UNDER THE COMMONWEALTH PETROLEUM (SUBMERGED LANDS) ACT 1967

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This article critically evaluates the unit development provisions in s 59 of the Petroleum (Submerged Lands) Act 1967 (Cth) (PSLA). It briefly considers the background to unitisation in Australia with a discussion of the rule of capture and the evolution of unitisation in the United States. The unitisation regime under the PSLA is examined in detail and is also compared to other international offshore petroleum regimes. This paper concludes that although there are some minor issues within s 59 of the PSLA which require fine tuning, the unitisation regime currently offers much needed flexibility in the current Australian environment and presents an ideal opportunity for parties to actively negotiate and develop fields in the most effective way possible.

1. INTRODUCTION

Unit development or unitisation of oil and gas reservoirs is a particular timely issue in light of the increasing exploration and production of oil and gas in Australia. This paper reviews the unit development provisions of the *Petroleum (Submerged Lands) Act 1967 (Cth) (PSLA)* which applies in Commonwealth waters and contrasts the position under the PSLA with other international regimes. Section 59 of the PSLA outlines the offshore regime of unit development.

Part 2 of this paper outlines the background to unitisation in Australia with a brief discussion of the rule of capture and the evolution of unitisation in the United States. The debate of the existence in Australian law of the common law rule of capture and the question of whether the PSLA contains a statutory rule of capture are briefly considered. This is followed by an analysis of the major differences between the early days of commercial production of petroleum in the United States and current Australian offshore context.

Part 3 of this paper analyses the unit development provisions in s 59 of the PSLA and the equivalent provisions in the new offshore petroleum legislation. The focus of the review is on the definition of unit development, the mechanisms of voluntary and mandatory unitisation, the purpose under which unitisation can be directed and the role of the Joint Authority in the process. Uncertainties and particular issues within s 59 are identified.

Part 4 of this paper discusses a recent review of 12 petroleum-producing nations and their legislation relating to unitisation. In this part, similar features of these regimes are considered and compared to the position under the PSLA.

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This paper considers the law in place pursuant to the *Petroleum (Submerged Lands) Act 1967 (Cth)*. The position under the *Offshore Petroleum Act 2006 (Cth) (OPA)* is considered and commented upon in Part 3.1 of this paper. The operation of the OPA is dependent upon all States and the Northern Territory enacting equivalent mirror legislation to the OPA in their respective jurisdictions. At time of writing this has not yet occurred and therefore the OPA is not currently operational.

Part 5 analyses the outcomes of the international review of petroleum unitisation regimes with the position under the PSLA. Current offshore unitisation practice in Australia is also considered and evaluated with reference to concluded unitisation agreements and the unincorporated joint venture vehicle.

The paper concludes that although there are some issues within s 59 of the PSLA which require fine tuning perhaps through the use of guidelines or minor amendments to s 59, the position in the PSLA with respect to unit development does not warrant a massive overhaul of the system as some have suggested. The regime offers commercial players the option to negotiate and enter into a mutually agreeable arrangement, followed by direction by the Joint Authority in the unlikely circumstances that an agreement cannot be reached. International comparisons indicate similar legislation with comparative frameworks. These provisions must be read in context and the current Australian environment presents an ideal opportunity for parties to actively negotiate and develop fields in the most effective way possible.

2. THE BACKGROUND TO UNITISATION IN AUSTRALIA

2.1 Rule of Capture in the United States

Oil and gas have no respect for artificial boundaries of land ownership, but will migrate within the reservoir, towards a source of low pressure such as that introduced by the drilling of a well.¹ Therefore, if one landowner sinks a series of wells close to the boundary of their property overlying a reservoir which extends under adjoining land, the well will produce petroleum from both sides of the land boundary.² In that case, both neighbours will recover petroleum, but it may, depending on the design and the efficiency of the field development plan, be less petroleum than what could have been recovered if they had coordinated the recovery of the petroleum.

The starting point to any discussion on unitisation is the rule of capture and its context in the United States in the early days of commercial oil and gas development.

The rule of capture is succinctly defined in the following terms: ‘The owner of a tract of land acquires title to the oil and gas which he produces from wells drilled thereon, though it may be proved that part of such oil and gas migrated from adjoining lands.’³

The rule of capture was first stated judicially in 1889⁴ and its unrelenting application consequently led to high levels of physical and economic waste of petroleum. In 1907 it was acknowledged by the Supreme Court of Pennsylvania that ‘This may not be the best rule; but neither the Legislature nor our highest court has given us any better.’⁵ In the opinion of the court, the only option available to concerned oil-men was to ‘use it or lose it’ and make haste drilling their wells.⁶

¹ J Matthews ‘Unitisation’ [1991] AMPLA Yearbook 462 at 462.

² Ibid.

³ R E Hardwicke ‘The Rule of Capture and Its Implications as Applied to Oil and Gas’ (1935) 13 *Texas Law Review* 391 at 393 as cited in M Crommelin, ‘The US Rule of Capture: Its Place in Australia’ [1986] AMPLA Yearbook 264 at 267.

⁴ *Westmoreland & Cambria Natural Gas Co v DeWitt* (1889) 130 Pa 235.

⁵ *Barnard v Monongahela Natural Gas Co* (1907) 216 Pa 362; 65A 801.

⁶ B Clark ‘Migratory Things on Land: Property Rights and The Law of Capture’ (2002) 6.3 EJCL 2 at para 5.3.1.

In many jurisdictions well-spacing regulations were introduced by legislation.⁷ However, rather than abolish the rule of capture by legislative means, the courts of the United States subsequently developed the doctrine of correlative rights.

The doctrine of correlative rights is best described in the following terms by Kuntz:

‘The term “correlative rights” is simply a term to describe reciprocal rights and duties of the owners in a common source of supply. All such rights originate in the concept that while the owners in a common source of supply are privileged to extract oil and gas from such sources of supply, they should not do so in a manner which is undesirable for the special community, and if they do so, they will be liable for damages which are proximately caused. Such concept serves to refine and complement the law of capture by providing the fundamentals required or determining when property rights recognized by the law of capture must be modified by rules of fair play.’⁸

These rights are examined in detail elsewhere.⁹ It is suffice to say that the United States’ governments legislated to ameliorate the effect of the rule in the form of well spacing, compulsory pooling and unitisation.

2.2 Rule of Capture in Australia

There has been considerable academic debate on the United States common law rule of capture, correlative rights and their respective status (if any) in Australian common law.¹⁰ Attempting to resolve these issues is beyond the scope of this paper. The three principal cases considered by the Privy Council regarding the rule of capture and their applicability to Australian common law, each of *Trinidad Asphalt Company v Ambard*,¹¹ *U Po Naing v Burma Oil Company Ltd*¹² and *Michael Borys v Canadian Pacific Railway Company*,¹³ are considered in detail elsewhere.¹⁴

The general, although not conclusive, view appears to be that the petroleum legislation in its current form leaves little scope for the application of the rule of capture in Australia.¹⁵ It has been argued that the effect of the rule of capture in practice has been reduced, if not nullified by the legislation.¹⁶

Referring to correlative rights, Keen makes the point that the doctrine of correlative rights is really one of equity and fair play and in a common law country such as Australia, it would be hard to

⁷ See generally Williams ‘Conservation of Oil and Gas’ (1952) 65 *Harvard Law Review* 1115; Harrison ‘Regulation of Well Spacing in Oil and Gas Production’ (1970) 8 *Alberta Law Review* 357.

⁸ E Kuntz ‘Correlative Rights of Parties Owning Interests in a Common Source of Oil or Gas’ (1966) 17 *Institute of Oil and Gas Law* 217 at 219 as cited in Crommelin, n 3, at 269.

⁹ See B Kramer and O Anderson ‘The Rule of Capture – An Oil and Gas Perspective’ (2005) 35 *Environmental Law* 899.

¹⁰ Crommelin, n 3; S Gerlach ‘Comments on the U.S. Rule of Capture: Its Place in Australia’ [1986] *AMPLA Yearbook* 282; R Milliner ‘Comment on the U.S. Rule of Capture: Its Place in Australia’ [1986] *AMPLA Yearbook* 291; J Keen ‘Commonwealth Draft Guidelines for Trans-boundary Unitisations and Rule of Capture’ [1998] *AMPLA Yearbook* 433 at 436.

¹¹ [1899] AC 594.

¹² (1929) 56 LR (Ind App) 140.

¹³ [1953] AC 217.

¹⁴ See Crommelin, n 3, at 270-276; Keen, n 10, at 436-438.

¹⁵ See generally Crommelin, n 3; Milliner, n 10, at 294.

¹⁶ Gerlach, n 10, at 287.

argue against a doctrine which applies the rules of equity and fair play.¹⁷ However, this has not been explored. It should be noted though that the doctrine of equity and fair play regarding unit development is not a focus of the unitisation regime.¹⁸

There has been some discussion by commentators as to whether the PSLA creates a statutory rule of capture. The consensus appears to be that the PSLA does impose a statutory rule of capture. Keen takes the view that the overall common sense of reading s 127 of the PSLA is that it creates a statutory rule of capture.¹⁹ Daintith also takes the view that the PSLA applies the rule of capture from a reading of ss 39, 52(a) and 127 of the PSLA.²⁰ Again, these issues are explored in detail elsewhere.²¹

2.3 Unitisation in Australian Law

It is important to consider the backdrop against which the rule and capture and subsequent unitisation arose in the United States compared to the current environment in Australia today. It is noted that the states within the United States had varying laws, however this summary is intended to present a general context. Key defining features in the United States context at that time of initial oil and gas development were:

- very little was known about the nature of oil and gas, and how it moved beneath the surface of the ground and so assumptions made as to its character are now understood as incorrect;
- ownership of the land above conveyed ownership of the resources below the ground;
- exploration and production was occurring over tracts of land owned by individuals;
- exploration and production was occurring onshore with access to established infrastructure;
- comparatively moderate investment was required;
- unitisation was used to recover oil in secondary operations; and
- gas fields were rarely unitised.

This is to be compared to the current offshore regime in Australia:

- there is significant understanding of the geological characteristics of oil and gas;
- sovereign rights as to the continental shelf are vested in the Crown²² and rights to exploit petroleum are granted to parties pursuant to authorisations;²³
- individuals are rarely (if ever) the holder of rights to explore petroleum, the grantees of these rights are sophisticated corporations;
- authorisations granted under the PSLA are to exploit petroleum in Commonwealth waters offshore where there is minimal (if any) established infrastructure;
- substantial capital investment is required for any offshore petroleum activity;
- unitisation should be considered at the outset of operations before production has commenced; and

¹⁷ Keen, n 10, at 436.

¹⁸ See comments in Part 3.4 of this paper.

¹⁹ Keen, n 10, at 443.

²⁰ T Daintith 'A Critical Evaluation of the Petroleum (Submerged Lands) Act as a Regulatory Regime' [2000] AMPLA Yearbook 91 at 104.

²¹ Ibid; Keen, n 10, at 443.

²² *Seas and Submerged Lands Act 1973* (Cth), s 11.

²³ The authorisations are in the form of exploration licences, retention leases, production licences, infrastructure licences and petroleum pipeline licences granted under the PSLA. See also *Commonwealth v WMC Resources Ltd* (1998) 152 ALR 1.

- the unit development provisions under the PSLA apply to both oil and gas.

These major differences demonstrate the highly contrasting environments in which unitisation was first established compared to the current Australian offshore framework.

A key factor when considering the offshore regime is the significant difference between onshore and offshore unitisation. The offshore practice with respect to unitisation in the United States is very different from onshore. It is acknowledged that offshore parties often unitise at the development stage to allow rational development of very expensive prospects.²⁴ The same can be said of offshore unitisation under the PSLA. The amounts required to establish such projects are significant, running into billions of dollars. It is also notably one of the reasons why joint ventures are so popular for these types of projects and, although there are exceptions, it has been unusual, certainly in offshore Australia, for an oil or gas development to be owned 100% by one party.²⁵

The provisions relating to unitisation onshore in Australia under state and territory legislation raise a number of different issues and these are considered elsewhere.²⁶ It is suffice to note that the onshore petroleum legislation of Western Australia, South Australia, New South Wales, Queensland, Victoria and the Northern Territory each provide for unitisation.²⁷

3. THE PETROLEUM (SUBMERGED LANDS) ACT 1967 (CTH)

3.1 Section 59

Section 59 of the PSLA sets out the offshore regime for unit development.

Section 59 was included in the original Act and has been amended seven times since its enactment.²⁸ The most recent amendment, in 2004, was to exclude the Greater Sunrise Unit reservoir from being subject to s 59 of the PSLA.²⁹ The penultimate amendment was in 1987 to transfer control of unitisation from the Designated Authority to the Joint Authority.³⁰

The regime for unit development as set out in s 59 of the PSLA raises various complicated and sensitive issues about the rights and obligations of licence holders and the Joint Authority.

Issues relating to unitisation were considered by the Commonwealth Department of Science, Industry and Resources in 1998 and subsequently in 2001 resulting in the production of draft

²⁴ J L Weaver and D Asmus 'Unitizing Oil and Gas Fields Around The World: A Comparative Analysis of National Laws and Private Contracts' (2006) 28 *Houston Journal of International Law* 3 at 20.

²⁵ Even Woodside Energy Limited's proposed Pluto LNG Project which was initially to be owned 100% by Woodside will now be 90% Woodside, 5% held by Kansai Electric Power Company Inc. and 5% held by Tokyo Gas Co, Ltd, see: Woodside Petroleum Ltd Release to ASX, 'Pluto Export Deal Signed', 24 August 2007.

²⁶ R North 'Commentary on Unitisation: The Onshore Legislative Framework' [1991] *AMPLA Yearbook* 497.

²⁷ *Petroleum Act 1967* (WA) s 69; *Petroleum Act 2000* (SA) s 80C; *Petroleum (Onshore) Act 1991* (NSW) s 68; *Petroleum Act 1923* (Qld) s 61C; *Petroleum Act 1998* (Vic) s 63; *Petroleum Act 1984* (NT) s 69.

²⁸ Section 59 has been amended by *Petroleum (Submerged Lands) Amendment Act No.36 of 1973*; *Petroleum (Submerged Lands) Amendment Act No. 80 of 1980*; *Statute Law (Miscellaneous Amendments) Act (No. 2) No. 80 of 1982*; *Petroleum (Submerged Lands) Amendment Act No. 166 of 1984*; *Petroleum (Submerged Lands) Amendment Act No. 80 of 1985*; *Petroleum (Submerged Lands) Amendment Act No. 145 of 1987*; *Greater Sunrise Unitisation Agreement Implementation Act No. 47 of 2004*.

²⁹ *Greater Sunrise Unitisation Agreement Implementation Act No. 47 of 2004*. See note 93 below.

³⁰ *Petroleum (Submerged Lands) Amendment Act No. 145 of 1987*.

guidelines for discussion.³¹ Although there are issues raised and considered in such guidelines, some of which are important considerations under the unitisation regime, these guidelines were not well-received within the industry and there has been no apparent attempt to revive them since then.³² They are not currently referred to or even acknowledged by the Joint Authority or Designated Authority and pursuant to their dubious status, not considered in any detail in this paper.

The recent rewrite of the PSLA in the form of the *Offshore Petroleum Act 2006* (Cth) (OPA) introduced conspicuous changes to the structure and style of the legislation but sought to implement only a modest number of minor policy changes from the framework set out in the PSLA.³³

Section 59 of the PSLA was the only section of the PSLA which was not reworded and is found, in identical form and content, with only 'minor presentational changes'³⁴ in s 163 of the OPA.

The legislative reluctance to amend such a provision, even in terms of reader-friendliness, demonstrates the sensitivity of every word in the clause. The omission of its amendment in the OPA reiterates the perceived significance and severity of change to this regime. It is in this context which we examine s 59 of the PSLA.

3.2 Definition of Unit Development

Section 59(1) of the PSLA provides that the expression 'unit development':

- (a) applies in relation to a petroleum pool (other than either of the Greater Sunrise unit reservoirs) that is partly in a particular licence area of a licensee and partly in a licence area of another licensee or in an area that is not within an adjacent area but in which a person other than the first-mentioned licensee is lawfully entitled to carry on operations for the recovery of petroleum from the pool; and
- (b) means the carrying on of operations for the recovery of petroleum from that pool under co-operative arrangements between the persons entitled to carry on such operations in each of those areas.'

An opening observation is the use of the expression 'petroleum pool' and to what extent this expression applies. Accordingly, 'petroleum pool' is defined in s 5 of the PSLA and means 'a naturally occurring discrete accumulation of petroleum'.

The definition of 'petroleum' in the PSLA is:

- (a) any naturally occurring hydrocarbon, whether in a gaseous, liquid or solid state;
- (b) any naturally occurring mixture of hydrocarbons, whether in a gaseous, liquid or solid state; or
- (c) any naturally occurring mixture of one or more hydrocarbons, whether in a gaseous, liquid or solid state, and one or more of the following, that is to say, hydrogen sulphide, nitrogen, helium and carbon dioxide;

³¹ Department of Science, Industry and Resources 'Discussion Paper: Unitisation of Petroleum Fields Under the PSLA' 3 August 1998; Department of Science, Industry and Resources 'Discussion Paper on Unitisation Issues' July 2001. See Keen, n 10, for a discussion of the 1998 Guidelines.

³² T Daintith *Discretion in the Administration of Offshore Oil and Gas: A Comparative Study* (AMPLA, Melbourne, 2005) p 114, para 5419.

³³ Explanatory Memorandum to the Offshore Petroleum Bill 2005, p 2. For an overview of the rewrite see J Griffiths 'Rewriting The Petroleum (Submerged Lands) Act 1967 (Cth)' (2005) 24 AMPLJ 372.

³⁴ Explanatory Memorandum, *ibid*, p 77.

and includes any petroleum as defined by paragraph (a), (b) or (c) that has been returned to a natural reservoir.’

The wide definition of ‘petroleum’ encompasses all hydrocarbons and mixtures of hydrocarbons in all physical states. There is no differentiation in treatment under the PSLA of oil and gas, and they are collectively referred to throughout the PSLA as ‘petroleum’. This point is raised here for the commencement of the unitisation discussion and its comparison to other international regimes in Part 4.

In the context of s 59(1) ‘unit development’ only includes a petroleum pool partly in areas of production licence holders. It does not extend to situations where a petroleum pool extends over part of a production licence and part of an exploration permit or retention lease. Craig identifies this issue, however remarks that it is solved in the context of s 6A(8) which expressly extends the provisions of s 6A to include permits and leases.³⁵ Craig later concludes that s 6A does not address unit development agreements governing a licence and another petroleum tenement that is not a licence.³⁶

Indeed, unit development under s 59 only applies where there are two or more licence holders over a petroleum pool. Where there is a licensee who discovers the petroleum pool, and a permittee or lessee with an exploration permit or retention lease over the area to which the petroleum pool extends, *prima facie*, such situations are outside the ambit of s 59. As Craig suggests, a permittee could become the holder of a licence in due course following the appropriate mechanisms in the PSLA.³⁷ However, it may be difficult for an exploration permit holder to be awarded a production licence in order to participate in unit development in terms of timing, information held by the permittee, financial resources and ability to comply with the PSLA. It therefore appears that in the event where a petroleum pool overlaps a production licence and an exploration permit, these issues are negotiated commercially and outside the scope of s 59.

The potential scenario of where a petroleum pool is located partly in State waters and partly in Commonwealth waters is also not addressed in s 59 of the PSLA.

Daintith confirms that s 59 does not cover the situation where a discovery extends into adjoining vacant acreage.³⁸ Daintith further notes that there is no means whereby the discovering permittee or licensee may be preferred as grantee so as to avoid the possible need for subsequent unitisation.³⁹

However, it is noted that as recently as 2006 the Ministerial Council on Mineral and Petroleum Resources gave support to the principle of Western Australian Government and Commonwealth Government practice that with respect to petroleum taxation, a petroleum pool which extends beyond the production licence to an area where no production licence exists may be extracted through the production licence area even if the vacant area is in a different jurisdiction under the ‘Rule of Capture’.⁴⁰ There was no further explanation in the report for this approach.⁴¹

³⁵ D Craig ‘Commentary on Unitisation: The Commonwealth Offshore Legislative Framework’ [1991] *AMPLA Yearbook* 481 at 482.

³⁶ Craig, *ibid*, at 489-490.

³⁷ Craig, *ibid*, at 482.

³⁸ T Daintith, n 32, p 108 at 5401.

³⁹ *Ibid*.

⁴⁰ Ministerial Council on Mineral and Petroleum Resources, ‘A Review of Australia’s Resource Industry Fiscal Regimes and their International Competitiveness’, June 2006, Executive Summary at x; Report at 48.

⁴¹ *Ibid*.

3.3 Voluntary Unit Development

Section 59(2) of the PSLA provides:

‘A licensee may from time to time enter into an agreement in writing for or in relation to the unit development of a petroleum pool but nothing in this subsection derogates from the operation of subsection 81(2).’

This simple statement gives a licensee the option to enter into a unit development agreement with another licensee. The Joint Authority must approve the dealing pursuant to s 81(2) of the PSLA.

As we will see in Part 5, this provision is utilised by licence holders to enter into negotiations and wish to reach mutually acceptable commercial arrangements at the outset relating to the unitisation of the field in question. There are no requirements as to particular content, form or structure of the agreement. Prima facie, this provision facilitates flexible arrangements between licence holders as to unit development of a common petroleum pool.

3.4 Direction by Joint Authority for the Purpose of securing more Effective Recovery of Petroleum

Section 59(3) of the PSLA provides:

‘The Joint Authority, of its own motion or on application made to the Joint Authority in writing by:

- (a) a licensee in whose licence area there is a part of a particular petroleum pool;
- (b) a person who is lawfully entitled to carry on operations for the recovery of petroleum in an area outside the adjacent area that includes part of a particular petroleum pool that extends into the adjacent area;

may, for the purpose of securing the more effective recovery of petroleum from the petroleum pool, direct any licensee whose licence area includes part of the petroleum pool, by instrument in writing served on the licensee, to enter into an agreement in writing, within the period specified in the instrument, for or in relation to the unit development of the petroleum pool and to lodge an application in accordance with section 81 for approval of any dealing to which the agreement relates.’ (my emphasis)

Craig is of the view that s 59(3) provides an inadequate and limited code for allowing the Joint Authority to regulate unit development of common pools.⁴²

Pursuant to s 59(3), the purpose by which the Joint Authority can direct the parties to enter into a unitisation agreement is specifically restricted to securing the more effective recovery of petroleum from the petroleum pool. There is no mention of equitable principles or just distribution of the petroleum, only the economic motivation of preventing waste through effective recovery.

Keen poses the question that would not all unitisations *lead* to the more effective recovery of petroleum from a common pool?⁴³ Keen gives the example that where even only 5% of the pool extended across the boundary there will be greater recovery of petroleum.⁴⁴

However, this is not always the case. Some unitisations may not ultimately lead to the more effective recovery of petroleum from a common pool if the purpose of the unitisation is for example, for the protection of correlative rights or the equitable division of petroleum between the

⁴² Craig, n 35, at 486.

⁴³ Keen, n 10, at 448.

⁴⁴ Ibid.

unit holders. In those cases, the unitisation leads to that particular result, not necessarily more recovery of the petroleum.

The more effective recovery of petroleum is however the sole purpose by which the Joint Authority can direct unitisation under the PSLA. Notwithstanding the above argument, it becomes irrelevant as to whether or not all unitisations *lead* to the more effective recovery of petroleum, but the threshold question is that it must be the *purpose* for which the Joint Authority directs it in the first place. There is no reference to equity between licensees or protection of correlative rights, it is purely for a purpose of more effective recovery. Any other purpose for which the direction is given is, prima facie, an improper purpose contrary to ss 5(1)(e) and 5(2)(c) of the *Administrative Decisions (Judicial Review) Act 1977* (Cth).⁴⁵

If we examine the expression ‘more effective recovery of petroleum’ in closer detail, it raises a number of questions. What is the benchmark against recovery being more effective? Craig interprets this to mean more effective from a common pool once production has commenced and the Joint Authority wants the recovery of petroleum to be more effective.⁴⁶ On this restrictive interpretation of s 59(3), the Joint Authority has no ability to make directions regarding unitisation until production from the field has commenced.⁴⁷ This interpretation is also in accordance with its historical basis as unitisation was traditionally only used to recover petroleum as a secondary operation after the initial wells had been drilled and petroleum extracted.⁴⁸ Still, in the United States, most unitisations occur many years after a field’s discovery and primary production.⁴⁹

However, a wider and more appropriate interpretation of this provision is that ‘recovery of petroleum’ may be ‘more effective’ than what would normally be the case if one licensee was developing one part of the reservoir and another licensee was developing another part of the same reservoir, without intervention. It would then be ‘more effective’ to recover the petroleum as a unit, as opposed to each licensee carrying out their independent operations simultaneously.

Craig’s interpretation cannot reflect the current reality of offshore oil and gas projects in Australia. As noted above, unitisation was first used in the United States to recover oil from onshore secondary operations where there was established infrastructure and low cost to do so. Offshore oil and gas projects in Australia are enormously expensive, often requiring infrastructure to be established from scratch. The test has to be ‘more effective’ than what would normally be the case if one licensee was developing one part of the reservoir and another licensee was developing another part of the same reservoir and must be considered at the outset. It is difficult to understand, from a common sense approach, how this provision could envisage two licensees producing from the same reservoir after spending billions of dollars before the Joint Authority could direct the licensees to enter into an agreement. It is economically and practically unfeasible.

Craig supports his view by the fact that s 59 is limited in its application only to licences and licensees⁵⁰ and that the language used in the Second Reading Speech appears to contemplate coordination of existing operations for the recovery of petroleum.⁵¹ However, these factors alone are not conclusive.

⁴⁵ Daintith, n 20, at 106.

⁴⁶ Craig, n 35, at 483-484.

⁴⁷ Craig, *ibid*, at 492.

⁴⁸ See J Weaver and E Smith, *The Texas Law of Oil and Gas*, Chapter 11-2(b) at 11-15 to 11-18.

⁴⁹ Weaver and Asmus, n 24, at 18.

⁵⁰ Craig, n 35, at 484.

⁵¹ *Ibid*, referring to Commonwealth Parliamentary Debates, House of Representatives, October 1967 at 1951.

Keen raises the point that in light of the May 1997 Guideline for the Grant of a Production Licence, field development plans for production licences are required at the outset.⁵² Keen is of the view that this information should enable the Joint Authority to conclude whether the proposed method of production will be the more effective approach.⁵³

As foreshadowed earlier, there are certain features of offshore regimes which require particular attention and should be appropriately distinguished from unitisation onshore. Principally, these relate to significant costs and lack of infrastructure. These factors are very important on a commercial level and the legal regime should reflect this accordingly. A production licence holder, after having completed all its exploration work and intending to build such a project should be able to factor in any unit development arrangements at the outset.

In the unlikely scenario that a commercial arrangement between neighbouring licensees cannot be reached, the Joint Authority should, at an early stage, be able to compel the unit development of the field. If there is any doubt, as there appears to be, as to at what point in a project the Joint Authority may direct parties to unitise, this should be corrected.

3.5 Direction by Joint Authority to Submit a Unit Agreement

Section 59(4) of the PSLA provides:

‘Where:

- (a) a licensee who is directed under subsection (3) to enter into an agreement for or in relation to the unit development of a petroleum pool does not enter into such an agreement within the specified period; or
 - (b) the licensee enters into such an agreement but an application for approval of a dealing to which the agreement relates is not lodged with the Designated Authority or, if an application is so lodged, the dealing is not approved under section 81;
- the Joint Authority may, by instrument in writing served on the licensee, direct the licensee to submit to the Joint Authority, within the period specified in the instrument, a scheme for or in relation to the unit development of the petroleum pool.’

This provision is best read in conjunction with s 59(5) of the PSLA:

‘At any time after the expiration of the period within which a scheme for or in relation to the unit development of a petroleum pool is to be submitted by a licensee under subsection (4), the Joint Authority may, by instrument in writing served on the licensee, give to the licensee such directions as the Joint Authority thinks necessary for the purpose of securing the more effective recovery of petroleum from the petroleum pool.’

Craig outlines some of the primary concerns with ss 59(4) and 59(5), principally relating to their ambiguity.⁵⁴ Indeed, these provisions are not specific. There is no specific explanation of what a ‘scheme’ is, no timeframes for any of these actions and broad discretion by the Joint Authority in the subject of the directions.⁵⁵ An expanded understanding of a ‘scheme’ would be helpful. It may also be beneficial in the interests of certainty to have particular timeframes set out in the clause. However, this is not fatal to the clause’s operation. Moreover, there are clear advantages in allowing the Joint Authority the flexibility of deciding, in all the circumstances, what time period is appropriate for submission of a scheme.

⁵² Keen, n 10, at 449.

⁵³ Ibid.

⁵⁴ Craig, n 35, at 486-487.

⁵⁵ Craig, *ibid.*

It is noted that the Joint Authority is still restricted to directing the production licence holders to enter into a unitisation agreement for the purpose of securing the more effective recovery of petroleum from the petroleum pool and cannot give directions for any other purpose other than to facilitate the more effective recovery of petroleum.⁵⁶

3.6 Further Directions and Conferral with Designated Authority

Section 59(6) of the PSLA provides that where a person is the licensee in respect of two or more licence areas in which there is part of a petroleum pool, the Joint Authority may give such directions to the licensee as the Joint Authority thinks necessary for the purpose of securing the more effective recovery of petroleum from the petroleum pool.

This subsection contemplates a situation where the same licensee has interests over more than one licence area over the same petroleum pool. It is difficult to imagine a situation where a licence holder would not merge its operations to link the petroleum operations or develop the field as one unit as it would clearly be more economic to do so, especially offshore. However, it does not make sense for the licensee to enter into a deed poll effecting a unitisation agreement.

Craig notes that this provision is included so that the Joint Authority still retains control in these circumstances by allowing it to direct the licensee as it thinks necessary, again for the purpose of the more effective recovery of petroleum.⁵⁷

3.7 Directions where Additional Information is Available

Section 59(7) provides that where an agreement is in force or the Joint Authority has given directions under s 59(5) or 59(6), the Joint Authority may, having regard to additional information that has become available, give to the licensee or licensees such directions, or further directions, as the case may be, as the Joint Authority thinks necessary for the purpose of securing the more effective recovery of petroleum from the petroleum pool.

This section permits the Joint Authority to have an active involvement in the unitisation over the life of the field. Craig questions whether this section applies to a voluntary agreement reached between licensees, or just an agreement to which the licensees have been required to enter into by the Joint Authority under s 59(3). However, there is not any clear reason from a reading of this provision why s 59(7) should be limited to applying to agreements made only pursuant to s 59(3).

The clause also refers to additional information that becomes available to the Joint Authority. Access to information and data is dealt with elsewhere in the PSLA. As well as receiving information via those means, it may also become aware of information disclosed as a result of stock exchange compliance or other publicly available information. There should not be any great concern to the licensee in allowing the Joint Authority to be able to refer to other more recent information in forming a decision. The actions of the Joint Authority are in any event subject to administrative law controls.

Section 59(8) provides that the Joint Authority shall not give a direction under s 59(6) or 59(7) unless the Designated Authority has given to the licensee an ‘opportunity to confer with the Designated Authority concerning the proposed direction’.

⁵⁶ See Part 3.4 of this paper.

⁵⁷ Craig, n 35, at 486-487.

⁵⁷ Craig, *ibid.*

⁵⁷ See Part 3.4 of this paper.

⁵⁷ Craig, n 35, at 488.

3.8 Rate of Recovery

Clause 59(9) provides that directions under ss 59(5), (6) or (7) may include directions as to the rate at which petroleum is to be recovered. This clause is read in conjunction with clause 58(3) of the PSLA which provides that where petroleum is being recovered in a licence area, the Joint Authority may direct the licensee to take all necessary steps to increase or decrease the rate at which the petroleum is being recovered.

These provisions are interesting as they give the Joint Authority specific power to direct the rate of recovery of petroleum under a unit agreement, but also more generally in operations which are not subject to unit agreements.⁵⁸

4. INTERNATIONAL COMPARISON

4.1 Unitisation in Other Countries

A recent study by Weaver and Asmus compared the national laws and private contracts regarding unitisation in twelve very different countries.⁵⁹ The countries the subject of the survey were Angola, Azerbaijan, Brazil, China, Columbia, Ecuador, Egypt, Indonesia, Nigeria, Russia, the United Kingdom and Yemen. With the notable exception of the United Kingdom, these countries were selected as they do not have a long history of unitisation and are largely places where new sources of petroleum are being found and produced today.⁶⁰ In the study reference is also frequently made to the position in the United States.⁶¹

It is interesting to compare some of the features of these regimes to the position under the PSLA. This part does not purport to be an exhaustive review of the unitisation regimes of each country mentioned but serves to illustrate and compare the different approaches in some of the key features of s 59 of the PSLA and how the regime compares internationally.

4.2 Purposes of Unitisation

Weaver and Asmus note that outside the United States only a few of the countries in the survey even specify the purposes unitisation is to serve.⁶²

The offshore United States regime provides that the purpose of joint development and unitisation is to conserve natural resources, prevent waste and/or protect correlative rights, including Federal royalty interests.⁶³

In the state jurisdictions of the United States the prescribed purposes for unitisation can include all three purposes, being conserving natural resources, preventing waste and/or protecting correlative

⁵⁸ It is interesting to note that Papua New Guinea has the same type of direction provision with respect to the rate of recovery, see: s 66(3) *Oil and Gas Act 1998* (PNG) and also generally M Yalapan 'Legal Nature of the Papua New Guinea Petroleum Arrangement' [2003] *Melanesian Law Journal* 6.

⁵⁹ Weaver and Asmus, n 24.

⁶⁰ *Ibid*, at 10.

⁶¹ For further discussion on unitisation in the United States, see the references in Weaver and Asmus, *ibid*. For a brief discussion of some of the unitisation provisions in Canada see A Lucas and C Hunt *Oil and Gas Law in Canada* (Carswell, Calgary, 1990) pp 215-217.

⁶² Weaver and Asmus, n 24, at 36.

⁶³ CSF 30 IIB §250.1300.

rights.⁶⁴ However, most state conversation commissions cannot order unitisation solely for the purpose of protecting correlative rights.⁶⁵

Of all the countries surveyed by Weaver and Asmus, outside the United States no other country mentions the protection of correlative rights.⁶⁶ They conclude that this failure to mention correlative rights protection as a purpose of unitisation is perhaps not surprising in the international context where the country is the only landowner and will receive its share of royalties, taxes and other payments regardless of which contract area is produced and developed, absent different royalty, production sharing fractions, or tax rates applicable to the affected contract areas.⁶⁷ Indeed, the absence of protecting correlative rights in Australia may be as a result of the state ownership of petroleum.

Angola and China require unitisation of separate fields to achieve operating efficiencies that render commercially viable a field that would not be viable unless jointly developed.⁶⁸ This is an interesting concept that relies on a 'but for' test. This provision favours minor discoveries, obligating unitisation where the discovery would not otherwise be developed. Its focus is on ensuring that smaller deposits are not ignored.

The concept of a field being 'commercially viable' without the existence of unitisation is not used in the PSLA. Indeed, the only reference to commercial viability in the PSLA is in respect of a permittee or lessee having to show that recovery of petroleum will not be commercially viable within 15 years in respect of the grant or renewal of a retention lease.⁶⁹

The PSLA may benefit from such a provision as under the current regime in order to be granted a production licence, the part of the pool which is in the applicant's exploration permit or retention lease must be capable of commercial development on a stand-alone basis. Such a provision may have merit if adapted for use in the current PSLA regime.

The United Kingdom is an interesting comparison where unitisation is permitted if it is 'in the national interest to secure the maximum ultimate recovery of petroleum and in order to avoid unnecessary competitive drilling'.⁷⁰ The Department needs to be satisfied of both of these requirements.⁷¹ The same wording is also used in the petroleum legislation of the Bahamas and the Falkland Islands.⁷²

In the United Kingdom, if the parties fail to agree upon a unitisation scheme the Minister may impose a scheme 'which shall be fair and equitable to the Licensee and all other Licensees'.⁷³ This is contrasted to the position under the PSLA where the Joint Authority can only impose a unit agreement for the more effective recovery of petroleum. The PSLA is silent on how portions of

⁶⁴ Weaver and Asmus, n 24, at 36.

⁶⁵ Ibid, referring as an example to Texas, see Tex Nat Res Code Ann § 101.011.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ See Division 2A, PSLA.

⁷⁰ Weaver and Asmus, n 24, at 36-37. See also T Daintith and G Willoughby *Manual of United Kingdom Oil and Gas Law* (Sweet & Maxwell, London, 1984) pp 122-123, para 1-717.

⁷¹ UK Department of Trade and Industry, 'Guidance Notes on Procedures for Regulating Offshore Oil and Gas Field Developments', Guidance Note 2.5.1.

⁷² *Petroleum Regulations 1979* (The Commonwealth of the Bahamas), clause 59; *Offshore Petroleum Licensing Regulations 2000* (Falkland Islands), s 25(1).

⁷³ See Daintith, n 20, at 105.

the distribution are to be calculated and equity between licence holders. Indeed, this concept of 'fairness' is more akin to the protection of correlative rights than the promotion of maximum recovery of petroleum.

4.3 Unitisation of Oil and Gas

Historically, commercial producers treated oil and gas very differently. Unitisation was previously only used for secondary recovery operations in oil fields. Gas was often considered an unwanted by-product of oil production that was often flared at the wellhead or used to re-pressure oil fields to extract more oil.⁷⁴

Pursuant to this history, unitisation of oil and unitisation of gas are treated quite separately in the United States.⁷⁵ However, unitisation provisions of other countries tend to treat unitisation of oil and gas in the same way, as is done under the PSLA.⁷⁶

4.4 Voluntary and Mandatory Unitisation

Voluntary unitisation is a popular mechanism, found in many of the countries surveyed by Weaver and Asmus. In most cases discussed, it appears to be along similar lines to s 59(2) of the PSLA.

The provisions generally require that if the parties cannot voluntarily agree on unitisation, the government may direct the parties.⁷⁷ However, it is interesting to note that Azerbaijan relies entirely on voluntary methods of securing a unitisation agreement, with no government intervention.⁷⁸

There are several different forms of unitisation following on from where a voluntary agreement cannot be reached. By way of illustration:

- in Angola, if no unitisation plan is agreed to within the specified time period, the national oil company may, at the expense of the contractor arrange for a mutually acceptable independent consultant to propose a plan;⁷⁹
- in Indonesia, a government representative can determine distribution of costs and production between blocks if the parties do not do so voluntarily;⁸⁰ and
- in the UK, the Department of Trade and Industry may authorise a development plan as long as it results in optimum recovery of oil and gas, but if the Minister is not satisfied with a proposed development scheme, he may impose his own development plan.⁸¹

4.5 Model Agreements

Weaver and Asmus have noted some particular provisions unique to the countries surveyed that provide an interesting comparison to see what s 59 does not do.

The relevant legislation in Brazil and Ecuador provides for specific information to be included in a unitisation agreement.⁸² Ecuador is also the only country in the survey to have a Model

⁷⁴ Weaver and Smith, n 48, at 142-148.

⁷⁵ Weaver and Asmus, n 24, at 38-40.

⁷⁶ *Ibid*, at 41-43.

⁷⁷ *Ibid*, at 34.

⁷⁸ *Ibid*, at 35.

⁷⁹ *Ibid*, at 51, referring to Angola 1997 Production Sharing Agreement.

⁸⁰ *Ibid*, at 52, referring to Decree 402 of 1967.

⁸¹ *Ibid*, referring to 1999 Model Clauses.

⁸² *Ibid*, at 58-59.

Unitisation Agreement.⁸³ However, its own Model Unitisation Agreement does not appear to contain all of the information required by its legislation.⁸⁴

There is no model unitisation agreement specifically used in Australia, and it would appear that parties have the option of following the model contract developed by the Association of International Petroleum Negotiators (AIPN). It is suggested that this document is referred to and used by parties the same way but not to the same extent as the AIPN Joint Operating Agreement is used throughout the industry.

5. COMPARATIVE ANALYSIS OF UNITISATION UNDER THE PSLA AND IN PRACTICE IN AUSTRALIA

5.1 Comparative Conclusions

The conclusions drawn by Weaver and Asmus in their study indicate ‘best practices’ to look for in a legal framework for unitisation:⁸⁵

‘Enact a unitization statute, regulation or model contract that expressly recognises the public interest in unitizing to prevent physical and economic waste. Then if these purposes are met:

- allow early unitization, even in the exploratory phase;
- allow unitization of more than one field, strata or reservoir;
- allow the private parties to attempt to unitize voluntarily before imposing compulsory unitization;
- require defined and reasonable time periods for host government approval of the unitization agreement through an expert agency; and
- require arbitration if the parties cannot agree voluntarily.’⁸⁶

These conclusions are interesting in the context of the PSLA. The PSLA, as a unitisation regime, fulfils some of these criteria. It should also be remembered that the study was undertaken on general unitisation regimes in other countries, not specifically offshore regimes.

As a starting point, the PSLA does recognise the public interest in unitising to prevent physical and economic waste, although not specifically in those terms. The underlying premise of s 59 is the better management of petroleum resources and the avoidance of waste through its use of arrangements promoting ‘the more effective recovery of petroleum’. The public interest is effectively served by utilising this purpose. In the context of the PSLA, it must also be remembered that title to petroleum is held by the State and its preservation as a resource is for the public interest, not by individuals who hold title to it. Following on from this basis:

- if the preferred broad view is taken of s 59(3), it does permit unitisation prior to production, but not in the exploration phase, however this point may require legislative clarification;⁸⁷
- the definition of ‘petroleum pool’ although it refers to a discrete accumulation of petroleum, may potentially permit unitising more than one field or reservoir;⁸⁸

⁸³ Ibid, at 59.

⁸⁴ Ibid, at 59.

⁸⁵ Ibid, at 61.

⁸⁶ Ibid, at 61.

⁸⁷ See comments in Part 3.4 above.

- s 59(2) provides for the parties to reach agreement regarding unitisation voluntarily, before the Joint Authority can direct unitisation;
- there are no defined periods outlined in s 59 with respect to Joint Authority approval and there is no deferment to an 'expert agency'; and
- there is no provision for arbitration if the parties cannot agree voluntarily, but the Joint Authority directs parties accordingly.

5.2 Unitisation in Practice

There are examples of voluntarily concluded unit agreements in Australia in Commonwealth waters. Commentary has indicated that the Australian experience has been entirely on the basis of voluntary unitisation, propelled by economic imperatives or convenience rather than statutory interference.⁸⁹ Some examples are noted here.

The Laminaria field was discovered in October 1994.⁹⁰ The joint venture participants (initially being Woodside Energy Limited, Shell Development (Australia) Pty Ltd and BHP Petroleum Pty Ltd) concluded a unitisation agreement in July 1998 pursuant to the PSLA which allowed the entire field to be developed.⁹¹

The Perseus-Athena gas field is also being developed pursuant to the PSLA under a unitisation agreement by its joint venture participants (initially being Mobil Australia Resources Company, Phillips Australia Gas Holdings and the North-West Shelf Venture participants).⁹² Initially, the North-West Shelf Venture was producing from the Perseus field on production licence WA-1-L. Several years later, Mobil Australia Resources Company and Phillips Australia Gas Holdings were granted an exploration permit and discovered the Athena well which is part of the same petroleum pool as Perseus. The parties initially disagreed on how to proceed and litigation was initiated. However, a commercial solution was reached and the field was subsequently unitised.

An interesting scenario has been reported in the Browse basin where Shell has discovered gas in the Prelude and Toccata wells in the permit adjoining Inpex's Ichthys.⁹³ Commercial discussions appear likely and a unitisation agreement may eventuate.⁹⁴

In terms of offshore unitisation, it is also worth noting the Bayu-Undan unitised field which is part of the Australia-East Timor Joint Petroleum Development Area and the Greater Sunrise unitised field developed pursuant to a bilateral agreement between Australia and East Timor.⁹⁵

As practice has developed in this area, parties consider unit agreements as any other type of commercial arrangement. The unit operating agreement is prepared along the lines of a joint

⁸⁸ See Matthews, n 1, at 468 stating that in Australia the term 'unitisation' is now generally understood to refer to unit development of a multi-field project.

⁸⁹ Ibid, at 467.

⁹⁰ Department of Industry and Resources, Government of Western Australia *Western Australia Oil and Gas Review 2005*, at 48.

⁹¹ Ibid.

⁹² Department of Industry and Resources, Government of Western Australia *Western Australia Oil and Gas Review 2004*, at 26.

⁹³ S Bell 'Browse LNG Looks For A Home' *Petroleum*, September 2007, 30 at 31; N Wilson 'Shell and Japanese in Ichthys Talks' *The Australian*, 6 August 2007.

⁹⁴ Ibid.

⁹⁵ This paper does not consider these issues. See generally: G Triggs 'The Timor Sea Treaty and the International Unitisation Agreement for Greater Sunrise: Practical Solutions in the Timor Sea' (2004) 23 *Australian Yearbook of International Law* 161; D Maclean 'Timor Sea Arrangements After East Timor Independence' [2002] *AMPLA Yearbook* 607.

operating agreement for an unincorporated joint venture, with which commercial players in the oil and gas industry are very familiar. It is important to consider that unincorporated joint ventures developed as a creature of practice and common law. The unit operating agreement appears to have taken a similar path.

The PSLA does not prescribe any particular form, structure or content of the unit operating agreement and therefore gives the parties commercial flexibility and freedom in determining these issues, subject to approval by the Designated Authority pursuant to s 81(2) of the PSLA. Common identified features of unit agreements have been identified and discussed elsewhere.⁹⁶

It appears that the major issues of contention in negotiating a unit agreement are the initial allocation of interests in the pool, whether to have a redetermination clause and if so, how the redetermination clause will apply. Unlike in joint operating agreements, where percentage interest is fixed upon entry into the project, the unit interest may be recalculated later in the life of the project.

Although not pursuant to the PSLA regime, it is interesting to note the case of *Crusader Resources NL v Santos Ltd*⁹⁷ which considered the redetermination of units of joint venturers pursuant to the South Australian Cooper Basin Unit Agreement. King CJ and Olsson J held that the redetermination had not been prepared in accordance with the Unit Agreement and was therefore not a valid redetermination.

In general, practice in this area appears sound and will continue to evolve as further offshore projects are developed.

6. CONCLUSIONS

The history of the rule of capture in the United States and subsequent unitisation is a very different context to the current Australian offshore climate. These differences in context present difficulties when adopting features of unitisation regimes which are either not appropriate or generally unworkable in the current environment.

The current record high levels of exploration and production in the petroleum industry are encouraging. Indeed, oil and gas companies who have the funding and the resources to explore and produce offshore will generally be open to reaching commercial agreement with other players.

The willingness of commercial entities to develop oil and gas resources in the current market is high. It is not a case, as it began in the United States, with private individuals being forced to enter into agreements which they did not consider necessary because of the rule of capture. Unitisation in Australia's offshore petroleum regime can be dealt with commercially by offshore explorers and producers.

Unitisation is largely a commercial matter and it would be rare for neighbouring production licence holders to be unable to conclude a unitisation agreement or find another mutually agreeable commercial solution, although the complexity of the issues means that agreement may take considerable time nevertheless. It should also be remembered that in agreeing to the shares of a common pool, one party's additional equity is the other party's loss of equity. With potentially significant amounts of money at stake, it is not realistic to expect that such matters can always be resolved quickly.

Generally, the offshore unitisation regime enshrined in s 59 of the PSLA presents a workable and commercially driven framework that facilitates unit development of petroleum where required.

⁹⁶ Matthews, n 1, at 470-478.

⁹⁷ (1991) 58 SALR 74.

The fact that it drives parties to reach agreement as a result of commercial influences rather than as a result of regulatory intervention is an advantage. When compared internationally, it comprises some, but not all, of the 'best features' as identified through a study of other regimes.

There are certain aspects of s 59 that may require some further clarification and fine tuning going forward in the long term which could be by way of minor amendments to s 59, or by way of guidelines. Indeed, there are some provisions identified in other foreign unitisation regimes which may enhance the current position under the PSLA.

Some clarifications could include that unit development can occur prior to commercial production and the Joint Authority's typical expectations regarding timeframes to approve or impose unitisation agreements. However, these features would be an enhancement of an already established process, which has produced results in the form of voluntarily concluded unitisation agreements which appear to be operating satisfactorily.

The fact that the Commonwealth and State Governments, having consulted widely with industry, are not inclined to change the status quo generally indicates a system that is not in any need of major overhaul. Section 59 of the PSLA is by no means perfect but its provisions give certainty enough for industry to invest with confidence in offshore petroleum projects and for unitisation to be implemented where necessary.