LPG Storage Facilities:

A Town Planning Analysis

by

Mark J Gavin*

Joint Winner of the Law Review Prize for 1986

Part One — Introduction

The ultimate source of life on our planet is the Sun. The Sun provides the energy for the photosynthetic process carried out by plants without which there could be no animals or humans. However plants and animals eventually die and over millions of years a small portion of this energy has been trapped in their decaying remains under layers of sediment to form deposits of "fossil fuels", one being natural gas. Natural gas has many uses, either in treated or untreated forms, but this discussion will focus on one of the transport fuels, liquefied petroleum gas or LPG.

LPG consists of a mix of propane and butane from the natural gas stream. Some components of natural gas can change from gas to liquid and back again by variations in temperature and pressure and those components which most easily liquify are called "heavy fractions". Propane and butane are heavy fractions which change to their liquid form through an increase in pressure or a decrease in temperature, the latter being more difficult.[1] Because of these properties LPG can be stored in cylinders and tanks, the hazards of which give rise to the legal problems covered in this article. From a practical point of view LPG has the same energy content as petrol on a weight basis, that is, for a given amount of petrol, an amount of LPG which weighs the same will give off the same level of energy when burnt.[2]

At this stage a discussion of some of the properties and hazards of

*LLB(Hons).

1 *Energy Insight : LPG*, Ministry of Energy, (1985) 1.

2 Idem.

LPG may be helpful in understanding why storage facilities have been subject to a great deal of public scrutiny. LPG is naturally odourless[3] and colourless and if released into the atmosphere a stream of gas emerges with 1 litre of LPG producing approximately 270 litres of gas. If there is a rapid release of gas this may cause water vapour in the air to condense forming a white cloud which can be visible at some distance.[4] When released the gas is heavier than air and tends to spread along the ground collecting in hollows. As it spreads the motion entrains air into the cloud and at some point it becomes sufficiently diluted to burn if ignited. This is called the upper flammability limit and for LPG is 9% by volume with air. Below 2% a cloud is too diluted to ignite and this is taken as the criterion for safe dispersal of the vapour in the event of an accidental release.[5]

The worst possible scenario would be if a cloud spread to its maximum size within the flammability range, and ignited, causing what is known as an Unconfined Vapour Cloud Explosion (UVCE) which would be capable of causing substantial damage within the conflagration. A leak which ignites promptly will burn as a jet until the fuel is exhausted, the main danger being secondary fires and the overheating of adjacent tanks. The liquid in an overheated tank can boil, increasing the pressure of the vapour in the tank which may cause the tank to rupture violently, propelling fragments for great distances and releasing the LPG in a fireball known as a BLEVE (Boiling Liquid, Expanding Vapour Explosion). However it must be stressed that LPG has a relatively high ignition temperature and so requires something like a naked flame or electrical spark to ignite it. If the ignition is delayed and the gas spreads the burn may take the form of a flash fire in a flame front sweeping back to the source or in some circumstances it may explode in a UVCE.[6]

Although the likelihood of a gas release is extremely remote the consequences of such an accident could be catastrophic, and this explains the public reaction often generated by an application for an LPG storage facility. We should therefore now turn our attention to the major pieces of legislation relevant to planning for LPG storage facilities — the Dangerous Goods Act 1974 and the Town & Country Planning Act 1977 (hereinafter referred to as T&CPA).

Part Two : The Dangerous Goods Act 1974

The Dangerous Goods Act 1974, and the regulations promulgated under s 35, are administered by the Department of Labour and are

[3] For commercial purposes it is odourized so leaks can be detected — *Energy Insight : LPG*, Ministry of Energy, (1985).

[4] *Report of the Royal Commission to consider and advise upon an Application for a Pipeline Authorization for a Liquefied Petroleum Gas Pipeline between Lyttleton and Woolston* (1982), 32.

[5] Idem.

[6] *Planning for Hazardous Activities in the Auckland Region*, Auckland Regional

directly applicable to LPG storage facilities. Section 2 of the Act defines "dangerous goods" with reference to the Schedule. This adopts a classification system based on the recommendations of a United Nations Committee, and covers classes 2 - 9 of the classification system[7] with Class 2(d), liquefied petroleum gas, and any other liquefied flammable gas, being applicable here.

The Act appoints a Chief Inspector of Dangerous Goods,[8] and licensing authorities[9] who under s 7(2) can be local authorities. These local licensing authorities are required to appoint Dangerous Goods Inspectors[10] who have considerable powers of inspection and enforcement as set out in ss 19 - 24. The Act makes it an offence to store or use dangerous goods except in accordance with certain provisions, one of which can be a licence issued by the licensing authority.[11] It further requires that dangerous goods be packed in containers which comply with the Act and regulations promulgated under it.[12]

Work started on compiling regulations applicable to LPG in 1974. The draft evolved steadily, finally being promulgated in March 1980 as the Dangerous Goods (Class 2 — Gases) Regulations 1980.[13] It is the dangerous goods inspectors who are charged with the serious responsibility of administering the regulations. Since one of the key factors in an LPG application is safety, it is essential that councils feel that they can rely on their inspectors to ensure that the requirements of the regulations are met. Therefore it is essential that local authorities employ competent, qualified, specialist inspectors, or that they consult the Labour Department's Senior Inspector, and follow in full any recommendations which may be made.[14]

The regulations draw a distinction between cylinders and other containers for the storage of Class 2 gases, particularly tanks, and define a cylinder as having a capacity of less than 250 litres[15] which is equivalent to 125kg.[16] Regulation 40 sets out the requirements for cylinders, namely compliance with Part I, but our concern is with storage tanks, in particular those up to about a 20 tonne capacity. Regulation 53 outlines the conditions required for vehicle refuelling stations including "isolation distances," from various areas and structures beyond the boundaries of the facility. Regulation 67 requires that no Class 2(d) storage tanks be installed underground unless a special exemption is obtained

Authority, (1984), 25.
[7] The Explosives Act 1957 covers Class 1 of the classification system.
[8] Section 6.
[9] Section 7.
[10] Section 17(1).
[11] Section 26.
[12] Section 28.
[13] (SR. 1980/46).
[14] *Town Planning Guidelines for LPG & CNG Filling Stations*, Auckland Regional Authority, (1980), 4.
[15] Regulation 2.
[16] Regulation 38(1).

and regs 68–69 establish the installation, maintenance and location requirements for above-ground tanks.

The most important provision in the regulations from a town planning perspective is reg 71 which prescribes the isolation distances for above ground storage facilities from "protected works" and "public places". A "protected work" is defined in reg 2 as including, among other things, a dwelling house, university, school, hospital or "building in which persons are accustomed to assemble" while a "public place" is a place other than a protected work which is freely open to and frequented by the public. For instance, using the tables in reg 71, a tank with a water capacity of 10,000 litres (5 tonnes), must be not less than 8m from a protected work and 5m from a public place.[17] Likewise a 10 tonne tank must be not less than 11m from a protected work and 7m from a public place.[18] Regulation 73 provides that no source of ignition shall be closer than the distance the tank is required to be isolated from a protected work, provided that the isolation shall not be less than 8m. The relationship of these "isolation distances" to "separation distances" imposed under the T&CPA will be discussed in much greater detail later but at this stage it should be noted that mere compliance with these distances will often be insufficient to attain the necessary planning consent. Regulation 75 requires all tanks and fittings to be protected from mechanical damage with reg 79 prescribing the precautions to be taken in respect of pipes and hoses at the installation. Finally reg 82 places restrictions on smoking and the introduction of other sources of ignition which any prudent operator of a facility would observe anyway.[19]

Part Three : The Town & Country Planning Act 1977

As a result of the move to establish a nationwide LPG distribution network, local authorities, through the provisions of the T&CPA and their operative district schemes, have been confronted with the task of deciding whether or not planning applications should be granted for these storage facilities, and if so, what conditions are to be attached to the consents.

Subject to the matters of national importance as set out in s 3, the general purposes of regional, and more importantly district planning, as enunciated in s 4 are:

> ... the wise use and management of the resources and the direction and control of the development, of a region, district, or area in such a way as will most effectively promote and safeguard the health, safety, convenience, and the economic, cultural, social, and general welfare of the people, and the amenities, of every part of the region, district, or area.

District schemes partition a local authority area according to land uses, with the most common divisions being rural, residential, commercial

[17] Regulation 71(2).
[18] Idem.
[19] Cf. *Mace Construction Ltd v Onehunga Borough Council and Mt Smart Service Station Ltd* noted in [1982] NZ Recent Law 325.

and industrial. Within these zones, further subdivision may take place to accommodate varying intensities of development, or to take into account the incompatability of some uses adjacent to others.[20] Codes of ordinances which are necessary requirements of a district scheme under s 36(2)(c) include lists of various uses within each zone and whether such uses are to be allowed as of right, or allowed subject to public notification. Those which are allowed as of right are known as 'predominant uses', whereas those which require public notification and consideration by the local authority are known as 'conditional uses' and are considered pursuant to s 72 of the Act. There is also provision for a local authority to permit a 'specified departure' (i.e. a use which departs from the scheme) pursuant to s 74 if the effect of the departure "is not contrary to the public interest and will have little town and country planning significance beyond the immediate vicinity."[21]

Against this framework we must examine how the planning applications for LPG storage facilities have been dealt with so far. The approach of district schemes to hazardous activities in general reflects a perception of them as being predominantly an industrial use or process and consequently statements about, and controls over, hazardous activities like LPG storage occur in district schemes almost exclusively in relation to industrial zones.[22] However that does not mean that applications for facilities will always be in industrial zones and in fact some applications have concerned facilities in residential zones. It has only been in the last 6–7 years that such applications have come before local authorities for consideration with the first decision in the area being handed down by the Planning Tribunal in 1980. It is now proposed to examine the decisions in the area under three sub-headings — siting, tank size and conditions — the first is the most detailed but all three are closely inter-related.

1. The Siting of the Storage Facility

The first case in the series of LPG decisions, *Duncan v Thames-Coromandel District Council*[23] was handed down by the then Number One Division of the Tribunal on 14 August 1980. The application concerned a specified departure to install a twelve tonne facility in an industrial zone, at an existing service station. The Tribunal held as a finding of fact that:[24]

> It is government policy to promote the development and use of alternative fuels as substitutes for imported petroleum. LPG is one of the alternatives ...
>
> As it is likely to become a significant alternative fuel for vehicles, the community

[20] Cf. T&CPA s 36.

[21] Note than an appeal to the Planning Tribunal a consent can be granted under s 69(2) if the application is in the public interest but will have significance beyond the immediate vicinity.

[22] *Planning for Hazardous Activities in the Auckland Region*, Auckland Regional Authority, (1980), 122.

[23] (1980) 7 NZTPA 233.

[24] Ibid, 236.

> will need to develop a network of LPG filling stations for retail supply and sale.

However it was concluded that since the community had little experience with the storage of LPG, prudence dictated a "cautious approach".[25] Since land use planning had not developed principles or standards for LPG filling stations the Tribunal went on to formulate policies and stated that:[26]

> Prima facie, it appears to us that from a land use planning point of view the principles to be applied to the siting of LPG filling stations will be much the same as those which apply to the siting of petrol service stations.

However after a brief consideration of the nature and storage of LPG it was decided that until the safety requirements of LPG were better known, the filling stations should be no more than conditional uses in those zones where service stations and garages were permitted land uses.[27]

The most crucial portion of the judgment concerned the relationship of town planning matters to the Dangerous Goods Regulations. After accepting that the regulations must be complied with and having considered the evidence and ss 3 & 4 of the T&CPA the Tribunal stated:[28]

> ... that in the siting of LPG installations, something more is required than mere compliance with the Regulations; that there should be a separation distance, particularly from residential land. The purpose of the Regulations is principally to isolate LPG storage and dispensing installations from sources of ignition.

The Tribunal continued:[29]

> ... land use planners must have regard also to the risk to life and property in the event of a leak or fire at an LPG installation and the disturbance which would be caused to other occupiers, particularly residential occupiers in the event of a leak or fire, through a command to evacuate.

The distance which the planners must have regard to is independent of the 'isolation distance' and is known as the 'separation distance'. In assessing this distance it was held that:[30]

> It is proper to pay some regard to fear of the unknown. Fear for safety, and of the unknown impinges upon psychological health, and that is part of total health.

although it was added that as time passes that fear may prove to be unjustified or allayed and at that stage it might be proper to review the standards previously fixed.[31] With the then state of knowledge about LPG, separation distances could only be fixed on an arbitrary basis so the Tribunal set the distance for a 12 tonne installation with an auto-

[25] Ibid, 240.
[26] Ibid, 237.
[27] Idem.
[28] Ibid, 240.
[29] Idem.
[30] Idem.
[31] Idem.

matic drencher at 50m from a residential zone[32] and the appeal was allowed.[33]

In *Terry v Thames-Coromandel District Council*[34] the tribunal stated that the main question was that of separation from other land uses and the effects on the amenities of the area[35] but decided, having regard to s 72(2), that the approval should be upheld subject to certain conditions. The Tribunal concluded:[36]

> The proposed use may well have some slight adverse effect on the *neighbourhood*; but will be of overall advantage to those characteristics of the *district*, and that is the basis upon which the matter has to be judged.

In *Haycock v Rangitikei County Council*[37] the application was for a 20 tonne facility in a rural zone with the only house in the area being 40–45m distant. Although less than 50m the separation was regarded as adequate provided a 1.2m high wall was constructed. It was stated that:[38]

> Separation distance need not be necessarily related to danger, but rather to where a particular use may be located having regard to the neighbourhood amenities. The latter includes the health of the inhabitants, which expression also encompasses their feelings of security in the enjoyment of their properties. Isolation distance on the other hand is designed to protect the installation itself from external dangers.

Later in *Haines v Glen Eden Borough*,[39] although recognizing a scientific relationship between installation size and desirable minimum separation distance,[40] it was held that:[41]

> ... for the purposes of land use planning, other factors must also be taken into account, such as topography; the nature of the area; the likely future uses in the area; and matters of that kind.

The decision was significant since it related to a proposed scheme review that made provision for LPG storage whereas previous decisions of the Tribunal were site specific.[42] Consequently the Tribunal did not consider it wise land use planning to stipulate separation distances which to a large degree are governed by the particular proposal and are therefore not suitable for inclusion in the district scheme.[43]

In *Auto Maintenance v Lower Hutt City Council*[44] consent was

[32] The 50m criterion was affirmed in a general way in *Antiss & Froud v Mt Eden Borough Council*, Unreported, Planning Tribunal, 26 November 1980 (A150/80) and in *Terry v Thames-Coromandel District Council*, Unreported, Planning Tribunal, 26 November 1980 (A151/80).
[34] Unreported, Planning Tribunal, 26 November 1980, (A151/80).
[35] Ibid, 4.
[36] Idem.
[37] Unreported, Planning Tribunal, 23 December 1980, (W96/80).
[38] Ibid, 2.
[39] (1981) 8 NZTPA 124.
[40] Ibid, 126.
[41] Idem.
[42] Ibid, 125.
[43] Ibid, 126.
[44] Unreported, Planning Tribunal, 24 March 1982, (W8/82).

refused for a 5 tonne installation in a commercial zone. The Tribunal considered both the separation distance and the likely effect on the amenities of the neighbourhood. The site was very close to nearby residences and to the Hutt Hospital, which was just over the road and the most significant land use in the area.[45] In the course of *Duncan*[46] the Tribunal had obtained information from the New Zealand Fire Service Commission, who, in the 'Information Guide to the Safe Handling of Liquefied Petroleum Gas and Emergency Procedures', recommended that in the event of an LPG emergency situation (non-fire) an evacuation of all non-emergency personel within 200m would take place. In the event of a fire the evacuation would be of those personel within at least 300m.[47] With reference to the guide it was noted that there were 99 homes plus a large portion of the hospital within the 200m radius so it was concluded that it would be "patently absurd" to have a hospital block within 50–100m of the tank.[48]

Even if the hospital were not so close the Tribunal was still concerned at the proximity of residences and felt that *Duncan*[49] was very much on point. The members considered that some regard must be paid to the fear of the unknown and that fear for safety impinged on psychological health.[50] They stated:[51]

> The occupiers of residences must be able to feel safe in their environment and in the present case we are satisfied that some uneasiness would be felt by property occupiers.

This finding was reinforced by the evidence of a valuer who stated there would be a decline in property values in the immediate vicinity and that tenants would be difficult to obtain for rented properties.[52] The consent was therefore refused.

In *Auckland Education Board v Henderson Borough Council*[53] 90m to the nearest residential land and 270m to a school was regarded as adequate having regard to ss 3 & 72(2) and the proposal was allowed to proceed. However in *Bridge Freight Ltd v Takapuna City Council*[54] the Tribunal was concerned at the presence of a 'special school' 123m from the site and the juxtaposition of the site to a residential zone particularly since there was no buffer strip between the industrial and residential zones. The decision was significant since substantial technical evidence was called aimed once and for all at dispelling fears about the risks of LPG storage. The Tribunal was urged to state these fears were unjustified and was asked to abandon the initial cautious approach on "the

[45] Ibid, 3.
[46] (1980) 7 NZTPA 233.
[47] Ibid, 239.
[48] Supra at note 44, at 3.
[49] (1980) 7 NZTPA 233.
[50] Ibid, 240.
[51] Supra at note 44 at 3–4.
[52] Ibid, 4.
[53] Unreported, Planning Tribunal, 10 December 1982, (A161/82).
[54] Unreported, Planning Tribunal, 22 February 1984, (W17/84).

basis that the initial scaremongers in respect of LPG had been discredited".[55] However the Tribunal responded by stating:[56]

> This decision cannot meet that request. The hearing was not opposed by any objector calling scientific or technical witnesses, which would be desirable to enable this tribunal to evaluate and rule upon conflicting statements. The hearing was conducted in terms of this City Council's scheme, and it might be hard to find any comparable situation as to the facts.

It was also considered that if the application was granted other applications would inevitably follow and consequently the scheme could not remain without change as required by s 74. The application was accordingly refused.

This requirement that the integrity of the district scheme be maintained was highlighted in *Gisborne Gas Co Ltd v Gisborne City Council.*[57] The application was granted in respect of filling portable bottles but refused for retail selling to motorists; the latter having a greater degree of planning significance. *Gisborne Gas*[58] was a landmark decision since the Tribunal accepted that some of the information that had been placed before it in *Duncan*[59] had subsequently been discredited. The Tribunal stated that it was becoming increasingly concerned by some of the evidence being placed before it in applications for the small scale storage of LPG. Although each application must be considered on its facts, attention was drawn to the difficulty being encountered through expert evidence altering from case to case.[60]

However it was accepted that the same senior engineers could not be expected to appear at every hearing for the purpose of allaying fears held by councils and residents in the vicinity. Nevertheless it was necessary for the Engineering Manager of Shell Oil to appear at the hearing to:[61]

> ... combat the contents of widely circularized publications, including the Auckland Regional Authority's 'Town Planning Guidelines for LPG and CNG Filling Stations' dated August 1980.

In fact the Tribunal stated that the Guidelines were not authoritative and not accepted by them as such. Nor was an article from the "Town Planning Quarterly" accepted as evidence.[62] Continuing with their general comments they stated that:[63]

> There appears to be a tendency amongst local authorities and the public in general to discount the evidence of highly qualified engineers on the basis that their evidence has been deliberately weighted in some way in order to sell a fuel which poses a threat to public safety. There also appears to be an equal alacrity to accept reports (which are

[55] Supra at note 53, at 2.
[56] Idem.
[57] (1983) 9 NZTPA 124.
[58] Idem.
[59] (1980) 7 NZTPA 233.
[60] Supra at note 57, at 125.
[61] Idem.
[62] Idem.
[63] Ibid, 126.

> not substantiated by evidence given on oath and subjected to cross-examination) by persons who may not be so qualified but are generally opposed to LPG storage.
>
> We find this attitude difficult to comprehend.

In light of these comments the Tribunal found it necessary to annex a full transcript of the evidence-in-chief of the Shell Engineering Manager whose evidence "was not at any stage demonstrated to be incorrect."[64]

The Tribunal fully appreciated that not only must the use of LPG be regarded as a wise use of New Zealand's resources but that it must be conveniently available to motorists. It stressed however that these were matters of Government policy rather than town planning matters which were site specific.[65] The Tribunal continued:[66]

> The mere fact that the retail sale of LPG is to be regarded as a matter of importance under s 3 of the Act does not mean that filling stations can be established in a haphazard fashion.

Consequently the retail selling of LPG was disallowed.

So far we have examined applications to establish facilities in industrial or rural zones, albeit at times adjacent to residential areas. The following two cases are significant in that they involved applications for facilities *within* residential zones. In *Edgeware Service Station v Christchurch City Council*[67] a 4 tonne facility was so close to a "protected work", namely a house, that it was necessary to construct a screen wall just to meet the 'isolation distance' requirements of the Regulations.[68] Bearing the previous decisions in mind it was concluded that where even the Regulations could not be complied with without interference with residential amenities, the site suitability was questionable. The application was therefore refused.[69]

In *Dane v Christchurch City Council*[70] in similar circumstances the Tribunal was still not satisfied with the separation distance but rather than allow the appeal the Tribunal adjourned, giving the applicant an opportunity to call further evidence, and issued an interim decision on that basis.[71] When the hearing resumed the applicant adduced evidence from a psychologist and a town planner. Notwithstanding the opinion of the psychologist that the "anxiety-producing and hazardous possibilities of LPG stations are nowhere near the proportion that those in the vicinity of airports meet"[72] the Tribunal still felt that the appellant's fears and apprehensions remained reasonable.[73]

As far as the evidence of the town planner was concerned the

[64] Idem.
[65] Ibid, 127.
[66] Idem.
[67] (1984) 10 NZTPA 33.
[68] Ibid, 35.
[69] Ibid, 38.
[70] (1985) 10 NZTPA 362.
[71] Unreported, Planning Tribunal, 13 March 1984, (C21/84).
[72] (1985) 10 NZPTA 362, 364 quoting from the evidence of the psychologist, Professor Medlicott.
[73] Ibid, 365.

members considered that they were being asked to draw the inference that separation distances were unrealistic with regard to installations of that size.[74] Reluctant to make that finding, they stated that a much clearer expression of opinion, based on expert knowledge, experience and testing would be required before they would do so.[75] Finally the Tribunal concluded with what could be regarded as a stern warning to the industry by stating:[76]

> [F]inally we say this; if the industry wishes to pursue its policy of establishing these installations at existing service stations, particularly where they will be located in close proximity to dwellings and on sites which can be described as "tight", it will have to present much stronger evidence, should such proposals come to us, that such installations will be safe. If that is seen by the industry as an unduly conservative or cautious approach, then so be it.

Apparently the LPG industry was not prepared to accept in full the separate concept of separation distances. This to a large extent was understandable since no objective standard had been reached, and, as the Tribunal in *Duncan*[77] had stated "the distances are arbitrary".[78]

With this background of apparent continued resistance to the separation distance concept finally, in early 1985, an LPG case reached the High Court in *Allens Service Station v Glen Eden Borough Council.*[79] This is probably the most significant decision since *Duncan.*[80] The appellants alleged various errors of law by the Tribunal in dismissing an appeal against a refusal of consent to a 3.5 tonne tank within 50m of a number of houses. The appellant submitted that *Duncan*[81] needed review for three reasons. Firstly, it was contended that the 50m separation distance was arbitrary in that case, and, if applied to applications where the capacity involved was less than 12 tonnes then it was nearly impossible to satisfy the requirement in commercial or spot zones which have residential neighbours.[82]

Secondly it was argued that the psychological health approach was too nebulus, particularly in tandem with arbitrary distances, and thirdly that the Regulations provided the sole criteria for distances.[83] Concerning the last submission it was contended that the distinction between separation and isolation distances was based on the Auckland Regional Authority's report "Town Planning Guidelines for LPG & CNG Filling Stations" which was discredited in *Gisborne Gas.*[84] Counsel noted that in *Duncan*[85] residential areas had been singled out for special consider-

[74] The application was for a 1 tonne tank.
[75] Supra at note 70, at 365.
[76] Ibid, 366.
[77] (1980) 7 NZTPA 233.
[78] Ibid, 240.
[79] (1985) 10 NZTPA 400.
[80] Supra at note 77.
[81] Idem.
[82] Supra at note 79, at 410.
[83] Idem.
[84] (1983) 9 NZTPA 124.
[85] (1980) 7 NZTPA 233.

ation in relation to evacuation and noted that LPG installations can be established in commercial zones where large numbers of people work, without any separation distance requirement. Referring to the Fire Service evacuation distances, counsel argued that separation distances cannot be supported by any need to evacuate since having such a large area of vacant land around a site would be absurd.[86] It was further submitted that there was no valid distinction between houses and other "protected works" under the regulations and that isolation distances pertinent to protected works should be the sole criteria applicable to residences. Finally counsel relied on the maxim "generalia specialibus non derogant" (i.e. the regulations are specific legislation dealing with LPG). It was contended that "it is untenable for an arbitrary, vague, unsupported concept of separation to be introduced by way of a general enactment to dominate the regulations".[87]

In reply Chilwell J stated:[88]

> In my judgment there is no room for the application of that maxim. It is a case of statutes which overlap in their control of what can be done on land; the one Act in terms of land use generally, the other in terms of handling and storing LPG. The two enactments are not in conflict. The maxim is appropriate only where there is duplication and a repugnancy capable of resolution by removing the subject matter of one enactment from the other.

Referring to the Fire Service evacuation distances Chilwell J felt the "command to evacuate" was illustrative rather than interpretative and cited *Auckland Education Board v Henderson Borough Council*[89] and *Te Awamutu Service Station Ltd v Te Awamutu Borough Council*[90] as examples of cases not using that illustration. Chilwell J concluded that *Duncan*[91] was not wrong in law on the overlap issue.[92]

Citing *Meadow Mushrooms Ltd v Paparu County Council*[93] his Honour noted that the psychological factor was not a novel consideration in 1980.[94] Counsel argued that if fear arises independent of the distance between tank and residences, then, before it can be taken into account as a factor depriving the applicant of a consent, that fear must be based on fact and reasonably held. It had been argued that the risk inherent in the proximity of an LPG storage tank must be of such a degree that the residents are justifiably afraid of it.[95] Referring to *Gisborne Gas*[96] Chilwell J stated:[97]

> The contrary result ... cannot be regarded as eliminating once and for all the psycho-

[86] Supra at note 79, at 410.
[87] Idem.
[88] Ibid, 411.
[89] Unreported, Planning Tribunal, 10 December 1982, (A161/82).
[90] Unreported, Planning Tribunal, 22 January 1985, (A4/85).
[91] (1980) 7 NZTPA 233.
[92] Supra at note 79, at 411.
[93] (1977) 6 NZTPA 327.
[94] Supra at note 92.
[95] (1985) 10 NZTPA 400, 412.
[96] (1983) 9 NZTPA 124.
[97] Supra at note 79, at 413.

> logical factor in the case of LPG filling station applications, because nowhere in the evidence of Mr Burgoyne, annexed to the decision ... did he mention any favourable community reaction to recent scientific knowledge, but the reverse.

Stressing that psychological health was part of total health he continued:[98]

> Fear is a natural human reaction to certain circumstances.

and further that:[99]

> The reasonable person does not necessarily bring the same reasonable judgment to bear when he acts in concert with his neighbours. Reasonableness is not weighed in a vacuum but in the context of life's realities. As far as the concept of fear is incapable of precise measurement so it is impossible to be precise, in cases such as the present, about specific separation distances.

With reference to the annexation of evidence in *Gisborne Gas*[100] Chilwell J considered that the Tribunal was motivated by a determination to demonstrate that acceptable expert evidence ought not to be down-graded by a bias against experts advocating an unpopular cause. However he was also sure that the members of the Tribunal did not intend to adopt all the evidence because they would then be guilty of the same error themselves.[101] Chilwell J concluded:[102]

> For the individual, assessment of his fear is subjective. But the Tribunal is required to consider all the relevant evidence and all the relevant circumstances objectively. If the evidence establishes fear and consequential harm (actual or potential) the Tribunal is required to give that evidence such weight as it thinks fit along with all other relevant evidence and circumstances, and to determine objectively its significance in the context of all the relevant evidence and circumstances without losing sight of the issue; that issue is whether or not at its appellate level consent should be granted. In my view appellant has not established that the Tribunal applied the wrong test.

The appeal was rejected.

In conclusion the *Allens Service Station* decision[103] has affirmed the approach taken by the Tribunal since 1980 and also reinforced the link between physical separation and fear which in future will often be of critical importance.

Since the decision there appears to have been a greater acceptance of separation distances and the psychological factor by proponents but two decisions in particular are worthy of comment. In *Stockton v Waitemata City Council*[104] the distance of the site from other uses was adequate as regards isolation but more importantly was adequate in terms of separation as set out in the New South Wales Draft Guidelines on the siting of LPG filling stations.[105] These guidelines appear to have

[98] Ibid, 414.
[99] Idem.
[100] (1983) 9 NZTPA 124.
[101] Supra at note 79, at 414.
[102] Idem.
[103] Supra at note 79.
[104] Unreported, Planning Tribunal, 26 September 1985, (A73/85).
[105] Ibid, 7.

met a degree of approval from the industry and were referred to in greater detail in *Dainow v Waitemata City Council.*[106] There, a planner called by the applicant, agreed that they were the most valid and practicable guide for locating small LPG facilities and went on to demonstrate that the installation would be separated from other land uses in accordance with them.[107]

In *Dainow*[108] both parties called witnesses to testify on the psychological effect of the proposal on the people of the district. The Tribunal accepted as genuine the evidence given by residents on their fears but concluded:[109]

> ... although that expectation is genuine, the reality would be different: but generally, as time passes and they see that no one comes to harm, they would adjust progressively and their fear and anxiety would pass away.

Although some less resilient residents would continue to feel anxiety which could affect their feelings of mental well-being the Tribunal was "not persuaded that the LPG installation would be the cause of mental ill-health".[110] The consent was accordingly granted.

Two points arise from these decisions. Firstly, there is a need for objective guidelines for the location of small LPG facilities along similar terms to the New South Wales guidelines. The Town & Country Planning Division of the Ministry of Works and Development has been working on such guidelines but so far agreement from the concerned parties has been difficult to obtain and they are still to be published. Secondly it is clear that the question that will now come before the Tribunal on the psychological issue is not whether or not the psychological effect can be taken into account; but what the actual effect, in real terms, will be on the health of the people of the district. As in *Dainow*[111] the Tribunal may well accept that fear exists but consider that it will be allayed as time passes and grant the application. In the case of both the fear of the residents and the Tribunal's reaction to it "only time will tell".

2. The Size of the LPG Tank

One of the factors which the Tribunal may decide to take into account when deciding on an application, and the separation distance to be imposed, is the size of the storage tank. As noted in *Haines*[112] the size of the tank "will vary from case to case and from area to area"[113] so in commencing this discussion two points should be noted. Firstly, service stations more than about 15 years old would be unlikely to have the

[106]Unreported, Planning Tribunal, 14 October 1985, (A80/85).
[107]Ibid, 4.
[108]Supra at note 104, at 5.
[109]Ibid, 5.
[110]Ibid, 6.
[111]Unreported, Planning Tribunal, 26 September 1985, (A73/85).
[112](1981) 8 NZTPA 124.
[113]Ibid, 126.

room for tanks of 12 tonnes or so and at the same time comply with isolation distance requirements. Secondly, the initial applications for LPG installations concerned tanks in the range of 12–20 tonnes. Within the last few years however there has been a decrease in the average tank size, particularly in the Auckland Region. For instance, using the Auckland example, the average application size in 1981 was 7.6 tonnes. In 1982 it was down to 6 tonnes while in 1983–84 it had fallen to 3.3 tonnes.[114] This decrease is attributable to several factors, one being the recognition by applicants that a 12–20 tonne facility is unnecessary having regard to demand and unsuitable to be accommodated in built up areas, particularly those of a residential nature. Another factor is that most of the earlier applications came from "large" service stations whereas now they originate from "corner service stations" and small town garages that do not require 12–20 tonne capacity tanks.[115]

In *Duncan*[116] it was not explained in detail to the Tribunal why 12 tonne tanks were favoured by applicants[117] but later in *Haines*[118] an explanation was given and the Tribunal then stated:[119]

> The 12 tonne installation appears to be looked upon favourably for storage purposes because, at the present time, the only method of transporting LPG from its source at Taranaki for distribution purposes, is by way of 8 tonne tanks.

They recognized that it would be commercially desirable to have an installation of greater than 8 tonnes to reduce the number of deliveries that need to be made.[120]

This point was elaborated on in *Haycock v Rangitikei County Council*[121] where after a brief comparison of the physical dimensions of 12 and 20 tonne tanks the Tribunal stated:[122]

> We consider that the 20 tonne tank is therefore preferable since it gives the retailer a greater operating margin than a 12 tonne tank which would need to be emptied to 4 tonnes or less before another load could be obtained.

This comment must be viewed in light of the fact that at that particular time deliveries were only made in 8 tonne lots, a situation which has since changed. Noting that one tonne of LPG would fill only about 44 cars the tribunal therefore did not consider that 20 tonnes in the case before them was an unreasonable quantity.[123]

In *Haines*[124] the Tribunal recognized a scientific relationship between the size of the tank and the desirable minimum separation distance [125]

[114]"Environment Auckland Region", June 1984 newsletter, 5.
[115]Idem.
[116](1980) 7 NZTPA 233.
[117]Ibid, 240.
[118](1981) 8 NZTPA 124.
[119]Ibid, 125.
[120]Idem.
[121]Unreported, Planning Tribunal, 23 December 1980, (W96/80).
[122]Ibid, 4.
[123]Idem.
[24](1981) 8 NZTPA 124.
[25]Ibid, 126.

and further, in *Bridge Freight*,[126] accepted the general proposition that the separation distance between tank and residential areas should increase with the size of the tank.[127] However it was also noted that circumstances of site and vicinity vary widely and that each case must be considered on its merits. This qualification was evidenced in *Haycock*[128] where, in discussing the alternative of the 12 or 20 tonne tank, it was stated that:[129]

> ... there is no justification for increasing separation distance on the basis of tank size. We accept the appellant's understandable view of the matter, namely the bigger the installation the bigger the bang in the case of a BLEVE, but it is quite impossible to impose separation distance to cope with that remote contingency.

Therefore in conclusion except for the possibility of a BLEVE the size of the tank will affect separation *but* there is no direct correlation between tank size and distance, the latter being dependent on many factors as was indicated earlier in this article.

3. *Conditions*

The final area to examine in this discussion of the T&CPA is those conditions apart from separation distances that can be imposed on a consent. Section 67 of the Act states:

> 67. Power of Council to Consent — (1) After any application for the consent of the Council and any objections to it have been considered, the Council may grant or refuse its consent; and in granting consent may impose such conditions, restrictions, and prohibitions as it thinks fit.
> (2) The Council shall give reasons for every decision made in accordance with subsection (1) of this section.

The Planning Tribunal on appeal has the same power to impose conditions.[130] It is not intended in this article to engage in a lengthy discourse on planning conditions but some conditions in relation to LPG applications are worthy of note.[131] The conditions imposed are in addition to those required under the Dangerous Goods Regulations, but often a condition attached to a consent is that the applicant complies with the regulations.[132]

In *Auckland Education Board v Henderson Borough Council*[133] one condition was that:[134]

> The filling station shall not be permitted to operate between 8.30–9.15am and 3.00–3.30pm.

[126]Unreported, Planning Tribunal, 22 February 1984, (W17/84).
[127]Ibid, 4.
[128]Unreported, Planning Tribunal, 23 December 1980, (W96/80).
[129]Ibid, 5.
[130]Section 150.
[131]For a detailed discussion of planning conditions see Palmer, *Planning & Development Law in New Zealand*, Vol 1, 434–455.
[132]Cf. *Terry v Thames-Coromandel District Council*, Unreported, Planning Tribunal, 26 November 1980, (A151/80); *Mt Smart Service Station v Onehunga Borough Council*, Unreported, Planning Tribunal, 11 September 1981, (A83/81).
[133]Unreported, Planning Tribunal, 10 December 1982, (A161/82).
[134]Ibid, 5.

The Tribunal felt it restricted retail sales between specified times but the Council considered that it only restricted the hours of tanker delivery. It was finally held that whatever the intended interpretation, the condition was "unreasonable and probably also ultra vires".[135] The condition was cancelled.[136]

Although conditions cannot be in contradiction with, or derogate from, the requirements under the regulations, there may be conditions in addition to the regulations which relate to safety. For example some of the conditions imposed by the Tribunal in the past include:

> A static supply of not less than 15,000 gallons of water shall be maintained on the site at all times for the sole purpose of fire fighting, and a drench shall be installed and maintained over the storage tank. [137]
>
> The site shall be contoured to ensure that any gas flow in still air conditions is directed away from the appellant's property. [138]
>
> That filling and general operation of the LPG equipment shall be carried out only by trained company employees. [139]
>
> All pipelines ... are to be buried underground. [140]

As can be seen by the above there is great breadth to the conditions that can and are imposed on consents but briefly three general conditions are used in deciding whether or not one will be imposed. They are as follows:[141]

(a) The condition must not be ultra vires the objectives and purposes of the Town & Country Planning Act 1977.
(b) The condition should fairly and reasonably relate to the district scheme and the permitted use or development.
(c) The condition should be one that could be properly imposed by a reasonable council.

Further to these if a condition is imposed it must be sufficiently clear so that it can be understood and enforced.[142] In conclusion the imposition of conditions by a council means that they undertake a public responsibility to ensure that they are observed but the Tribunal will not allow fears they will not be enforced or observed to influence their decisions.[143]

[135] Idem.

[136] But refer to *Onehunga Timber Holdings Ltd v Rotorua City Council* (1971) 4 NZTPA 38.

[137] *Terry v Thames-Coromandel District Council*, Unreported, Planning Tribunal. 26 November 1980, (A151/80),4.

[138] *Haycock v Rangitikei County Council*, Unreported, Planning Tribunal, 23 December 1980, (W96/80),5.

[139] *Mt Smart Service Station v Onehunga Borough Council*, Unreported, Planning Tribunal, 11 September 1981, (A83/81), 7.

[140] *Te Anau Sub-Branch of the Plunkett Society v Wallace Country Council*, Unreported, Planning Tribunal, 10 September 1985, (W 76/85), 9.

[141] Cf. *Fawcett Properties Ltd v Buckingham County Council* [1961] AC 636; *Newbury District Council v Secretary of State for Environment* [1980] 1 All ER 731; *Associated Provincial Picture Houses Ltd v Wednesbury Corporation* [1948] 1 KB 223.

[142] *Stockton v Waitemata City Council*, Unreported, Planning Tribunal, 26 September 1985, (A73/85).

[143] Idem; citing *Barry v Auckland City Council* (1975) 5 NZTPA 312 at 318.

Part Four — Conclusion

It has been the aim of this article to demonstrate how small LPG storage installations have been dealt with from a town planning perspective but it must be stressed that the two statutes mentioned are not the only statutory or regulatory controls over LPG storage facilities. For example the Electrical Wiring Regulations 1976[144] and the Gas Industry Regulations 1984[145] both have relevance in the establishment of such facilities although neither is inconsistent with the controls over siting as discussed in this article. It is submitted that the approach of the Planning Tribunal since 1980 has been a consistent one and moreover has withstood the test of an appeal.

Nevertheless the situation which proponents and objectors find themselves in is far from satisfactory. Despite the consistency in the application of separation distances there is a definite need for objective criteria for the siting of small scale LPG refilling installations similar to those published in New South Wales. It would be unlikely that any such guidelines would be given legislative effect but if they were formulated through a process of consensus then many of the disputes over the siting of such installations would no longer arise. It is inevitable that a certain amount of fear will always be experienced by some residents adjacent to LPG facilities. Perhaps knowing that a facility has been sited according to agreed guidelines would help lessen this fear and thus assist the industry to establish a network throughout the nation with less delays caused by the planning process.

[144](SR 1976/38).
[145](SR 1984/246).