

THE COMPETITION TRIBUNAL

IN THE MATTER OF THE *COMPETITION ACT*, R.S. 1985, c.C-34, as amended, and the *Competition Tribunal Rules*, SOR/94-290, as amended (the "*Rules*");

AND IN THE MATTER OF an inquiry pursuant to subsection 10(1)(b) of the *Competition Act* relating to the proposed acquisition of ICG Propane Inc. by Superior Propane Inc.;

AND IN THE MATTER OF an Application by the Director for an order pursuant to s. 92 of the *Competition Act*.

BETWEEN:

THE COMMISSIONER OF COMPETITION

Applicant

- and -

SUPERIOR PROPANE INC. et al.

Respondents

AFFIDAVIT OF MICHAEL D. WHINSTON

William J. Miller
Department of Justice
Counsel to the Competition Commissioner
Place du Portage, Phase I
50 Victoria Street
Hull, Quebec
K1A 0C9

tel: (819) 997-3325
fax: (819) 953-9267

COMPETITION TRIBUNAL
TRIBUNAL DE LA CONCURRENCE

File No. CT-98/2
No. du dossier
Comm v Superior
et
Exhibit No. A-2063
No. de la pièce
Filed on 3-NOV-1999
Déposée le
Registrar S. Fraser
Greffier

COMPETITION TRIBUNAL TRIBUNAL DE LA CONCURRENCE		P R O D U I T
FILED	SEP 1 1999 <i>BS</i>	
REGISTRAR - REGISTRAIRE		
OTTAWA, ONT.		117

THE COMPETITION TRIBUNAL

IN THE MATTER OF THE *COMPETITION ACT*, R.S. 1985, c.C-34, as amended, and the *Competition Tribunal Rules*, SOR/94-290, as amended (the "*Rules*");

AND IN THE MATTER OF an inquiry pursuant to subsection 10(1)(b) of the *Competition Act* relating to the proposed acquisition of ICG Propane Inc. by Superior Propane Inc.;

AND IN THE MATTER OF an Application by the Director for an order pursuant to s. 92 of the *Competition Act*.

B E T W E E N:

THE COMMISSIONER OF COMPETITION

Applicant

- and -

SUPERIOR PROPANE INC. et al.

Respondents

AFFIDAVIT OF MICHAEL D. WHINSTON

I, Michael D. Whinston, of the City of Evanston in the State of Illinois, MAKE OATH AND SAY:

1. Attached hereto and marked as Exhibit "A" is a true copy of my evidence. The contents of Exhibit "A" and the findings and opinions expressed therein are true to the best of my knowledge, information and belief.
2. I was retained by counsel for the Commissioner of Competition to provide expert economic evidence in this matter.

3. Attached hereto and marked as Exhibit "B" is a true copy of my curriculum vitae.

4. I make this affidavit pursuant to Rule 47(1) of the *Competition Tribunal Rules*.

Sworn/Affirmed before me
at the city of Warren in
the State of Vermont , on Aug 18, 1999

Rita Goss

A Notary Public or other such officer
entitled to take oaths or affirmations in
the said jurisdiction

Michael D. Whinston

Michael D. Whinston

Exhibit A

REPORT OF MICHAEL D. WHINSTON

1. I am the Robert and Emily King Professor of Business Institutions at Northwestern University. I received my Ph.D. from the Massachusetts Institute of Technology in 1984, my M.B.A. from the Wharton School of the University of Pennsylvania in 1984, and my B.S. in Economics from the Wharton School of the University of Pennsylvania in 1980. Since receiving my Ph.D., I have taught courses in Industrial Organization (Ph.D. level and undergraduate) and Microeconomic Theory (Ph.D. level), first at Harvard University, and most recently at Northwestern.

2. I have published extensively in academic journals on the topics of industrial organization and microeconomic theory. I have received a number of awards and professional recognitions, including an Alfred P. Sloan Foundation Research fellowship, election as a Fellow of the Econometric Society, a fellowship at the Center for Advanced Study in the Behavioral Sciences, and National Science Foundation research grants. I have also served as a Co-Editor of the *RAND Journal of Economics*, the leading professional journal in the field of industrial organization, and on the editorial boards of other professional journals. Within the area of industrial organization, a number of my articles deal with the topic of exclusive dealing contracts.

3. I have been retained as a consultant and/or expert witness in numerous antitrust matters, including by the U.S. Department of Justice.

OVERVIEW AND SUMMARY OF OPINIONS

4. I have been retained by the Commissioner of Competition to undertake an analysis of the effects that the customer contracts used by Superior Propane Inc. (SPI) and ICG Propane Inc. (ICG) have on the overall competitive effects arising from the merger of these companies.

5. My report is based on my background and experience as a professional economist, and on my review of documents provided to me by the Commissioner's staff. As part of my work on this case; I have reviewed pleadings, discovery transcripts, information from market participants, documents produced in discovery, and a videotape. I have also spoken with industry expert Terry Kemp of Optimal Energy Inc. to clarify my understanding of various aspects of the retail propane industry.

6. My work on this matter has focused on two questions. First, whether the provisions of the contracts used currently by SPI and ICG may increase their ability to exercise market power following their merger. This analysis is aimed at asking whether the parties' current and possible future use of these contract provisions may weaken some mechanisms, such as the threat of competitive entry, that might otherwise help constrain post-merger pricing by the parties. Second, where this seems a risk, I have also examined whether these provisions seem to serve important efficiency-enhancing functions. This second question is relevant to the issue of whether, in the event that the merger is approved, restrictions on contract terms might be imposed to ameliorate some of these concerns, without having serious detrimental effects on the efficiency of contracting in the market.

7. It should be noted that a distinction can be drawn between the effect that the set of *existing* contracts may have on the combined SPI/ICG's ability to exert market power, and the effect of SPI/ICG's possible *continued use* of these types of contracts should SPI/ICG remain free to do so. Although the considerations involved in judging the potential anti-competitive harms and possible pro-competitive efficiencies involved are similar for these two questions, a judgement concerning the second question is inherently more speculative because of the uncertainty about the contract terms that would be offered by the combined firm in the future. To start with, the contract terms offered currently by ICG and SPI differ in various dimensions, including their duration (see Section I). It is natural to guess that after SPI acquires ICG the combined firm will offer contracts more like SPI's than like ICG's, but this is clearly no more than speculation. In addition, the combined firm might decide to alter the contract terms offered even relative to the existing contracts of either firm. Where possible, I comment on how the contracting incentives of the merged firm might change. For the most part, however, my comments are limited to identifying the possible dangers and efficiencies of the existing contracts used by the firms.

8. Overall my analysis indicates that several aspects of SPI/ICG's current contracting practices may increase the parties' abilities to exercise market power after their merger. The contractual provisions in question all have the effect of making competitive entry by new firms, as well as expansion by existing rivals, less attractive. This reduced threat of entry by new firms and expansion by existing ones all reduce the competitive constraints that might otherwise help limit a merged SPI/ICG's exercise of market power.

9. In addition, my analysis indicates that, with two possible exceptions, it is difficult to identify significant efficiency-enhancing roles played by these same contractual provisions. Moreover, even with these possible exceptions, the contractual provisions in use seem excessively restrictive relative to what appears to be needed to achieve these efficiencies. Thus, in the event that the merger is allowed, some restrictions on these practices should almost certainly be imposed.

10. Section I of this affidavit contains a brief overview of some basic facts concerning the propane industry, the merger of SPI and ICG, and the customer contracts used by these firms. Section II contains my analysis of the features of these contracts that may limit the competitive constraints on a merged SPI/ICG. Section III contains my analysis of the possible efficiency-enhancing functions served by these contractual provisions. Section IV contains a discussion of SPI's voluntary undertakings.

I. FACTS

11. In December of 1998, SPI and ICG consummated a merger of their businesses. SPI and ICG are engaged in the retail propane distribution business. Prior to the merger, SPI and ICG were the two largest retail suppliers of propane, accounting for over 70% of retail sales of propane in Canada. Moreover, they were the only two national, or nearly national (in the case of ICG), propane retailers.

12. Propane is a hydrocarbon fuel, which can be compressed at low pressures into a liquid form. It is used as an energy source in a number of different ways, including water heating, space heating, cooking, engine fuel, and industrial applications. It is common in the industry to distinguish between the "traditional segments" which include residential,

commercial, industrial and agricultural uses, and the “automotive segment” which consists of the use of propane as an automobile fuel.

13. In the long-run, propane is a substitute – although an imperfect one – for a number of other forms of energy in its various uses including oil, natural gas, electricity, wood, and gasoline. Each of these alternative fuels has advantages and disadvantages relative to propane for particular uses (e.g. some fuels may not be suitable at all for a particular use). In the short-to-medium term, however, customers face a considerable amount of lock-in to a particular fuel type. Often costly modifications would be necessary to existing long-lived equipment to accommodate a switch in fuel type, or the equipment might have to be replaced altogether. Thus, switches in the type of fuel used for a particular application are much more likely to occur at or near the end of the useful life of this equipment. As a result of both the imperfect substitutability of these various energy sources and this lock-in, at any given time the extent and nature of competition between various providers of a given fuel type is likely to be an important determinant of the prices at which that fuel is available.

14. Propane is generally acknowledged to be an industry in which competition occurs, to a very substantial degree, at the local geographic level (an exception is the sale of propane to large national accounts, such as restaurant chains). This is true in large part because the technology of propane delivery is such that competitors need to have a local presence and make local infrastructure investments to serve customers in a given locale. As a result, the prices at which propane is available in a local area are likely to be influenced importantly by the number of firms who have made these commitments to the

local market area. The fact that this is true can be seen, among other things, in the decentralized pricing policies followed by both ICG and SPI.

15. In many local markets, the merger has resulted in the merged SPI/ICG having a very large market share, well exceeding 70%. Indeed, in a number of the local markets identified in Doug West's report, the merged SPI/ICG has a market share of 100%.

Where SPI and ICG face other competitors, these are regional or local firms (the latter, known as "Moms and Pops").

16. In addition to differences in competition across local market areas, there are important differences across different types of propane users. Residential customers, for example, buy propane in relatively small quantities, while industrial, large commercial and large agricultural customers buy in much larger quantities. The mix of different types of customers varies substantially across local markets. Overall, at the national level, Statistics Canada reported that in 1998 commercial demand accounted for 35% of propane sales, automotive demand accounted for 25%, industrial demand accounted for 19%, residential demand accounted for 12% of the market, agricultural demand accounted for 6%, and construction demand accounted for 3%.

17. In addition, although most customers are local, some very large customers, such as Canadian National Rail, operate on a national level. For these customers, the ability to deal with a single national supplier confers contracting economies.

18. The pricing of propane is determined on a customer-by-customer basis, and for a given propane retailer there are substantial differences in the prices paid not only by different types of customers, but also across customers of a given type.

19. Economies of scale exist in the supply of propane. Although a study of the level of such scale economies is beyond the scope of this report, some evidence regarding these economies comes from market participants and from the record in this proceeding. A local propane retailer needs equipment and personnel to serve a number of functions. First, the retailer will need at least one delivery truck. As a generalization, a bobtail truck could, in principle, deliver 2-2.5 million liters per year if run constantly, but since demands are not steady throughout the year (demand is significantly higher in the winter than in the summer), it will probably deliver less than this amount a year. The actual amount that can be delivered will vary depending on the density of customers in a local market area (it will be able to deliver more the higher the density) and depending on the average size of the retail accounts in an area (due to the fixed time required to travel to a customer's location and set up when delivering propane to a customer). In addition, personnel will be needed to drive the trucks, to maintain and install equipment, and to perform office functions (the exact number will depend on the level of services offered by the retailer; for example, whether it offers 24-hour emergency service). Finally, unless the retailer operates close to a supply point, it will need a bulk storage facility. In fact, to insure reliable supply to its customers (which is very important to customers), the retailer may need such a storage facility even if it is close to a supply point. (If the retailer owns customers' storage tanks, it will need to pay for these as well, although no economies of scale are associated with this expense.) One industry expert (Terry Kemp of Optimal Energy Inc.) told me that, to be profitable, a local retailer needs to sell approximately 3 million liters a year. At the same time, the record indicates that there may be economies of scale beyond this point. In particular, most SPI and ICG branches have sales

significantly larger than this amount, and the parties themselves are claiming that large cost reductions will result from the merger. The vast majority of these claimed cost reductions are scale-related, and many of them involve scale effects at the local level.

20. In this report, I focus in my discussion on contracts used by SPI and ICG for sales of propane to the traditional segment of the market. SPI and ICG use a large number of different standard contracts in their relations with customers. For purposes of this report, I restrict attention to agreements involving the sale of propane, possibly combined with the leasing or renting of propane storage equipment (i.e. customer tanks). In addition, SPI and ICG have numerous agreements that combine a conditional sale or lease of propane-using appliances and the supply of propane. It also has agreements to supply propane at automobile gasoline stations. These other contracts share a number of the features of the contracts I discuss here.

21. Table 1 provides a summary of some of the most significant terms of the standard contracts used by SPI and ICG. For SPI, these forms are: "Form 0911: Loan of Storage Equipment/Supply of Propane Gas Agreement" (used for residential, commercial, and agricultural customers; henceforth, contract SPI#1) and "Form 0917: Industrial Agreement for the Supply of Propane Gas" (used for industrial customers; henceforth, contract SPI#2). For ICG, these are: "Product and Equipment Agreement" (used for residential and smaller commercial customers; henceforth, contract ICG#1), "Fuel Supply and Equipment Agreement" [used for larger commercial and industrial customers (one document describes this contract as designed for customers using at least 2,000 USWG per year; henceforth, contract ICG#2; this contract also contains several possible riders), "Fuel Supply and Equipment Agreement" (used in Western Canada for residential and

TABLE 1						
<u>CONTRACT :</u>						
	<i>SPI #1</i>	<i>SPI #2</i>	<i>ICG #1</i>	<i>ICG #2</i>	<i>ICG #3</i>	<i>ICG #4</i>
<i>Customer Type</i>	<i>Residential Agricultural Commercial</i>	<i>Industrial</i>	<i>Residential, Small Commercial</i>	<i>Larger Commercial, Industrial</i>	<i>Residential, Small Commercial (Western Canada)</i>	<i>Residential, Small Commercial</i>
<i>Duration</i>	<i>5 years</i>	<i>1 year</i>	<i>1 year</i>	<i>Contract Specific</i>	<i>Contract Specific</i>	<i>1 year</i>
<i>Exclusive</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Renewal</i>	<i>Auto (90) ROFR</i>	<i>Auto (90) ROFR</i>	<i>Auto (30)</i>	<i>Auto (180)</i>	<i>Auto (90)</i>	<i>Auto (90)</i>
<i>Pricing</i>	<i>Company Discretion ^a</i>	<i>Company Discretion ^a</i>	<i>Company Discretion ^a</i>	<i>Rider A, B or C (see text for description)</i>	<i>Same as ICG #2 Rider B</i>	<i>Company Discretion ^a</i>
<i>Other Charges</i>	<i>1) Equipment Rental ^b 2) Installation charge ^c</i>	<i>1) Equipment Rental or Sale ^c</i>	<i>1) Equipment Rental ^d 2) Equipment & Product Removal Charge ^e</i>	<i>1) Equipment Rider A ^b or B ^b 2) Installation Charge in Rider B ^f</i>	<i>1) Equipment Rental (same rule as for price changes) 2) Equipment Maintenance ^c</i>	<i>1) Equipment Rental ^a 2) Equipment and Product Removal Charge ^e</i>
<i>Tank for Sale</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Key : a) At "current rates" b) Price specified but subject to change with notice c) Price specified d) Price specified for initial term; at "current rates" on renewal e) At "competitive" rates						

smaller commercial customers; henceforth, contract ICG#3); and "Propane Supply and Equipment Rental Terms and Conditions" (used for new residential and very small commercial customers; henceforth, contract ICG#4). Copies of these contracts are included as Appendix A to this report.

22. Table 1 refers to the following contractual provisions: "Contract" is the specific contract being described (see the previous paragraph for reference numbers); "Customer Type" describes the type of customer the contract is used for; "Duration" is the duration of the initial term of the contract; "Exclusive" indicates whether the contract gives the supplier the right to be the exclusive supplier of propane to the customer during the term of the contract; "Renewal" indicates any provisions regarding renewal of the contract; "Pricing" describes the provisions governing the price of propane; "Other charges" describes whether any other charges such as termination charges, equipment removal fees, or equipment rental fees; "Tank for Sale" indicates whether the customer can purchase the propane storage tank from the company (if "No", then the tank is available only for rental/lease under the contract).

23. Four of the six standard contracts described in Table 1 have standard initial terms. The other two, contracts ICG#2 and ICG#3 allow for a contract-specific duration to be specified by ICG and the customer. Of the five contracts that have standard initial terms, four have initial terms with a one-year duration. The fifth, contract SPI#1 (used for residential customers), has a five-year duration. Unfortunately, I have no statistical information about the average duration of the contracts actually written with contracts ICG#2 and ICG#3. However, the evidence indicates that contracts with larger commercial and industrial customers (the customer types that ICG#2 is intended for)

often have terms in the range of five years. For example, ICG'S Amended Preliminary Prospectus (April 22, 1998; page 22) describes ICG as having contracts with certain of its commercial, industrial and agricultural customers with a three to five-year term, and of having indexed contracts with customers in the automotive, industrial, and agricultural market segments with terms of five years or longer. ICG's response to the Section 11 Order contains similar information, referring to the contracts with certain of its commercial, industrial and larger volume agricultural customers as "generally having a 3 to 5 year term". Moreover, its description of these contracts seems to match that of contract ICG#2. ICG's response also states that "Some Contracts, usually in specialized industrial application situations or under Master Auto Propane Agreement situations contain longer terms".

24. All six of the contracts described in Table 1 are exclusive contracts.

25. All six of the contracts described in Table 1 have a clause by which the contract is perpetually automatically renewed (denoted "auto" in Table 1) for terms equal in length to the original term if neither party gives notice of termination some number of days (indicated in parentheses in Table 1) prior to the expiration of the current term. In contracts SPI#1, SPI#2, ICG#3 and ICG#4 the notice period is 90 days prior to expiration; in contract ICG#1 the notice period is 30 days prior to expiration; in contract ICG#2 the notice period is 180 days prior to expiration.

26. In addition, contracts SPI#1 and SPI#2 contain a right of first refusal clause (denoted "ROFR" in Table 1) with regard to expiration of the agreement. In particular, if the customer indicates that he wishes to terminate the relationship (in accord with the

specified notice period) to switch to another propane supplier who has offered the customer a lower price than SPI is currently charging the customer, the customer is required to give SPI notice indicating the name of the other supplier and the price offered, and SPI has the option within seven days to meet this price, in which case the contract is automatically renewed as if the termination notice had not been given.

27. In contracts SPI#1, SPI#2, ICG#1, and ICG#4 the company (ICG or SPI) is obligated only to charge the customer its then current propane price at the time and place of delivery. Contract ICG#2 (for large commercial and industrial customers), in contrast, may contain one of three pricing riders. Rider A specifies a fixed price of propane for the duration of the contract. Rider B specifies a fixed price, but gives ICG the right to change the price subject to the following provision: should ICG announce a price change, if the customer within 15 days provides written notice of a bona fide offer of like product in like quantities at a lower price, and if ICG does not agree to match that price within 30 days, the customer has the right to terminate the agreement. Rider C establishes the price of propane through an index formula based on ICG's refinery gate cost, common carrier tariffs, branch administrative costs, and a fixed mark-up. Finally, contract ICG#3 has the same pricing provision as in Rider B of contract ICG#2.

28. The six contracts also contain a variety of other pricing terms. Contract SPI#1 provides for a contractually specified up-front and monthly storage equipment rental charge which is subject to change by the company with 90 days notice to the customer, as well as a contractually specified installation charge; contract SPI#2 (used for industrial customers) provides the contractual specification of either a sales price or a rental charge for cylinders; contract ICG#1 specifies an equipment rental charge for the initial term of

the contract and specifies that the equipment rental charge upon renewal will be at ICG's then current rates and also specifies that ICG may charge the customer for an equipment and product removal charge upon termination of the contract at "current rates"; contract ICG#2 (for large commercial and industrial customers) may have one of two Equipment Riders: both provide for an initial contractually specified monthly equipment lease charge which ICG is free to change at any time and, in addition, Rider B provides for charges for site preparation and installation work performed by ICG for the customer; contract ICG#3 provides for a contractually specified monthly equipment charge which can be changed by ICG subject to the same provisions as for propane price changes (see above) and also requires the customer to hire ICG to maintain the equipment at rates competitive with those charged by third party service organizations that ICG considers competent to carry out such maintenance. Contract ICG#4 has an equipment rental charge at "current rates" and also gives ICG the right to charge a product and equipment removal fee at "current rates" upon termination of the contract.

29. The contracts discussed above and summarized in Table 1 are "standard" contracts used by SPI and ICG. In addition to these contracts, when dealing with larger commercial and industrial customers the parties will often write non-standard contracts whose terms are specifically negotiated with the customer. Superior estimates that approximately 90-95% of its customers are under standard form contracts, of which approximately 20-30% might have small modifications. The remaining 5-10% of customers have negotiated non-standard contracts. These customers are likely to be among SPI/ICG's largest customers, and therefore likely account for substantially more than 5-10% of SPI/ICG's volume [for example, one ICG document describes the top

7.9% of ICG's Central Region customers (representing 1,292 customers) as accounting for 78% of ICG's 1998 Central Region volume]. Some evidence suggests that such customers are more likely to own the on-site propane storage equipment (i.e. tanks and piping) than are smaller customers. At the same time, a variety of evidence indicates that such customers do often have contracts and that these contracts often have durations in the 5-year range.

II. ANALYSIS OF COMPETITION-REDUCING FEATURES OF SPI/ICG'S CONTRACTS

30. As a general matter, suppliers and buyers may find it optimal to write contracts that differ from the simple types of exchange contracts contemplated in the classical perfectly competitive model. For example, these contracts may contain incentive provisions, they may give one or the other party options of whether and how much to trade, and/or they may include exclusivity provisions.

31. Such contracts can serve variety of purposes and have a range of effects. Most often, they are adopted for pro-competitive, efficiency-enhancing purposes. Sometimes, however, they may be employed to achieve anti-competitive ends. In addition, even where a contractual provision may be adopted for efficiency-enhancing reasons, it can still have a significant competition-reducing effect.

32. In this section, I discuss in some detail three aspects of the contracts used by SPI and ICG. The first is their long-term exclusive nature (including their auto-renewal provisions). As noted above, this is a feature of both firms' current standard contracts. The second is the right of first refusal for contract renewal present in SPI's contracts.

The third is SPI/ICG's common practice of renting but not selling storage tanks to customers, particularly smaller ones, and of bundling this rental agreement with the agreement on propane supply.

LONG-TERM EXCLUSIVE CONTRACTS

33. While long-term exclusive contracts will sometimes be adopted for efficiency-enhancing purposes (see Section III for a discussion of the reasons), they can have in some cases distinctly anti-competitive, efficiency-reducing effects.

34. There are two reasons for this. First, an exclusive contract can distort a buyer's purchase decisions – a buyer who is subject to an exclusivity provision will be unable to buy an alternative product that turns out to better suit his needs, or is equally good but less costly. Unless he renegotiates his exclusive contract with his supplier, he may be forced to make an inefficient purchase. Moreover, since his supplier will recognize that the buyer is locked-in, if prices have not been fully stipulated in the contract, the supplier may also offer less competitive prices than he would absent the exclusivity provision.

35. This first efficiency-reducing concern with exclusive contracts may be ameliorated to the extent that buyers are sufficiently sophisticated. A sophisticated buyer will take into account the loss of future opportunities and will sign an exclusive contract only if the supplier offers sufficiently attractive terms to compensate for this later lack of choice.

One can therefore worry less about this type of inefficiency arising from exclusive contracts when the buyers are large businesses who have significant experience in such matters and face a significant potential loss of profit from limiting their future purchasing options than when the buyers are residential customers who may not understand how the

limitation of choice (and resultant loss of ex post competition for their business) will impact them.

36. A second and more serious concern with long-term exclusive contracts is that they can serve to deter entry into a market (or, more generally, deter investments by smaller rivals). This concern arises when economies-of-scale are present in production of the good, so that a certain minimum scale is required for efficient production. If a sufficiently large fraction of the market is tied up in long-term exclusive contracts, a potential supplier – even one who produces more efficiently than the incumbent supplier or who produces a more desirable good – may not have access to a large enough set of potential customers to make entry profitable. Moreover, if the expiration dates of these exclusive contracts are staggered, there may *never* be a time when a sufficient number of customers are potentially available (over a short enough time horizon) for entry to be profitable. In general, this is more likely to be the case the longer are the durations of the contracts, because the longer are these durations, the smaller is the share of existing customers whose contracts are expiring at any moment.

37. Exclusive contracts can have similar effects on investments by smaller existing rivals. When only a small fraction of the market will be free to switch suppliers (or, more generally, if buyers become able to switch only over some number of years), a small rival will see reduced benefits to lowering its costs, expanding its capacity, or improving its quality compared with the incentives it would have for such investments in the absence of the exclusive contracts.

38. In contrast with the first concern, this concern about the use of long-term exclusive contracts to prevent entry or deter investment by existing rivals is *not* ameliorated by having sophisticated buyers. Even though a sophisticated buyer may understand very well the entry-preventing or investment-reducing effects of exclusive contracts, an incumbent supplier may still be able to induce enough buyers to sign such contracts to prevent entry or deter rivals' investments profitably. The reason is that buyers find themselves in a situation in which the encouragement of entry or investment (accomplished by not signing the incumbent's exclusive contract) is a "public good": each buyer recognizes that if enough other buyers sign, entry or investment will not occur regardless of his own actions. Indeed, because of this fact, the incumbent may be able to successfully exclude an entrant or deter investment by smaller rivals without having to compensate buyers at all for their decision to sign an exclusive. As a general principal, the situation is worse for buyers, and better for an incumbent seeking to prevent entry or deter investment, when buyers are smaller and more numerous since this exacerbates the public good problem faced by buyers.

39. When exclusive contracts reduce the threat of entry into a market, incumbent firms are freer to exercise market power, and one potential constraint on post-merger price increases is curtailed.

40. In the case of the retail propane market, even if we assume that all customers are sophisticated enough to foresee the costs of their loss of choice, the presence of scale economies means that the long-term exclusive contracts being used by SPI/ICG could prevent entry by potential entrants or reduce investment by existing ones.

41. To know more fully how significant this problem is, one needs to consider a number of factors. The first, of course, is whether the contracts are actually enforced. The evidence here is somewhat mixed, but on the whole supports the view that the contracts have a significant effect on customer choice during their terms. Strictly speaking, the incentives for SPI/ICG to commence litigation to enforce their contractual rights depends on the size of the customer. For very small residential customers, it is rarely worthwhile for SPI/ICG to actually do this since the amount of business at stake is small, while SPI/ICG will have an incentive to enforce their contract for larger accounts. This observation seems consistent with the evidence concerning actual litigation by SPI and ICG. That said, however, it appears that SPI and ICG both follow policies of actively reminding customers of their contractual obligations and of threatening litigation when a customer calls to say they want to switch suppliers during the term of their contract. Moreover, it appears that such threats – particularly with relatively unsophisticated residential customers – do have the effect of inducing many customers not to switch suppliers. Indeed, in this regard it is notable that in discussing SPI's undertaking with regard to enforcement of its existing contracts, SPI's Mr. Schweitzer distinguished in his discovery deposition (May 3, 1999; pp. 514-5) between the effects of simply stopping to enforce such contracts and of notifying customers that it would do this. The distinction arises, of course, because many customers assume that the contracts will be enforced even when it would in fact be too costly for SPI to do so.

42. SPI and ICG have greater incentives to sue competitive suppliers who attempt to induce customers to breach their contracts since by doing so they may stop many customers from switching to a rival supplier. In fact, SPI and ICG have followed active

policies of threatening to sue rival suppliers who try to supply SPI's and ICG's customers during the terms of their contracts.

43. The second factor concerns the actual degree to which the contracts prevent entry by new firms and deter investment by existing rivals. A number of factors affect the precise degree to which these contracts might reduce the incidence of entry or rival expansion in response to post-merger price increases: I) the duration of the contracts, which determines the number of available "free" customers (or, more precisely, the amount of available "free" liters) at any given point in time; (II) the extent of scale economies, which determines the cost penalty that a firm incurs if it must serve a limited number of customers for some time; (III) the nature of competition between a merged SPI/ICG and an entrant (or expanding rival), which determines the price charged optimally to a free customer by an entrant (or expanding rival) and the likelihood that the entrant (or expanding rival) wins the business of this free customer.

44. It is in fact difficult for me to gauge precisely the extent of this danger for several reasons. First, I do not have a precise estimate of the extent of scale economies. Second, as I noted above, I do not know the duration of SPI and ICG's non-standard contracts nor of ICG's contracts ICG#2 and ICG#3. Though relatively small in number, these non-standard contracts and contract ICG#2 are applicable for the largest customers. As a result, I am unable to know the average (volume weighted) duration of SPI and ICG's contracts in any given local market. If we suppose that the average is 4 years (which is one year shorter than the noticeably long duration of SPI's residential contract SPI#1, and in line with the anecdotal evidence on contracts with larger accounts), then less than 25% of SPI/ICG's business becomes available in any given year. Third, the precise nature of

competition post-merger between a merged SPI/ICG and a new entrant (or expanding rival) is unknown.

45. Some feel for this can nevertheless be obtained by examining the extent to which various local markets would have a number of "free liters" at or below the 3 million liter level per year under a reasonable assumption about the average duration of contracts. (I mean to suggest by this statement neither that this would be a sufficient amount of free business to support entry, nor that a level below this would not support entry; I am trying here only to give a feel for the magnitudes involved). Suppose for example that the average duration of contracts is 4 years. Then, on average, a market must have a total level of demand of at least 12 million liters per year to result in 3 million "free liters" per year. Using Doug West's preliminary report, which contains his estimates of SPI/ICG's sales volume and market shares for 71 of the 74 local markets he identified, I determined that 12 of the 71 markets fall below this 12 million liters a year level.

46. Since one could argue either that a new firm would need more than this level to support entry (it will be unlikely to win all free customers, particularly given some of the other concerns I discuss later in the report), or less (it may enter with less current free business because additional free customers will become available in the future), I also performed the same calculation for total annual market demand levels of 9 million liters (representing 2.25 million free liters a year) and 24 million liters a year (representing 6 million free liters a year). Overall, 29 of the 71 markets had annual demand below 24 million liters; 6 of the 71 markets had annual demand below 9 million liters.

47. SPI and ICG supply a very high share of the autopropane demand. In the Superior Asset Performance Review 1995 document, for example, this share appears to be in the neighborhood of 85-90% (see Figure 5.3). There is also some question of whether a new local entrant could hope to secure any significant amount of autopropane business. As a result of this possibility, I also did these calculations looking at only traditional demand levels in the 71 local markets. I did this by using Doug West's estimated SPI/ICG volumes and market shares to derive an estimated total market demand as above. I then subtracted from this amount an estimate of total automotive demand in each market. This estimate of total automotive demand was calculated by dividing SPI/ICG's automotive volume in each market by 0.9 (as a rough estimate of SPI/ICG's automotive market share). Overall, 9 of the 71 markets have a total traditional demand level below 9 million liters per year, 18 of the 71 markets have a total traditional demand level below 12 million liters per year, and 39 of the 71 markets have a total traditional demand level below 24 million liters per year.

48. The above calculations assume that all firms in the market have an average contract duration of 4 years. In fact, I have little information about other firms' contracts. Thus, I also did the above calculations assuming instead that all business other than SPI/ICG's business was on short-term contracts. This is a much more favorable (although I think probably unrealistic) assumption regarding the ease of entry. In this case, looking at all market segments, 6 of the 71 markets would have less than 2.25 million free litres per year, 7 of the 71 markets would have less than 3 million free litres per year, and 17 of the 71 would have less than 6 million free litres per year. Looking instead only at traditional demand, 10 of the 71 markets would have less than 2.25 million free litres per year, 12 of

the 71 markets would have less than 3 million free litres per year, and 24 of the 71 would have less than 6 million free litres per year.

49. Overall, it appears that in a significant number of markets, the reduction in the number of free customers available caused by SPI/ICG's long-term exclusive contracts could weaken the threat of competitive entry or expansion by existing rivals.

50. It should be recalled, in addition, that the contracts used by SPI/ICG after their merger could differ from those they currently use. In particular, to the extent that long-term exclusive contracts can prevent entry or expansion by existing rivals, a merged SPI/ICG will have a greater incentive to sign customers to such contracts, as well as a greater incentive to have long durations in such contracts, than do either of the two firms presently. The reason is that prior to the merger, the prevention of entry or expansion by existing firms is a public good for ICG and SPI. Since (sophisticated) customers may need to be compensated for signing such agreements, this compensation represents in part an investment in reducing competition. However, prior to the merger, for each firm this is an investment that also benefited the other firm. After the merger, these benefits will be fully internalized by the merged SPI/ICG.

51. It should also be noted that the auto-renewal clauses present in these contracts serve to increase the effective duration of these contracts since they mean that a customer is free to switch to a new supplier only if the customer is willing to do so a significant period ahead of the contract expiration date. Moreover, with these clauses, if some evidence of actual operations is important to buyers (who are concerned about reliability of a supplier's deliveries), a new entrant into a market would have to wait a half year

before being able to serve a *single* ICG industrial customer (assuming the new entrant signed them up the first day they entered) and three months before serving *any* SPI customer.

52. In addition, in contracts ICG#1 and ICG#4, ICG is able to charge an “equipment and product removal fee” at a rate that is unspecified in the contract (which states that it will be “at current rates”). These fees serve as a further deterrent to a customer who might contemplate switching suppliers at the expiration of the initial contract term, particularly when the customer realizes that ICG is able to charge whatever it wants to charge.

RIGHT OF FIRST REFUSAL

53. A notable feature of SPI’s contracts is the right of first refusal (ROFR) clause. As noted earlier, this clause requires that if a customer wishes to terminate his contract upon its expiration (subject to the notice provisions) because of a lower-priced offer from another propane supplier, SPI has the right to renew the contract by matching the price offer of this other supplier. As part of this provision, the customer must furnish SPI with evidence of the name of the other firm and the price that this firm has offered to the customer.

54. A ROFR clause has several effects. The first is informational: it means that SPI is necessarily fully informed of the identity of any rival who is bidding for its customers and the price that the customers have been offered by this firm. The second effect of such a clause is that it sets a “scoring rule” for comparing SPI and the rival’s offer. In particular, when competition for a customer has multiple attributes (such as price, service quality, reliability, etc.), a ROFR clause must set a rule for comparing offers. In the

present case, the SPI right of first refusal clause sets price as the variable that is compared. Finally, a ROFR clause effectively gives the right-holder all of the bargaining power. In particular, absent a contractual ROFR, a supplier and a buyer would split in some way any surplus that their trading created over the buyer's next-best alternative. With a ROFR, the supplier has the right to continue the relationship by matching the buyer's alternative offer, effectively giving the buyer none of the surplus.

55. Like long-term exclusive contract provisions, a ROFR may be adopted for efficiency-enhancing reasons (again, see Section III for a discussion of these reasons). However, a ROFR provision can have notable competition-reducing effects.

56. First, the scoring rule feature of a ROFR clause has the direct effect of distorting the buyer's choices. Under the ROFR clause, SPI/ICG can keep the business of a buyer who actually prefers an alternative supplier to SPI/ICG (say, because of better or friendlier service, or greater reliability) simply by matching this supplier on price. The end result is that an alternative supplier with similar costs to SPI/ICG but better quality may be unable to win the customer's business. Like the loss of choice under an exclusive, this efficiency-loss will be internalized by a sophisticated buyer, who will be willing to accept it only if he is suitably compensated.

57. More significantly, the scoring rule also has the much more pernicious effect of greatly reducing the profitability of entry by new firms or expansion by existing ones. In particular, because SPI can keep a customer's business by matching a rival's price offer, a rival that wants to win business can do so only by offering a price close enough to SPI's cost so that SPI does not find matching to be worthwhile (for prices close enough to its

cost, SPI will prefer to take the chance that the customer actually prefers its service to that of the rival). Thus, for example, a rival with higher quality but higher costs than SPI may not be able to win profitably any business at all.

58. Like the entry-preventing effects of long-term exclusive contracts, the entry-preventing effect of a ROFR clause will not be internalized by a buyer, even a sophisticated one. The reason is the same as before: the provision of competition is effectively a public good for buyers, and so buyers will not suitably take these effects into account when deciding whether to sign such a contract.

59. The informational changes brought about by a ROFR clause can also have distinct competition-reducing effects. First, by identifying a firm that has made an offer to a SPI customer and the price offered, a ROFR clause can help firms in a market maintain a (tacitly) collusive pricing regime. In particular, with a ROFR clause, any attempt to gain business by cutting prices is not only less likely to be successful at winning business (see above), but also is more likely to generate a retaliatory response. Second, by identifying customers that a new entrant is making offers to, the ROFR clause can aid SPI in making selective predatory responses to a rival's entry into a local market.

BUNDLING OF TANK RENTAL AND PROPANE SALES

60. Another feature of the contracts I have discussed in Section I is that all but one of them (SPI#2, intended for industrial customers) allow only for rental of the propane storage tank (rather than a sale) and bundle this rental with the propane supply agreement. In particular, under these contracts SPI and ICG retain ownership of the on-site propane storage tank (although I shall not explicitly refer to it again, they also retain

ownership of the piping from the tank to the customer's building), and the customer's use of the tank ends when his agreement expires.

61. The evidence suggests that this is a standard practice of SPI and ICG for the vast majority of customers. For example, ICG estimates that it supplies tanks to 91% of its customers. Particularly for residential and small commercial customers, SPI and ICG seem to make it a practice not to offer to sell propane tanks to customers (and certainly not with monthly payment plans).

62. The effect of this practice is to greatly increase the costs of a customer switching to a rival supplier relative to the costs the customer would face if he owned his own storage tank. The reasons for this are several. First, when the customer does not own his own tank, switching suppliers involves one firm picking up their tank and the new supplier installing theirs. Although neither of these activities is very costly for the propane firms (see Section III), coordinating this tank removal and installation across the two companies involves significant effort for the customer. For example, the customer may have a particular location where he wants the tank to go (sometimes underground), and so installation of the new tank cannot happen before removal by the former supplier. Moreover, for the customer not to experience a service interruption, the installation must immediately follow the removal. Particularly in the winter heating months, this may not only take a considerable amount of effort to coordinate, but may also involve significant risks for the customer. For a commercial, industrial, or agricultural customer it may also involve lost production. In addition, since equipment must get to the tank's location to lift it, there may also be a significant risk of disruption to the customer's premises. *None* of these costs would arise if the customer owned his own tank.

63. Indeed, it is a widely-held belief in the propane business that placement of a supplier's tank on-site greatly increases the lock-in of a customer to that supplier.

64. The result of these costs is that they make a customer significantly less likely to switch suppliers than if the customer owned his own tank. In essence, these switching costs increase further the effective duration of the long-term exclusive contracts, and like those provisions, they can greatly reduce the likelihood of entry by a new firm or expansion by an existing rival.

III. ANALYSIS OF THE EFFICIENCY-ENHANCING FUNCTIONS OF THE COMPETITION-LIMITING CONTRACTUAL PROVISIONS

65. Given that several provisions of SPI/ICG's contracts may serve to reduce the competitive constraints on SPI/ICG's exercise of post-merger market power, it is appropriate to ask whether restrictions on these contractual practices might be usefully imposed in the event that the merger is nonetheless allowed.

66. Although such restrictions might eliminate the competition-reducing effects of the merged firm's contracts, this fact does not on its own imply that such restrictions would improve efficiency in the retail propane market. The reason is that these provisions may be serving some other important efficiency-enhancing roles.

67. In what follows, I begin by discussing in a general way some of the efficiency-enhancing functions that long-term exclusive contracts, rights of first refusal, and ownership of equipment can play. I then assess whether these provisions seem to be serving any of these functions in the retail propane market. My conclusion is that, with

two possible exceptions, it is difficult to identify significant efficiency-enhancing roles being played by these contractual provisions in this market. Moreover, these exceptions do not seem to justify many of the contract provisions currently in use.

LONG-TERM EXCLUSIVE CONTRACTS

68. In some circumstances contracting parties may seek to write long-term contracts to govern the terms of their trading relationship. Three primary motivations for such contracts appear in the economics literature.

69. The first is that the contracting parties may write a long-term contract to efficiently allocate risks among themselves. The classic example of such a contract is, of course, a pure insurance contract whereby an insurance company promises to indemnify an insured individual against losses due to certain types of events. Risk-sharing motives may also provide a motivation for long-term contracts in trading relationships. For example, a risk-averse buyer may wish to avoid being exposed to fluctuations in the price of an item he needs to purchase (due, say, to fluctuations in its production costs). In response to this, a supplier could offer this buyer a long-term contract that fixes the price of the item at some intermediate level. In this case, the buyer would be fully insured against price fluctuations; instead, the supplier – who may more readily be able to take on this risk – would be the party who would face the risks inherent in the fluctuating cost of the item.

70. A second motivation for long-term contracts arises when one or both parties need to make non-contractible relationship-specific investments. For example, consider a supplier of an automobile component that is specific to a particular automobile. The component supplier may be able to undertake investments that lower his cost of producing the part,

such as automating certain processes, or devoting engineering effort to studying how to produce the component more inexpensively. Ideally, for the relationship to work efficiently, the component supplier should undertake such investments when their benefits (in terms of the expected reductions in manufacturing cost) exceed their costs. Unfortunately, in the absence of a long-term contract this will often not be so. The reason is that the component supplier's investments may be subject to "opportunistic hold-up" by the automobile manufacturer. Specifically, once the component supplier has made these investments and successfully lowered his costs, the automobile manufacturer will attempt to extract some of the decrease in the component supplier's cost of supply as a reduction in price. The result will be that the component supplier will see only a fraction of the cost reduction contributing to its profits – the rest will go to the benefit of the automobile manufacturer. Anticipating this, the component supplier will have too little incentive for undertaking these investments and the relationship will not work as efficiently as it might.

71. A long-term contract that fixes both the quantity to be traded and the price can help restore appropriate relationship-specific investment incentives. The reason is that once the future trade quantity and price is fixed by contract, the automobile manufacturer will no longer be able to extract part of the component supplier's cost reduction in the form of a lower price; the component supplier is protected against this by the contractually stipulated terms of trade.

72. Two aspects of this second motivation for long-term contracts are worthwhile emphasizing. First, the investments must be *relationship-specific*; that is, the benefits from investment must depend on realizing future trade with the specific trading partner.

For example, the component supplier's investments will be relationship-specific only to the extent that he cannot fully redeploy his investments for producing components for other buyers in the event that he does not trade with the automobile manufacturer. Were the investments not relationship-specific, the component supplier's investment would be safe from expropriation by the automotive manufacturer even without a contract since he could always earn a full return on his investment by using this investment to serve others.

73. Second, the investments must be *non-contractible*. That is, it must be impossible (or, equivalently, too costly) to specify contractually the types and levels of these investments in an enforceable way. Were this not the case, the trading partners would not need a long-term contract over trade to insure efficient investment levels – they could simply write a contract specifying directly the required investment levels. For example, the component supplier and automobile manufacturer could write a contract specifying the component supplier's required investments, perhaps with some agreed-upon split of the investment costs between the supplier and the manufacturer.

74. A third possible motive behind the writing of a long-term contract governing trade is a desire to avoid inefficiencies associated with ex post haggling over the terms of trade. In the absence of a contract, a buyer and a seller who are locked-in to each other because of a lack of alternative trading partners and who engage in one-on-one negotiations may each take inefficient actions (such as delaying agreement) in order to obtain more advantageous terms of trade. For example, when the true value to the buyer of the seller's product is not known to the seller, the buyer may inefficiently delay reaching an agreement over trade in an attempt to signal to the seller that his (the buyer's) value from trade is not very high.

75. In some cases, including an exclusivity provision in a long-term contract may further the pro-competitive aims that I have described above. For example, consider the case in which a buyer and seller are writing a long-term contract to insure the buyer against variations in the price of the product and where, because of uncertainty in the requirements of the buyer, the optimal insurance contract would take the form of the buyer having the option to purchase his needed quantities at a fixed contractually-stated price. If the buyer is free to procure the good from other suppliers, then when the market price is lower than the contract price, the buyer would buy on the market. However, when the market price is high, the buyer would buy from the supplier. The end result would be that the supplier would lose money when the market price is high, but gain nothing when it is low. As a result, the supplier would not be willing to sign the insurance contract to begin with, and the ability of the buyer to get such insurance would be undermined. In this case, an exclusivity provision could solve this problem and allow the buyer to obtain more complete insurance against price fluctuations.

76. It should be noted that this efficiency-enhancing role for an exclusive contract is present only insofar as the insurance contract gives the buyer the option to choose the quantity he wishes to purchase. If, instead, a contract is written that specifies a fixed price for a contractually agreed-upon (fixed) quantity, then an exclusive contract is not needed. Hence, the extent of the efficiency enhancement generated by the ability to use an exclusive contract is limited to whatever the added insurance benefit might be from using an option-type contract over a fixed quantity contract. In addition, although absent an exclusive a supplier would not agree to the pure option contract discussed above, he would be willing to sign such an agreement in return for an up-front payment. Once

again, the efficiency benefit of an exclusive is limited to the added insurance that is available using the pure option-type contract.

77. Exclusives can also sometimes help induce efficient non-contractible investments.

The precise circumstances in which this is so depends on the nature of the investments and on who is making them. Two cases in particular have been identified in the economics literature. First, when the supplier makes an investment that raises the value of the buyer's trading not only with him, but also with other suppliers, an exclusive will enhance the seller's investment incentives because it will eliminate the seller's concern that rival sellers will "free-ride" on his investments. For example, such a situation can arise when a seller can train a buyer how to use the product more efficiently, but such training aids the buyer regardless of whose product the buyer purchases.

78. The second case arises when it is instead the buyer who makes non-contractible investments and the nature of these investments involves a choice by the buyer of the degree to which his investment is specialized toward the seller's product. For example, a manufacturer might have to decide to what degree his equipment is specialized to a specific input supplier's component. In such a circumstance, the buyer has too little incentive to specialize from an efficiency standpoint, because specialization worsens his bargaining position with the supplier in any future negotiations (it increases his dependence on this supplier). An exclusive can help give the buyer more efficient incentives for specialization by removing the ability to deal with other suppliers in the event that he chooses not to specialize.

79. In contrast to the cases of risk-sharing and relationship-specific investment, exclusives should not be expected to help when long-term contracts are being used to avoid ex post haggling. Rather, an exclusive should be expected to worsen the problems associated with ex post haggling because it further locks the two contracting parties into each other.

80. . In the case of the retail propane business, it is difficult – with two possible exceptions – to identify significant efficiency-enhancing effects of the long-term exclusive contracts now in use. Moreover, neither of these exceptions seems to justify exclusive contracts of the duration now in use, particularly for residential and smaller commercial customers.

81. Consider, first, the possibility that these contracts might be serving a risk-sharing role. If so, we would expect to see the sharing of risks be most pronounced in residential supply contracts, for these small customers should be the most risk-averse (while large businesses should be risk-neutral). However, until very recently, neither SPI nor ICG offered any significant form of insurance to these customers. As can be seen in Table 1, SPI and ICG's residential contracts SPI#1, ICG#1, ICG#4 provide absolutely no price guarantees, which might be used to insure residential customers against variations in the per liter cost of propane. Only ICG#3 provides any mechanism affecting ICG's ability to change prices, but this mechanism would not provide any restraint in the case of a market-wide change in propane prices. These contracts also contain no terms adjusting propane prices depending on volume, which we might expect to see if the contracts were designed to insure customers against variation in weather conditions (say, by having the price per liter decline when the quantity purchased increases). The only truly guaranteed

price for propane appears in Rider A of contract ICG#2, which is designed for large commercial and industrial customers.

82. In the last few years, ICG has introduced its CAP IT program, whereby residential customers can lock-in their propane price in August for the coming year. It is my understanding that this program does leave customers with an option regarding how much propane to purchase at this price. More recently, SPI has been developing its own such program entitled PROrate. As I have noted above, these types of contracts do provide a possible efficiency motive for the use of exclusive contracts. However, as they insure prices only over a one-year horizon, they provide a motive for exclusive contracts having durations of at most one year.

83. Both companies have also entered into fixed price contracts with larger customers for some time. Many of these agreements are apparently for a fixed volume. As such, they provide no efficiency motive for exclusive contracts. Some, however, are option contracts, such as contract ICG#2 with Pricing Rider A. This would, again, provide a possible efficiency motive for the exclusive contract.

84. As I have noted above, the efficiency-benefit in all of these cases is limited to the gain from being able to write a fixed price contract of the option type as compared with a fixed price contract that also specifies a fixed quantity for which this price applies or an option contract that involves an up-front payment. In many cases, this efficiency benefit may therefore be small.

85. Consider next the possibility that these contracts could be helping to encourage non-contractible relationship-specific investments. The problem with this view is that it is

difficult to find non-contractible investments that appear to be significant. By far the largest investment made by a supplier in the course of his relationship with a customer is the assignment and installation of an on-site storage tank. However, only a small portion of this investment is relationship-specific. At least for residential and small commercial customers, the tank is readily redeployed to other customers and even other markets; the only non-recoverable cost involved is the cost of installing and picking up the tank. However, as the parties both note in their discovery depositions, these costs are minimal. Moreover, in all cases this investment is quite obviously contractible – the customer could simply compensate the supplier for installation and use of the tank (in fact, the contracts do provide for such compensation already), or alternatively purchase the tank and compensate the supplier for installation – and so a long-term exclusive contract is hardly needed to insure that this investment occurs.

86. Although there may be other truly non-contractible components of investment involved – perhaps some of the servicing of the tank – these too seem minimal. For example, as the parties themselves have at times out-sourced these service functions, they appear also to be largely contractible.

87. Perhaps the one area in which an exclusive may serve an efficiency-enhancing role because of non-contractible investments concerns the use of auto-delivery programs. In these programs, the propane supplier keeps track of a customer's use of propane and schedules deliveries appropriately. A potential problem arises, however, if the customer nonetheless keeps track of his needs and buys from a rival supplier. (This is an example in which the customer is making an investment that increases the possible value of buying from a rival supplier at the expense of the propane supplier who is doing auto-

delivery.) This may be inefficient because the customer may not be the efficient party to monitor propane needs. Moreover, once the customer does this, it may reduce the supplier's incentives to monitor the buyer's needs effectively. If so, an exclusive can help increase the efficiency of the customer/supplier relationship.

88. Nonetheless, it is unlikely that a very long-term contract is needed to achieve this benefit since the buyer would be prevented from engaging in this type of behavior even with much shorter-run contracts (e.g. 1-year contracts). Certainly, SPI's 5-year contracts with residential customers seem particularly excessive in their duration in this regard.

89. Finally, in a similar manner, given the extremely minimal costs of disconnecting and picking up a residential customer's storage tank, it is hard to see any serious efficiency-based justification for the requirement that residential customers give SPI three months notice of their intent to switch suppliers.

RIGHT OF FIRST REFUSAL

90. The efficiency-enhancing effect of a ROFR is that, in some cases, it can serve to encourage non-contractible relationship-specific investments. For example, suppose that a supplier can make investments that lower his costs of serving a particular buyer. Absent a ROFR clause, the supplier will bargain with the buyer, and will split in some way the surplus that their trade generates over the buyer's next-best alternative. For example, if the buyer has an alternative offer of 51 cents a liter, and the supplier's cost of serving the buyer is 45, then they might agree on a price of 48, splitting the difference. If the supplier were to reduce his cost of serving the buyer to 41, then the split would yield a price of 46 cents per liter. Hence, when he reduces his cost of serving the buyer by 4

cents, the supplier sees an increase in profit of 2 cents per liter. With a ROFR clause, however, the supplier could keep the buyer's business with a price of 51 in either case, and so his profit would increase by 4 cents when he reduced his cost of serving the buyer by 4 cents.

91. However, there do not appear to be significant non-contractible relationship-specific investments of this kind present in the relationship between SPI/ICG and its customers (particularly residential customers).

TANK OWNERSHIP

92. The economics literature has also discussed extensively how the allocation of asset ownership can have important efficiency consequences in a trading relationship. The reason relates once again to providing the parties with incentives for undertaking non-contractible investments. In particular, ownership of an asset will sometimes allow an individual to earn a greater return on such an investment.

93. To see one example that has been discussed in the literature, consider a supplier who can use an asset for producing a special good for a potential buyer. Suppose also that the supplier undertakes non-contractible investments in learning how to produce this good very efficiently. If the supplier ultimately does not reach an agreement to sell the good to the buyer, if he owns the asset he may still be able to produce a general-purpose good using this asset and benefit at least to some degree from his accumulated knowledge. If he does not own the asset, however, he may have no productive use for this knowledge. Thus, in this case, the supplier will invest more if he owns the asset.

94. It is difficult to point to any significant way in which tank ownership at a customer's location enables SPI/ICG to trade more effectively with others should they not sell to the particular customer in question.

95. In the previous example, the ownership of the asset by a supplier gave the supplier greater opportunities to trade with others. In other cases, ownership of the asset by the buyer may improve the buyer's ability to trade with others. In this regard, ownership of the asset by the supplier functions very much like an exclusive contract since it reduces the buyer's ability to trade with others. The types of non-contractible investments that can be encouraged by such ownership are precisely the types that can be encouraged by an exclusive contract. Thus, our conclusions about the possible efficiency-enhancing role of supplier tank ownership are the same as for exclusive contracts.

96. It is sometimes suggested that there are liability reasons why the tank should be owned by the propane supplier. (In particular, the argument appears to be that the owner/maintainer of the tank should also be the party who fills the tank.) Although in principle such a concern can be a valid one, the evidence suggests that in practice it is not a very serious concern. Although they are not a large fraction of the number of customers, there are many customers – particularly larger ones – who do own their own tanks. The evidence shows no particular problems associated with this ownership, and propane suppliers – including SPI and ICG – show no hesitations in filling these customers' tanks.

IV. THE VOLUNTARY UNDERTAKINGS

97. As part of the proceedings in this matter, SPI has offered four “voluntary undertakings” with regard to some aspects of its customer contracts in the event that the Tribunal permits the merger. First, it has said that it will not enforce term provisions in its “existing Standard Contracts For Propane Supply”. Second, it will adopt a standard form propane supply contract terminable by the customer on 30-days notice. Third, it will waive contractual terms calling for liquidated damages and limit itself to seeking recovery of accounts receivable. Fourth, it will waive its contractual rights to match lower prices quoted by competitors.

98. In this section, I discuss these voluntary undertakings in light of the above analysis.

99. It should be noted first that even if these undertakings eliminate fully all of the competition-limiting effects of SPI/ICG’s customer contracts, this in no way implies that the merger is benign and should be permitted. Simply put, even without the problems raised by SPI/ICG’s customer contracts, the analysis of this merger would still involve a weighing of all the usual possible anti-competitive dangers and pro-competitive benefits that arise in evaluating mergers. These other considerations are beyond the scope of my report.

100. In fact, however, these voluntary undertakings do *not* adequately address many of the concerns I have raised here with regard to the possible competition-reducing effects of SPI/ICG’s customer contracts. There are numerous reasons why this is so.

101. In its first voluntary undertaking SPI offers to cease enforcement of term provisions in Standard Contracts For Propane Supply”, where “Standard Contracts For Propane Supply” is said to exclude any contracts that contain specific terms requested by the customer, including contracts entered into pursuant to bids and tenders. Note first that this undertaking applies only to existing contracts; it offers no assurances about *future* contracts. In addition, the definition of a “Standard Contract” provides a huge loophole for SPI, since in principle SPI could say that *any* contract signed by a customer has been “requested” by the customer. (For example, would a customer not providing notice of a desired termination at the expiration of the initial contract term constitute “requesting” the contract to continue? And, related to this, does SPI intend not to enforce any auto-renewal provision as well?) Finally, as I have noted earlier, there is likely to be a significant difference between SPI not enforcing the term provisions and its notifying customers that it will not enforce them, particularly for residential and smaller commercial customers.

102. In its second voluntary undertaking SPI offers to adopt a standard form propane supply contract terminable by the customer on 30-days notice. The problem with this undertaking is that it is easy to “adopt” such a standard contract and simply not offer it to anyone. Moreover, as I have noted above, to the extent that promoting competition is a public good among customers, SPI may still find it profitable to sign customers to much longer-term contracts if it is still allowed to do so.

103. In its third and fourth voluntary undertakings SPI offers to waive contractual terms calling for liquidated damages, to limit itself to seeking recovery of accounts receivable, and to waive its contractual rights to match lower prices quoted by

competitors. Although these undertakings are not clear on this point, they appear to be referring only to existing contracts, not future ones.

104. Finally, these voluntary undertakings do not address in any way the issue of tank ownership.