MEETING LOG
DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: National Propane Gas Association Appeal of the Adoption of the Flammable Vapor Ignition Resistance Test Methodology into the ANSI Z21.10 Domestic Water Heater Standard.

PLACE: ANSI Headquarters, 11 West 42nd Street, New York, NY

MEETING DATE: August 3, 2000

LOG ENTRY SOURCE: Donald W. Switzer

ENTRY DATE: August 10, 2000

COMMISSION ATTENDEES:

Donald W. Switzer	ES

NON-COMMISSION ATTENDEES:

Jim Coffing	Board of Standards Review (BSR)
Frederick G. Heath	BSR
William Marleta	BRS
Mike Morrell	BSR
Leona Nesbet	BSR
Alan Peterson	BSR
Gary Robinson	BSR
Donald Snyder	BSR
Brooke Stauffer	BSR
Nancy Trahey	BSR
Daryl Hosler,	Z21 Committee Chairman
Frank Stanonik	Gas Appliance Manufacturers Association
Bruce Sweicicki	National Propane Gas Association
Clem Erhardt,	Counsel for the Water Heater Industry Joint Product Development Consortium
Alan Callahan	Z21/83 Secretary

MEETING SUMMARY

The National Propane Gas Association (NPGA) appealed the decision of the ANSI Z21 Committee to adopt the Flammable Vapor Ignition Resistance (FVIR) Test Methodology to the ANSI Board of Standards Review (BS). CPSC staff presented the attached testimony in support of adopting the test method. Frank Stanonik of the Gas Appliance Manufacturing Association (GAMA) presented GAMA's testimony in support of the standard change and Daryl Hosler, Chairman of the Z21/83 Committee likewise testified in support of the standard change. Mr. Bruce Sweicicki of the NPGA presented their appeal. All the testimony is attached.

U.S. Consumer Product Safety Commission Staff Testimony
At the ANSI Board of Standards Review Appeal Hearing
Of the National Propane Gas Association 's Appeal of the Adoption of
Section 2.38 "Flammable Vapor Ignition Resistance"
August 3, 2000.

Background

Each year there are an estimated 2,000 fires caused by gas-fired water heaters igniting flammable vapors in the home. These incidents result in about 320 injuries and 20 deaths annually. These incidents are preventable.

Until now, the hazard of vapor ignition by water heaters has been addressed through warning labels and installation requirements in the model building codes. These codes require that water heaters installed in garages be elevated 18 inches to address the vapor ignition problem. As evidenced by the continuing incidents, this approach has not been satisfactory. Furthermore, elevating the appliance does not eliminate the hazard, it only delays ignition. The only effective way to address the hazard is to design it out of the product.

In 1992 the U.S. Consumer Product Safety Commission (CPSC) staff asked the ANSI Z21/83 water heater subcommittee to amend the Volume I Water Heater Standard, ANSI Z21.10.1, to address this hazard. The subcommittee at that time formed the flammable vapor working group, beginning the process to amend the standard. Progress was not satisfactory, and in June 1994, CPSC staff went to the Commission with a recommendation to begin rulemaking to develop a mandatory federal standard.

As a result of the staff's recommendation to the Commission, the gas water heater manufacturers agreed to work closely with CPSC staff to develop flammable vapor ignition-resistant (FVIR) water heaters and the performance requirements necessary to certify their performance. As a result, the Commission did not initiate rulemaking.

To facilitate product development, a number of manufacturers formed the Water Heater Industry Joint Product Development Consortium. While all manufacturers had the opportunity to join, not all manufacturers joined the Consortium. In 1995, prototype testing began. As is common in such research, in the beginning there were more failures than successes. However, with each failure, the manufacturers gained knowledge and improved the next prototype tested. By 1998, manufacturers had designs that consistently did not ignite vapors when exposed to the spill scenarios that were ultimately adopted by Z21/83 as the standard test conditions. Since then, manufacturers have been working to refine the technologies.

In 1994, the Gas Research Institute (GRI) formed the Flammable Vapor Technical Advisory Group (TAG) to develop a test methodology. The Gas Appliance Manufacturers Association contracted with Arthur D. Little, Inc. (ADL) to examine the incident data and to determine what gasoline spill scenarios would need to be covered by the test method to

adequately test emerging technologies. One of the conclusions from this study was that the bulk of incidents do not occur in garages. Garages account for only about a third of the incidents. The remaining incidents happen in other parts of the house, such as the basement, which may not have adequate overhead clearance to allow elevating the water heater as required in the current codes. Furthermore, the model building codes do not require elevating water heaters in locations other than garages. This is why depending on the local codes has not effectively addressed this problem.

In 1999, the Z21/83 Committee adopted a test methodology based on the ADL evaluation of the incident data. Two spill scenarios are included in the standard. In the first, summer blend (low volatility) gasoline is spilled away from the water heater. The vapor cloud above the spill is not agitated in any way, resulting in conditions that test a water heater's ability to withstand a slow buildup of vapor concentration. The second scenario involves spilling winter blend (high volatility) gasoline toward the water heater and agitating the vapor cloud to encourage a rapid rise in concentration. While these two conditions do not represent all the conditions possible in the field, they do define the "envelope." That is, any condition a water heater may encounter in the field would almost certainly fall between these two extremes. CPSC staff has carefully examined the test requirements adopted by Z21/83, finds them to be adequate, and has supported their adoption.

Since 1992, the need for the proposed test method has been discussed publicly at Flammable Vapor Working Group meetings, TAG meetings, and water heater subcommittee meetings. In addition, several special meetings have been held to demonstrate the technologies being developed and the new performance requirements. Representatives from the NPGA attended or had the opportunity to attend all of these meetings.

All water heater manufacturers currently selling Volume I water heaters in the U.S. have designs that will pass the test method adopted by the Z21/83 Committee at its April 1999 meeting. One manufacturer, in fact, is currently offering FVIR technology on some of its product line. CSA International has built a new state-of-the-art test facility to certify new FVIR products. It is crucial that the Z21/83 Committee's decision to adopt Section 2.38 Flammable Vapor Ignition Resistance proceed. Without requirements to certify the performance of the new technologies, some manufacturers may not introduce new technology. Failure to adopt this standard at this time would, in my mind, demonstrate a failure of the voluntary consensus process to solve this problem.

NPGA's Objections

1. <u>The Ruling to Disallow Discussion on Cost versus Benefit</u>

The National Propane Gas Association (NPGA) argues "that the committee should not have decided such an important issue without having the benefit of a cost/benefit analysis to assist in that decision." However, the Committee did in fact have the benefit of information published by the CPSC staff in a Briefing Package to the Commission dated November 29, 1994. That report contains an estimate that flammable vapor ignitions from gas-fired water heaters were costing society an estimated $395 million each year. This cost reflects the property

damages, injuries and deaths that result from this hazard. Moreover, in that same report, the Commission staff published an estimate that water heater costs could increase by as much as $85.00 per unit to eliminate the hazard and still be cost effective. This information has been public for over five years. I have a copy of the report with me if you would like to have it.

NPGA would have you believe that they had no opportunity to raise the issue of cost/benefit at any point during the development of the test method in question. This is not correct. The ANSI standard writing process is an open process, which seeks contribution of all parties. The NPGA has been a member of the Z21/83 Committee since before work began on the section being appealed. At each Z21/83 meeting since 1991, an item has been on the agenda updating the Committee on the status of subcommittee and or working group actions to address the flammable vapor issue. The NPGA never brought this topic up. Furthermore, NPGA has had a representative on the water heater subcommittee in 1991, 1992, 1998, and 1999. I have attended all the subcommittee meetings since 1994. In 1998 this topic was discussed thoroughly for nearly two hours. Unfortunately, NPGA's member on the subcommittee was not present at that meeting. NPGA was present at the 1999 subcommittee meeting but did not bring the matter of cost/benefit to the table. If NPGA wished to discuss the cost/benefit implications of this standard change, they had ample opportunity to do so.

Most importantly, it is my belief that the Z21/83 Appeals Panel was correct in finding that the subject of cost/benefit is outside the scope of the Z21/83 Committee. Every year, the Committee decides on important safety provisions for water heaters and other gas appliances. And it's true that this is done without a discussion of cost/benefit analysis. Never in my years of participating in Z21 standards has cost/benefit been an item of discussion at standards meetings. My experience is that once a safety issue is identified, the subcommittee and its members work to develop standards coverage to address the hazard, without attaching a value to cost of lives saved and injuries averted.

2. Premature Standardization of a New Technology

I must say that I am puzzled by NPGA's concern that a standard would be adopted by Z21 before there was adequate data showing that the new technologies "...will operate safely and efficiently in the field under even the most controlled conditions." NPGA seems to believe that the Z21/83 Committee should require field test data from manufacturers in order to develop performance standards for gas-fired appliances. That is not correct. I have never attended a Z21/83 Committee or subcommittee meeting where field test data were discussed. The tests that an individual manufacturer chooses to include in its normal field test program are proprietary, as are the results. It is the responsibility of the manufacturers to insure the products they market are safe. Furthermore, NPGA ignores the fact that new FVIR water heaters must meet all the safety requirements currently in the standard.

The purpose of the field tests is not to test the FVIR technology, but to verify that the technology does not introduce a new hazard in the field, to verify its durability, and to estimate what effect, if any, long term operation with the FVIR technology will have on the performance of the water heater. Field tests are underway in all parts of the country, at multiple altitudes, various tap water conditions, and various climates. These tests are very comprehensive. If these

tests show that the FVIR technology is in any way unsafe, the certifying agency, and manufacturers have told CPSC staff that they will not certify or market FVIR water heaters until the safety issues are resolved. The effective date of the standard would be delayed until the problem is resolved. There are numerous instances where this has happened with other changes.

The appellant asserts that the FVIR technology has not been tested at different altitudes. That is correct. However, manufacturers have assured CPSC staff, in writing, that high and low altitude testing will be completed before the effective date of the standard. CPSC staff believes that, considering the technologies being used, the FVIR technologies will not be affected by changes in altitude.

NPGA raises the question of serviceability of the FVIR technology. FVIR technology-equipped water heaters must pass the serviceability requirements currently in the standard. Typically, service to a water heater consists of changing the thermocouple if it fails. Since the combustion chamber on an FVIR water heater must be leak-tight, there must be a seal where the thermocouple penetrates the combustion chamber and a seal around the service access door. CPSC staff believes that servicing can be easily accomplished without special training. In the event that the servicer does not achieve a leak-tight seal, the FVIR feature may be defeated. However, this will not interfere with the safe operation of the appliance under non-spill conditions. With regard to testing FVIR technology after it has been installed in the field, that is not possible. The only way to attest to the performance of the FVIR feature is to expose it to gasoline vapors. Obviously, that cannot be done in the home.

If a water heater with FVIR technology is exposed to flammable vapors, it is designed to stop operating. Manufacturers have designed the units so that they must be replaced after a flammable vapor incident. The CPSC staff concurs with this decision. A spill incident places such stress on the appliance that it is prudent to replace it. If the FVIR feature on a water heater is the cause for a service call, it will be immediately apparent to the service technician that there has been a flammable vapor incident and the product should be replaced.

Finally, the appellant's claim of "premature standardization of a new technology" implies that the Z21/83 Standards prescribe technologies and set effective dates. This is wrong on both counts. Section 2.38 prescribes what tests a FVIR water heater must pass, regardless of the technology employed. There are a number of viable technologies that could be applied to a water heater to impart FVIR characteristics. Section 2.38 in no way favors one technology over any other. The implication that the Z21/83 Committee in any way sets the effective date for the Section 2.38 is wrong. The standard only prescribes what tests a product must pass before it can be listed as complying with the standard. The effective date is set by the certifying agency with consultation of the manufacturers.

NPGA's Proposed Solution

ANSI Z21 standards set the **minimum** level of performance acceptable to the manufacturing community and the certifying agency. To make a safety feature "optional" is not acceptable to the CPSC staff.

Relying on local building codes to "determine where such water heaters must be installed" is not an acceptable strategy to address the hazard of flammable vapor ignition. At present, the model building codes require only those water heaters located in garages to be elevated. However, about two-thirds of the flammable vapor incidents happen in other parts of the home. In those locations where there are local building codes, those codes are for new construction or locations where a building permit has been obtained for the water heater installation. Since about two thirds of the water heaters sold each year are replacement water heaters, it is very likely that no building permit would be obtained, defeating the strategy of relying on the local codes. Finally, as stated earlier, elevating the water heater 18 inches does not prevent flammable vapor ignition.

If Section 2.38 is not approved at this time or is made optional, the voluntary standard process will, in my view, have failed. In either case, CPSC staff will immediately bring this to the attention of the Commission and will examine the need for a mandatory rule to make all water heaters sold in the U.S. meet the requirements of Section 2.38.

Thank you for allowing the CPSC staff to testify at this hearing. Voluntary standards activities are normally delegated to the Commission staff. Therefore the positions stated in this testimony are those of the Commission staff. They have not been reviewed or approved by the Commissioners.

STATEMENT PRESENTED AT ANSI BOARD OF STANDARDS REVIEW HEARING OF NATIONAL PROPANE GAS ASSOCIATION APPEAL AUGUST 3, 2000

Frank A. Stanonik
Gas Appliance Manufacturers Association

The Gas Appliance Manufacturers Association's (GAMA) membership includes all of the manufacturers of residential gas storage water heaters doing business in the United States. It was the Technical Committee of GAMA's Water Heater Division that requested the joint water heater subcommittee to consider revising the Z21.10.1 standard to add a "Flammable Vapor Ignition Resistance" test. We believe that this test is a significant, evolutionary change in the safety standard for residential gas storage water heaters. We urge the Board of Standards Review (BSR) to reject the appeal. The two issues raised in this appeal are foreign to the voluntary, consensus standards development process. If the Z21/83 Committee is required to support its approval of each standards revision with a cost/benefit analysis and an assessment of compliance issues, the standards development process will become needlessly complicated and inefficient.

It must be noted that the appeal does not allege lack of due process or lack of consensus support for the standard by materially affected interests. The appeal merely reflects the appellant's concern about 1) the anticipated price of complying water heaters and 2) whether the technologies that may be employed are ready for the market. These may be reasons for the appellant to cast a negative vote, but they do not establish lack of consensus or lack of due process. It should be noted that neither the appellant nor any other Z21/83 Committee members in attendance at the April 15, 1999 meeting, objected to the statement that product costs should not be discussed. Further, no other members expressed a desire to discuss cost/benefit prior to voting on this item. If the members had felt that this had compromised their consideration of this item, they could have voted "No."

The appellant objects to the Z21/83 Committee Chairman precluding any discussion on the cost/benefit impact to society. What the Chairman actually said was that cost would not be discussed because of antitrust concerns. The benefits are obvious. Every revision to a Z21/83 standard, excluding those concerning efficiency, is intended to promote the safety of gas appliances and associated accessories in relation to their design, installation and use. In this particular case the revision attempts to minimize an issue associated with misuse. Once it has been established that there is an area of concern regarding the safe use of a gas appliance that needs to be addressed and that there may be feasible ways to address that concern, the Z21/83 Committee has acted to revise the applicable standard as needed. I have been involved in the standards development activities of the Z21/83 Committee and its subcommittees for over 24 years. Never in my experience has the committee tried to quantify the benefit by some type of accident/injury reduction scorecard. This is unnecessary. Within the voluntary consensus process, the approach has been, and should continue to be, that once it is accepted that an issue exists and that it can be addressed by changing the standard, then the standard revision process is initiated to determine if there is consensus support for changing the standard.

The appellant maintains that cost could be discussed within some framework, without getting into antitrust concerns. This may be an esoteric point for lawyers but it is impractical. In a consensus standards process, various interests bring their perspective and knowledge to the process. One of the contributions that manufacturers bring to the process is the knowledge of the possible design changes that may be needed to comply with a proposed standards revision and the cost of these design changes. If there are

concerns about the technology or the cost, the manufacturers will comment appropriately on the proposed revision. But our members will not sit in any meeting and discuss what the price will be for their products complying with a revised standard. Manufacturers participating in such a discussion would run the risk of being accused of price fixing. Our members have no interest, nor should the Z21/83 Committee, in exposing themselves to such an accusation. In this particular case, the reality is that the revision is performance based. It does not require a specific technology. The designs by which water heaters may comply with this test are varied and thus, will have different costs for the manufacturer. The truth is that, due to marketplace complexities, the cost or price to the consumer cannot be known, and rightfully so. Furthermore, as noted earlier, each of the water heater manufacturers has certainly made their own analysis of this revision. No one has a greater or more direct interest in assuring that any changes to water heaters are feasible, justified and not detrimental to the customer's comfort and safety. The results of the manufacturers' independent analyses are reflected in their unanimous support of this revision.

The issue of premature introduction of new technology reflects a misunderstanding of the voluntary consensus standards process and the role of the Z21/83 Committee. In a simplified way, that process can be described as:

- An issue that may require a change to a standard is identified.
- Potential solutions are discussed by a subcommittee and, if appropriate, a draft revision is proposed.

- The proposed revision is reviewed by all interests and comments submitted.
- The proposed revision is reconsidered and further refined or submitted to the Z21/83 Committee.
- The Z21/83 Committee votes on the proposed revision.
- If approved, the revision is forwarded to ANSI.

There are two things to note about this process. During the review and comment process, the manufacturers will assess the technical feasibility of complying with the proposed revision. But there is no certainty that the proposal will become a standard requirement until it is adopted by the Z21/Z83 Committee. Manufacturers do not commit resources to redesigning their products to comply with a revised standard until they are certain that there is a revised standard. The risk that a proposed revision may be further modified or even not adopted by the Z21/83 Committee is too great to initiate product redesign anytime sooner. Field testing is one of the last steps in product development. To suggest that the Z21/83 Committee have the benefits of information from field testing prior to deciding on standards revisions is asking the Z21/83 Committee to cease functioning. This would create a standards' version "Catch 22": Manufacturers do not produce and field test new designs until the standard revision is established, but the Z21/83 Committee would not vote to approve a standard revision without field test data.

Also, we believe this issue is really a compliance matter. Once a standards revision is approved, it is the manufacturer's responsibility to develop designs that will comply with

the entire standard, as amended by the revisions. Furthermore, it is the certification agency's responsibility to implement the standard by setting an effective date when compliance will be required and by conducting the tests to determine that the new design complies with all the applicable requirements of the standard. A design that complies with a newly added requirement but no longer complies with an existing requirement will not be certified. This entire issue is in fact a competitive issue with which the Z21/83 Committee should not concern itself. How the manufacturer designs and manufactures a product to comply with a standard is his business and directly relates to how that company competes in the marketplace. The Z21/83 Committee develops the standard. It has no role in determining compliance with a standard. It does not need information relating to compliance issues.

The concerns raised in this issue are things that are part of the manufacturer's process of developing complying products. If manufacturers discover problems in developing complying products, they can seek an extension of the effective date to provide more time to resolve the design or manufacturing problem. GAMA has had to do this on behalf of some segment of its membership on several occasions. But recognize that those types of issues are properly addressed with the certification agency, not the standards developing committee. We are very concerned that acceptance of this issue of the appeal would involve the Z21/83 Committee in areas that are not their responsibility.

The manufacturers have invested considerable time, money and resources in developing designs that will comply with this test. Further, the history of manufacturers' compliance

with safety standards is that manufacturers have always worked to the best of their ability to design and manufacture products that fully comply with the voluntary consensus standards developed by the Z21/83 Committee. An appeal to the Z21/83 Committee that, in its essence, is really about concerns that manufacturers cannot build complying products must be rejected in view of the manufacturers' indication that such models can be built.

STATEMENT OF DARYL L. HOSLER

CHAIRMAN, ACCREDITED STANDARDS COMMITTEE Z21/83,

ON BEHALF OF THE Z21/83 COMMITTEE

At the

ANSI BOARD OF STANDARDS REVIEW HEARING

OF THE NATIONAL PROPANE GAS ASSOCIATION APPEAL

OF THE ADOPTION OF SECTION 2.38, "FLAMMABLE VAPOR

IGNITION RESISTANCE" BY THE Z21/83 COMMITTEE

AUGUST 3, 2000

As the Chairman of the Z21/83 Accredited Standards Committee, I am pleased to be able to participate in the ANSI Board of Standards Review appeal hearing for the National Propane Gas Association (NPGA). The development of appropriate voluntary consensus standards is of utmost importance to the gas industry as a whole, and to the citizens of the United States. The process of developing appropriate voluntary consensus standards can be very complex in some instances, and is only completed successfully by having appropriate committee operating procedures, and by following those procedures. An open and fair appeal procedure is a key component of any voluntary standards development process. By exercising the opportunity to submit an appeal, appellants such as NPGA serve to strengthen the process.

The issue of having and following standards development procedures is at the heart of the Z21/83 Committee's response to NPGA's appeal. The Z21/83 Committee followed its procedures in the development of Section 2.38 of the Z21.10.1 Gas-Fired Water Heater standard. In essence, the appellant has never alleged that the committee did not follow its procedures for open, voluntary consensus standards development, only that they do not completely agree with them, or the outcome of the process.

The fact that NPGA has been a member of the Committee and its Water Heater Subcommittee for many years, including prior to the beginning of deliberations of the issue of flammable vapor ignition resistance testing, means that it was well aware (or had the opportunity to be) of the Committee's written procedures and its standards development philosophy. A representative from NPGA discussed both of the issues in the appeal with the Committee before its vote, and the Committee chose not to accept them. The process was open, fair, and in compliance with the Z21/83 Committees standards development procedures.

The Z21/83 Committee, and its predecessors, has been developing voluntary consensus safety and performance standards for the gas industry for over 75 years. The Committee has chosen to have its operating procedures and its standards accredited by ANSI for most of that time in order to ensure that the process was fair, the standards were

reasonable, and that we attained a high level of acceptance by the groups who benefit from these standards. I am proud to say that the gas industry voluntary consensus standards are among the best in world, because of our process.

The Z21/83 Committee is also made up of experts from many fields, not just the gas industry. They have among them, many years of experience in the gas industry, government, academics, and voluntary standards development. The very basis of experience of most of the Committee members is one of senior decision-making authority outside of the voluntary standards development process. They do not disregard this experience or knowledge while they participate in the Z21/83 Committee's activities.

While not directly stated in its procedures, the Z21/83 Committee has historically opted not to discuss cost and benefits during deliberation of standards requirements. The consensus of the Committee has been that beyond any antitrust issues which are a necessary and proper concern of the Committee, the Z21/83 standards development process and its procedures are strong enough to ensure that only those requirements that enhance the safety, reliability, and performance of gas-fired appliances and equipment are considered for adoption. The Committee is well aware of the cost/benefit issue, but chooses not to have it be the basis for standards development. In addition, the Committees procedures do not preclude discussions regarding cost versus benefit, if someone wishes to address that issue.

NPGA has previously stated in their appeal to the Z21/83 Committee that its decision to adopt a test requirement in the ANSI Z21.10.1 Gas-Fired Water heater standard to evaluate flammable vapor ignition resistance constitutes a premature standardization of a new technology, and therefore should be made optional. As I stated previously, the Committee members were made aware of this proposal by NPGA prior to their vote, and again chose not to accept it. The Committee had addressed the issue of adopting a requirement for flammable vapor ignition resistance for gas-fired water heaters for at least five years, and the Water Heater Subcommittee worked on the issue for eight years.

In addition, expert assistance in the voluntary standards development process for evaluating flammable vapor ignition resistance of water heaters was obtained from respected and experienced organizations outside of the Z21/83 committee, such as the Gas Research Institute, A. D. Little Inc., and the Consumer Product Safety Commission (CPSC). The Committee was well aware of the state of the art related to the development of flammable vapor ignition resistant designs for gas-fired water heaters. They heard from various interested parties, who discussed many issues related to including such a requirement in the standard, and chose through an open, consensus driven standards development process, to include the requirement in the standard as originally proposed.

This decision was not made "behind closed doors" or without an adequate amount of discussion. In addition, NPGA did not provide the Committee with any reasonable solution to address their concerns. By not providing a reasonable answer to what constitutes "premature" standardization or what should be considered fully field-tested before adopting a requirement in a Z21/83 Committee standard, NPGA is wrong to imply that the Committee erred in its decision.

In conclusion, I want to reiterate that the Z21/83 Committee fulfilled its responsibility to the development of an open voluntary standard by adopting a consensus-based requirement to test the flammable vapor resistance of Volume I gas-fired water heaters in accordance with its longstanding operating procedures. This fact is not being appealed. Having a set of procedures does not mean that you close yourself off to all other considerations. During the open, eight-year process of developing this standard requirement, many options were considered. In the end, following the Committee procedures that are specifically designed to ensure that everyone who is significantly affected by our standards can voice their position and opinions, a sound decision was made. The Board of Standards Review should also recognize the importance and value of maintaining a viable Accredited Standards Development Committee such as the Z21/83 Committee by rejecting this appeal.

Thank you for your consideration.

NPGA Appeal of the Proposed Revisions to ANSI Z21.10.1/CSA 4.1
Harmonized Standard for Gas Water Heaters, Volume I, Storage Water Heaters with Input Rates of 75,000 Btu Per Hour or Less

The NPGA would first like to thank the Board of Standards Review for this opportunity to ensure that the consensus standards making process remains true to its intent.

The Board is no doubt familiar with the substance of NPGA's appeal, which is based on two major points. The first is that during the course of the meeting to discuss proposed changes to Z21.10.1, which took place in Tempe, Arizona on April 15, it was inappropriate for the acting Chair to rule indiscriminately that no discussions were permitted on the cost versus benefits of the specific proposal to require testing for flammable vapor resistance for all water heaters. The second point of our appeal is that the Committee acted prematurely by approving a major technological change to the water heater standard without having the benefit of reviewing data from thorough and complete field testing of the technology.

In this appeal to the Board, we hereby argue that our position has been misinterpreted and we call on the Board to reconsider the prior decisions rendered and to consider this matter *de novo*.

1. The Ruling to Disallow Discussion on Cost Versus Benefits

Before Chairman Hostler stepped down and gave way to Acting-Chairman Mullins, he noted that the Committee historically does not discuss matters of cost principally due to antitrust concerns. We believe that this statement had a chilling effect on the discussion that followed and precluded from presentation and consideration what could have been very important information on the discussion of the merits of the proposal to require all water heaters to pass the test for resisting the ignition of flammable vapors.

First , Mr. Hostler's actions were seriously flawed in that there is nothing in the Z21/83 Committee Procedures that would limit discussion of any issue with respect to the impact that it will have on society. In determining societal impacts, it not only is common but, indeed, should be required for a consensus standards setting organization to address the cost to society and the anticipated benefit that society will see. Such a cost/benefit analysis is a standard requirement which must accompany any major government rulemaking.

When Chairman Hostler said "the Committee does not historically discuss matters of cost/benefit", he foreclosed any further discussion of the subject. His statement, while perhaps factually correct, was based not on an ANSI rule which precluded such discussion, but on his personal assumption that the antitrust laws forbade such discussion. This was a misreading of the law, was based on assumption and conjecture, and was inaccurate. Unfortunately, no one present

felt comfortable in challenging his assertion which, when left standing, colored the entire discussion.

Cost/benefit analyses are very helpful tools that should be permitted to be used by the Committee. Yet, Chairman Hostler continued his insistence that such analyses are not permitted in his response to NPGA's appeal (see letter from Chairman Hosler to Bruce Swiecicki dated August 26).

In his August 26 letter, Chairman Hoslerwrote: "...we disagree with your view that we could have undertaken cost/benefit discussions without raising potential antitrust problems. Section 1 of Sherman Act prohibits any 'contract, combination...,or conspiracy' that unreasonably restrains interstate trade or commerce." While Chairman Hostler accurately quotes from the relevant section of the Sherman Act, we do reject the assertion a cost/benefit discussion in and of itself would constitute a breach of the antitrust laws.

Rather than rely upon Chairman Hostler's understanding of the law, we have sought legal counsel. Please see the attached letter from attorney Scott M. Estill P.C., dated November 5, 1999. In the letter, Mr. Estill cites a number of examples from case law which support NPGA's position that cost and benefit discussions do not in themselves constitute violations of the Sherman Antitrust Act. For example: "The Supreme Court has indicated that the mere exchange of price information and other data among competitors is not *per se* illegal, and in some circumstances actually increases economic efficiency and render(s) markets more, not less, competitive. *United States v. United States Gypsum Co.*, 438 U.S. 422, 441 n.16." Also, from *Clamp-All Corporation v. Cast Iron Soil Pipe Institute,* 851 F.2d 478 (1st Cir. 1988), "There was evidence to suggest that CISPI members had a pricing manual from which they all published identical list prices for certain couplings. The plaintiff argued that this evidence demonstrated a conspiracy to fix prices in violation of the Act. The Court disagreed, noting that the Act only prohibits agreements to fix prices, and that in the absence of a specific agreement to fix prices, there is no violation of the Act. The Court specifically stated that in the absence of such an agreement, the setting of prices, even if identical, did not violate the act because this was an example of the industry leader setting its prices and the other competitors following suit."

In sum, we do not here argue against the adoption of the requirement for testing water heaters for resistance to the ignition of flammable vapors based on the results of a cost/benefit analysis. We do not believe the presentation of such an analysis should be made in this arena of appeal, but should be made before the Z21 Committee. We believe, however, that such an analysis can and should be made, then scrutinized and dissected by the entire Committee to either uphold or refute its validity. The principle on appeal here is one of due process: that the Committee was denied valuable and critical information by an incorrect decision of the chairman at the time thereby forcing the committee to decide an important

issue without having the benefit of a cost/benefit analysis to assist in that decision.

2. Premature Standardization of a New Technology

A major point made at the meeting which we believe was not adequately addressed by the Committee was the information regarding the ongoing field testing of the new technologies. It would be unheard of for any major industry concerned with the safety of its customers to institute a requirement for a new technology without adequately testing it in the field. Yet, this is precisely what the Committee decided to do. Whatever external pressures may exist on the manufacturers of gas water heaters, there is no excuse for this action.

No one has conclusive data showing that water heaters having the new technology will operate safely and efficiently in the field under even the most controlled conditions, not to mention the almost unlimited special conditions that can exist. For example, no one knows how the units will react when installed at different elevations. At the time of the Committee meeting, not one manufacturer stated that his water heater had successfully completed field testing with the new technology.

The second issue with respect to field trials is the serviceability of the water heaters. We have repeatedly asked whether the units are capable of being serviced in the field without doing harm to the new technology or other components and systems in the unit? What sort of training is required to service the units? How are they tested before they are put back into operation? These are all basic questions which have not been answered.

3. Adverse Effects on the Gas Industry

NPGA was asked to state any adverse effects it expects to realize as a result of the proposed change to the water heater standard. The proposed revisions to ANSI Z21.10.1 would be felt by not only the propane and natural gas industries but the entire Z21/83 Committee as well as the customers of the gas industry.

These effects are not in themselves directly related to the percent of market share that may or may not shift upon the adoption of the proposed revisions, although that is an issue that the gas industry may have to face. We won't know until it happens, however, because the issue of determining the economic impact on the gas industry was never permitted to be aired during committee discussions.

We are not claiming that the omission of cost/benefit discussions was done with malice or an intent to "railroad" the process; the concerns of potential antitrust violations should be treated seriously and sufficient precautions taken to avoid those pitfalls. We are only saying the leadership of the Committee erred in its

understanding of the antitrust rules as they apply to consensus standards-writing bodies, and through the appeal process the opportunity presents itself to correct this error.

It is NPGA's understanding that field trials of the new technology are still ongoing as of this date, and the evidence is clear that the Z21/83 Committee acted without the benefit of having all the necessary information on the table. This is not the fault of the leadership of the Z21/83 Committee, but it is an important point of NPGA's appeal nonetheless. The NPGA hopes the appeals process will convince the panel of the need to complete field trials of such a sweeping technological change before consumers and service personnel are forced to address any shortcomings in the performance of the product in the field.

Proposed Solution

In light of the arguments made above, a more prudent means to introduce the concept of testing for flammable vapor resistance would be to make the test optional for manufacturers. Doing so would allow for an orderly commercialization of the new technology and would also allow the "bugs" to be worked out in a more controllable manner.

Manufacturers would benefit from this method in at least two ways. They would be able to market a water heater that would be resistant to the ignition of flammable vapors and either the consumer could then make the choice as to whether or not he wanted the additional safety benefit, or local codes could determine where such water heaters must be installed. Secondly, the manufacturer would be able to keep a close watch on the overall performance of the water heater under the myriad of conditions that exist in the field, without jeopardizing the entire gas water heater industry.

Thank you for your consideration of this appeal. Please let me know if you need any further information.

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November 5, 1999

Independent Propane Company
Attention: Robert Blackwell
P.O. Box 300
Pine, CO 80470

ATTORNEY-CLIENT PRIVILEGE/CONFIDENTIAL
VIA FAX AT 303-838-2976 AND MAIL

Dear Mr. Blackwell:

I am in receipt of your fax dated October 21, 1999, regarding the controversy surrounding whether a Standards Committee is permitted to consider cost-benefit analysis in light of the Sherman Antitrust Act. I have come to the conclusion that such consideration is permissible and I therefore respectfully disagree with the conclusion reached by Daryl Hosler in a letter to Bruce Swiecicki (dated August 26, 1999). I have set out my legal research and reasoning for my position in this letter.

Question Presented: May a Standards Committee (Z21) consider and/or discuss cost/benefit analysis during committee meetings and still be in compliance with the Sherman Antitrust Act?

Facts

According to the information I have received and reviewed, on April 15, 1999, the Z21 Committee considered Agenda Item 18 relating to a proposed safety modification for gas water heaters. During the committee meeting, the agenda item was approved, with no discussion made of cost/benefit analysis.

Legal Analysis

The Sherman Antitrust Act (15 U.S.C. § 1, et seq.) (hereinafter "the Act") prohibits unlawful restraint of trade by declaring that "every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal." The Act applies to trade associations such as the NPGA, along with

Standards Committees, although the mere membership in either, absent evidence of and participation in an illegal activity, is not a violation of the Act. *Moore v. Boating Industry Associations*, 819 F. 2d 693 (7th Cir. 1987)(where court stated that evidence that association would not certify boat trailers, even if unreasonable or arbitrary, would not violate the Act unless the conduct had an "anti-competitive effect"). The *Moore* court noted that an action by a trade association is not always a concerted action such that a conspiracy can be alleged successfully under the Act.

Most reported cases in which there was a determination made that a trade association violated the Act involved conspiracies or other concerted actions which inflated prices or otherwise harmed the general public. See *California Dental Association v. F.T.C.*, 128 F.3d 720 (9th Cir. 1997). However, simply because a trade association involves collective action by competitors does not, in and of itself, make it a "walking conspiracy." *Wilk v. American Medical Association*, 895 F. 2d 352 (7th Cir. 1990), *cert denied*, 110 S.Ct. 2621. The United States Supreme Court has stated that courts should be slow to condemn rules adopted or promulgated by trade associations as being unreasonable *per se* where the economic impact of certain practices is not immediately obvious. *F.T.C. v. Indiana Federation of Dentists*, 476 U.S. 447 (1986). Instead of a *per se* analysis, courts have utilized a "rule of reason" in which they will examine each alleged violation of the Act on a case by case basis. *National Society of Professional Engineers v. United States*, 435 U.S. 679 (1978). The rule of reason analysis applies when analyzing efforts to agree upon private product standards. *Allied Tube and Conduit Corporation v. Indian Head, Inc.*, 486 U.S. 492 (1988).

While there are literally hundreds of court cases discussing these issues, most have followed the general rule set out by the U.S. Supreme Court in *Standard Oil Co. v. United States*, 221 U.S. 1, 58 (1911), in which the Court stated that trade association agreements comport with Federal Antitrust laws unless they:

> "have not been entered into or performed with the legitimate purpose of reasonably forwarding personal interest and developing trade, but on the contrary were of such a character as to give rise to the inference or presumption that they had been entered into or done with the intent to do wrong to the general public and to limit the right of individuals, thus restraining the free flow of commerce and tending to bring about the evils, such as enhancement of prices, which were considered to be against public policy."

In Mr. Hosler's letter which I previously referenced, he seems to be most concerned with "price fixing" and the anti-competitive nature of price-fixing on the general public. For purposes of the Act, price fixing is considered to be a combination or conspiracy formed for the purpose of and with the effect of raising, depressing, fixing, pegging or stabilizing the price of a commodity in interstate commerce. *Bailey's Bakery, Limited v. Continental Baking Co.*, 235 F. Supp. 705 (D. Hawaii 1964), *aff'd*, 401 F. 2d 182. For purposes of the Act, prices are "fixed" when they are agreed upon. *United States v. Masonite Corporation*, 316 U.S. 265 (1942). The agreement can be amongst competitors (horizontal price fixing) or manufacturers, distributors and sellers (vertical price fixing). Under either scenario, any agreement to fix the price is a *per se* violation of the Act and is illegal. The basic test for determining whether price fixing has occurred is not the actual effect on prices (either up or down), but rather whether traders/sellers have the ability to sell in accordance with their own

judgement and not the result of some mandate. *Bartleys Town and Country Shops Inc. v. Dillingham Corp.*, 530 F. Supp. 499 (D. Hawaii 1982). The Supreme Court has indicated that the mere exchange of price information and other data among competitors is not *per se* illegal, and in some circumstances actually increases economic efficiency and render markets more, and not less, competitive. *United States v. United States Gypsum Co.*, 438 U.S. 422, 441 n.16.

One of the more recent cases to discuss the effects of pricing and a Standards Group in the context of the Act is *Clamp-All Corporation v. Cast Iron Soil Pipe Institute*, 851 F.2d 478 (1st Cir. 1988). In *Clamp-All*, a manufacturer brought suit against an industry standards trade group, the Cast Iron Soil Pipe Institute ("CISPI") for allegedly conspiring to fix the prices of certain pipe couplings. There was evidence to suggest that CISPI members had a pricing manual from which they all published identical list prices for certain couplings. The plaintiff argued that this evidence demonstrated a conspiracy to fix prices in violation of the Act. The Court disagreed, noting that the Act only prohibits agreements to fix prices, and that in the absence of a specific agreement to fix prices, there is no violation of the Act. *Clamp-All*, 851 F.2d at 484. The Court specifically stated that in the absence of such an agreement, the setting of prices, even if identical, did not violate the Act because this was an example of the industry leader setting its prices and the other competitors following suit. The Court indicated that there would be no legal method of monitoring this, as "how does one order a firm to set its prices *without regard* to the likely reactions of its competitors?" (Emphasis in original).

The Court went on to state that CISPI also did not violate the Act when it set a standard that, in effect, did not amount to an illegal restraint on trade. While the standard itself is unimportant to this discussion, the Court's comments concerning judicial interference into the Standards committee meetings may provide some insight into what the Z21 Committee is permitted to discuss at its meetings. The Court noted that a Standards Certifier (again in the context of CISPI) can do its job properly (i.e. a job which would be beneficial to consumers) only if all interested parties are permitted to present all proposals and evidence prior to any vote. *Clamp-All*, 851 F.2d at 488. As long as consumers potentially benefit by having all facts presented, the Court implied that not presenting all of the pertinent facts may be tantamount to a violation of the Act. Thus, an Antitrust violation would occur only if the standards group both prevented discussing of a beneficial national performance standard and it did so through unfair or improper practices or procedures (see *Indian Head, Inc. v. Allied Tube and Conduit Corp.*, 817 F.2d 938 (2nd Cir.), *aff'd.* 108 S.Ct 1931 (1988)(Steel manufacturer which packed meeting with opponents of proposed new product and conspired with other manufacturers was guilty of violating the Act). In making this determination, Courts must be willing to permit free discussions before any public or private regulatory authority. As long as the legitimate business justifications outweigh any potential anti-competitive effects, there will be no violation of the Act. *Clamp-All*, 851 F.2d at 486.

Another case which speaks directly on standards groups is *Consolidated Metal Products, Inc. v. American Petroleum Institute*, 846 F.2d 284 (5th Cir. 1988). In this case, the Court was faced with deciding whether a standards group for the petroleum industry violated the Act when it unreasonably and unjustifiably failed to certify the plaintiff's product. The Court ruled that such a failure was not a violation of the Act, even though such failure was unreasonable. The defendant, the API, is the

only domestic body which sets standards for oil field equipment. While this case did not discuss pricing, its discussion of what a standards group may do within then context of the Act is valuable. The Court in *Consolidated* noted that any standards group must exchange information amongst its members in order to render an informed decision and such exchange does not establish a conspiracy under the Act. *Consolidated*, 846 F.2d at 294; *Park v. El Paso Board of Realtors*, 764 F.2d 1053, 1060 (5th Cir. 1985), *cert. denied*, 474 U.S. 1102 (1986). Furthermore, the court stated that courts should be very hesitant to infer any conspiracies in the context of the Act absent an actual agreement, either explicit or implicit, that there was a conspiracy within the standards association. See also the Supreme Court decisions in *Matsushita Electric Industrial Corp. v. Zenith Radio Corp.*, 475 U.S. 574 (1986) and *Monsanto Co. v. Spray-Rite Service Corp.*, 465 U.S. 752, 762-64 (1984). The Court concluded that in judging the acts of standards groups or associations, courts should look only at the general effect of a particular decision upon the market in general. The court stated:

> Were this not so, the federal courts would become boards of automatic review for trade association standards committees, product testing services, and countless other business transactions. Not only would this tax the abilities of the federal courts, but fear of treble damages and judicial second-guessing would discourage the establishment of useful industry standards. Under such a regime, the antitrust laws would stifle, not protect, the competitive market.

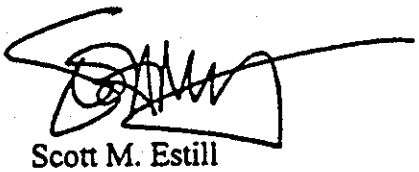
Consolidated, 846 F.2d at 297.

Conclusion

A cost/benefit analysis in which a Standards Committee would examine the costs associated with any proposed modifications to any specific products in relation to the benefits obtained (i.e. potential lives saved, property spared destruction, etc.) would not have violated the Act because no price fixing would have occurred. By considering a cost/benefit analysis, no trader/seller would be forced to set a price, but instead would still be free to use his/her own judgment in determining the price to charge the consumer. Had the discussions resulted in a mandate that all members increase their prices a certain amount or percentage to cover the costs associated with the proposed modification, there would most definitely be a violation of the Act. However, by using potential price increase as a result of the modification as the "cost," while comparing it to the overall positive impact to society (the "benefit"), the Committee would not have been, in my opinion, engaging in an illegal restraint of trade, as this exchange of price data would have benefited the public, not set the price or a price range, and increased economic efficiency under the *United States Gypsum* test. As such, the NPGA could use pricing as one factor to consider as, in my opinion, the consideration of cost/benefit analysis, while perhaps not determinative, would be a worthwhile consideration and would, in all likelihood, actually benefit society by not passing along a useless modification to the general public (thus satisfying the test enunciated in *Standard Oil*). Thus, for the standards committees as well as the NPGA in general, my opinion is that courts would take a "hands off" approach to interfering in the decision-making process, especially given that any pricing discussions would be done to benefit the general public and to improperly "fix" prices.

Please let me know should you need any supplemental research on this or any related issues.

Sincerely,



Scott M. Estill
Attorney and Counselor at Law