FORM FOR COMMENTS ON PROPOSED STANDARDS REVISIONS

Date: 7/29/93 Name: Alan R. Anderson Tel.No.: 612-954-4612

Address: 1985 Douglas Dr. N., Golden Valley, MN

Company: Honeywell Inc.

Standard Title: Gas Water Heaters, Volume I, Storage Water Heaters with Input Ratings of 75,000 Btu Per Hour or Less Standard No.: Z21.10.1

1. Endorse all proposed revisions: YES ☐ NO ☒

2. Comment: YES ☒ NO ☐

   a. Section/Paragraph: 2.8 (pages 5-7)

   b. Comment (include proposed wording or identification of wording to be deleted):

The proved igniter turn-down test is missing in this proposal. Add the coverage (which is clause 2.8.4 in Z21.10.3).

   c. Statement of Problem and Rationale for Comment:

Alan R. Anderson
Signature

Alan R. Anderson
Print Name

Mail to: Mr. A. J. Callahan, Administrative Secretary,
8501 East Pleasant Valley Road
Cleveland, Ohio 44131

FORM FOR COMMENTS ON PROPOSED STANDARDS REVISIONS

Date: 8/13/93 **Name:** MICHAEL GORMLEY **Tel.No.:** (616) 795-2060 (EXT. 336

Address: 200 LAFAYETTE STREET MIDDLEVILLE, MI 49333

Company: THE COMMERCIAL WORKS

Standard Title: **Gas Water Heaters, Volume II, Storage with Input Ratings Above 75,000 Btu Per Hour,** Circulating and Instantaneous Water Heaters **Standard No.:** Z21.10.3

1. **Endorse all proposed revisions:** YES ☐ NO ☒ XX

2. **Comment:** YES ☒ X NO ☐

   a. **Section/Paragraph:** 2.8.7

   b. **Comment (include proposed wording or identification of wording to be deleted):** METHOD OF TEST:

   THE PROVED IGNITER OR FLAME SENSOR SHALL THEN BE DISABLED.

   c. **Statement of Problem and Rationale for Comment:**

   A PROVEN IGNITER MAY SENSE THE MAIN BURNER FLAME THROUGH A SEPARATE FLAME SENSING PROBE, RATHER THAN THROUGH THE IGNITER ITSELF. AFTER THE MAIN BURNER FLAME ESTABLISHING PERIOD, THE CONTROL SENSES THE FLAME THROUGH THE FLAME PROBE. IF THE IGNITER WAS DISABLED, THE GAS VALVE WOULD NOT OPEN DURING THE TRIAL FOR IGNITION PERIOD. THE INTENTION OF THIS TEST NEEDS TO BE CLARIFIED.

Michael J Gormley
Signature

Michael Gormley
Print Name

Mail to: Mr. A. J. Callahan, Administrative Secretary,
8501 East Pleasant Valley Road
Cleveland, Ohio 44131

Alan R. Anderson
Manager
Industry Technical Standards

Home and Building Control
Honeywell Inc.
1985 Douglas Dr N
Golden Valley MN 55422-3992
612 954-4612
612 954-4390 Fax

September 9, 1993

Ms. Julie Cairns
Standards Engineer
International Approvals
8501 E. Pleasant Valley Road
Cleveland, Ohio 44131

Re: September 23-24 Meeting of
Water Heater Subcommittee

Dear Julie:

Since I have a conflict and will be unable to attend, I wanted to share with the Subcommittee:

- That I'd like to withdraw my comment to 1.10.4 in Z21.56. It's satisfactory to me just as it's proposed (including the renumbering of the current 1.10.4).

- Michael Gormley's proposed addition to 2.8.7 in Z21.56 is incorrect. Section 2.8 only applies to a system which meets the proposed definition for a "proved igniter". There is no main burner establishing period--a separate flame sensor cannot be "proved igniter". As proposed, clause 2.8.7 is intended to verify valve closing time following proved igniter failure.

Best regards,

Al Anderson

A. R. Anderson
:dh

cc: M. Eubanks - MN10-2528
J. Nagorka - OH10
F. Stanonik - GAMA

FORM FOR COMMENTS ON PROPOSED STANDARDS REVISIONS

Date: 7/29/93 Name: Alan R. Anderson Tel.No.: 612-954-4612

Address: 1985 Douglas Dr. N., Golden Valley, MN 55422

Company: Honeywell Inc.

Standard Title: Gas-Fired Pool Heaters Standard No.: Z21.56

1. Endorse all proposed revisions: YES ☒ NO ☐

2. Comment: YES ☒ NO ☐

   a. Section/Paragraph: 1.10.4 (page 1)

   b. Comment (include proposed wording or identification of wording to be deleted):

Believe this addition would be more appropriate for clauses 1.10.2 or 1.10.3. It's addition to 1.10.4 combines two very different subjects.

   c. Statement of Problem and Rationale for Comment:

A R Anderson

Signature

Alan R. Anderson

Print Name

Mail to: Mr. A. J. Callahan, Administrative Secretary,
8501 East Pleasant Valley Road
Cleveland, Ohio 44131

ITEM 6.
Z21/CGA Joint Water Heater
Subcommittee Meeting,
September 23-24, 1993

REPORT FROM WORKING GROUP ADDRESSING SUGGESTED REVISIONS TO REDUCE POSSIBLE IGNITION OF FLAMMABLE VAPORS BY VOLUME I WATER HEATERS

Action Requested

Review a report from the subcommittee's working group addressing suggested revisions to reduce possible ignition of flammable vapors by Volume I water heaters.

History

At its November 14-15, 1991 meeting, the Z21 water heater subcommittee was presented with information from Mr. Edward F. Downing, III, regarding reported flammable vapor ignition incidents and gas-fired water heaters. After his presentation, Mr. Downing proposed that a new provision be added to ANSI Z21.10.1 to require the construction of a water heater be such that combustion air will not be taken "immediately from a level below 18 inches from the floor of the room in which the appliance is installed." Mr. Downing also provided a rationale and suggested examples to address his proposal. After discussion, the subcommittee established a working group to evaluate Mr. Downing's proposal, including the data he supplied, and recommend a response for consideration by the subcommittee. A representative from the U.S. Consumer Product Safety Commission (CPSC) volunteered to provide the working group with CPSC data on water heater flammable vapor incidents.

At its September 21-22, 1992 meeting, the joint Z21/CGA water heater subcommittee reviewed draft summaries of the working group's March 17-18 and September 9, 1992 meetings. At its September 9, 1992 meeting, the working group was informed that the Water Heater Division of the Gas Appliance Manufacturers Association (GAMA) had contracted Arthur D. Little, Inc. to conduct a hazard analysis of flammable vapor ignition by residential gas water heaters. Based on this report, the working group had agreed that it would convene to review the results of the GAMA-funded A. D. Little project when it became available in spring/summer 1993. Therefore, the working group had recommended that the subcommittee take no action on Mr. Downing's proposal at this time, pending the group's review of the A. D. Little project's results. The subcommittee also reviewed a copy of a September 15, 1992 letter from Mr. Frank Stanonik (GAMA) to staff regarding some of the details of the A. D. Little project. After discussion, the subcommittee accepted the report as information, pending the outcome of the working group's review of the A. D. Little results.

Background

On July 2, 1993, GAMA released copies of the Task 1 Report from the Arthur D. Little hazard analysis to the working group for its information. Task 1 covered the data collection and analysis part of the study. The Task 2 Report, which covers the experimental testing part of the study, was completed in time to be distributed at the working group's July 15, 1993 meeting. Mr. Nelson Macken, A. D. Little, Inc., attended this meeting to present the results of the experimental testing.

A report on the outcome of the working group's July 15, 1993 meeting will be made available at this meeting. In addition, a report is anticipated at this meeting regarding the status of planned testing by the U.S. CPSC on this subject.

DRAFT

UNITED STATES GOVERNMENT

MEMORANDUM

U. S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207

September 20, 1993

TO : Joseph Z. Fandey, ESEE
THROUGH : James E. Bradely, Director ESEL
THROUGH : Robert T. Garrett,
Chief Electrical and Physical Sciences Branch
FROM : J. L. Mulligan, ESEL

SUBJECT : Preliminary Comments on the A.D. Little Study of Gasoline Vapor Ignition.

Ref : Memo, Fandey to Bradely, "Request for Engineering Services", 25 August 1993.
Report, Arthur D. Little, Inc., "Flammable Vapor Hazards Ignition Study; Task 2: Analytical Modeling and Experimental Testing", Reference 42238, 15 July 1993

By the above referenced memo, I was requested to conduct a critical engineering review of the phase two study by A. D. Little. The approach anticipated was to obtain a copy of the computer model(s) they used and then, using these models, to evaluate the sensitivities, accuracy, etc., of the models.

To date I have not obtained the computer programs. I have talked with Richard Topping and he was checking to see if the programs were releasible. The status is that I have a call into him returning his call. He did state that, if the programs were releasible, then it would be desirable (necessary) for me to sit down with the developers and go over the details of the programs and data before trying to run the programs.

I have read the report. This memo will focus on a preliminary analysis of the data in the report.

The stated overall goal of the GAMMA/A.D. Little project was to develop a comprehensive understanding of the extent of the hazards and the effectiveness of current mitigating measures. The hazard is burns to individuals due to spilling a flammable liquid (gasoline) and the "current mitigating measure" studied was raising the water heater 18" above the spill surface. This would seem like a worthwhile goal, unfortunately the report, at times, seems to aim not at "evaluating the effectiveness," but finding those cases in which the measure would not be effective.

3/13/95

No Files Identified
Envelope
Files Added
Correspondence Processed

Draft

The situation is stochastic in nature; thus the effectiveness would be assessable in the percent reduction in incidents. The analysis could even be taken one step one step further by inclusion of probabilistic human factor analysis and thus calculate the changes in accident rates.

The objective, stated in the report, of the Analytical Modeling Task was to provide insight into the selection of key parameters for experimental testing. This included identification and verification of incident scenario patterns and an assessment of parameter sensitivity for experimental testing.

The report presents a paucity of data on this determination of parameter sensitivity, which is unfortunate since it makes evaluation difficult.

As stated in the report there are two basic elements to the analytical model: the source component and the dispersion component. The source component predicts the spread and evaporation of the liquid (gasoline) layer. The dispersion component details the growth of the gasoline vapor in space, time, and concentration. I will discuss each of these two elements.

Source Emission Model

One of the most difficult elements in any real world modeling is the definition of and the expression for the source model(s). While the report states that the source component was designed and tested, it does not show us what the source model(s) was or how it was finally used.

The report states that the source component is a liquid pool model which estimates transient multicomponent spreading and emission. The model simultaneously predicts spreading of the liquid, diffusion of components through the liquid layer, and evaporation from the surface. This is an extremely complicated process in which factors such as surface characteristics, external (air) velocity, pressure, and temperature and the multicomponent properties of the gasoline are included. In the physical representation of the fluid, convective mass transfer at the surface and diffusion of components through the liquid layer are controlling mechanisms. These are developed through a comprehensive energy balance that considers two liquid layers: a surface layer and a bulk layer.

Appendix A contains a textbook presentation of a methodology for the development of this type models but does not show how this methodology was applied to this problem.

From the presentation and the data in Table 1 it would appear that the model is not empirical based.

draft

The comparison of the predicted to measured appears to shows that the agreement is better than 20%. However, no precision nor accuracies are presented for the experimental data. I doubt that data is good to 20%.

Without the implemented computer model and the experimental data it is not possible to say much more about the source emission model.

Dispersion Model

According to the report three different versions for dispersion were developed, each of increasing complexity. With the source component as input, each version was evaluated.

According to the report the dispersion component takes the transient emission rates from the liquid pool model and estimates the concentration profiles of flammable vapors as a function of space and time. A special feature of the model is its ability to model heavy gas behavior. Gasoline vapor is much heavier than air. In the absence of turbulence, the vapors tend to "hug" the ground and spread horizontally. Three versions of the dispersion component were formulated and evaluated:

1. A lumped, two-dimensional transient dispersion model that included diffusion of vapor but neglected fluid momentum.

2. A multicomponent, two-dimensional transient dispersion model that included diffusion of vapor and fluid momentum.

3. A pseudo, three-dimensional transient, four-component dispersion model that included diffusion of vapor and fluid momentum.

Since I don't have any of these models any comments on them and thier applicability would be very premature. I am somewhat disturbed by several basic elements that seem to be missing from the analysis.

The first item is the absence of turbulence. This may simply be a phenomena that is lost in the noise but is usually important at the boundary in an emitting medium.

I would like to see an analysis of air movement in the room before the spilling of the gas. The thermal gradients due to the water heater will create flows in the room, as well as the flow due to the normal temperature gradients. Superposition of the two flows may show slightly different results from figure 1.

Draft

Experiential Testing Task

The emphasis of my review will be primarily the modeling, however I have reviewed the experiential portion of the report since this is the validation for the models.

One of the validation methods I would have expected for the models would be to use the models to predict air flows before the spilling of the gas, this does not appear to have been done. It appears that natural flows were neglected in the development of the dispersion model. The report states that they obtained the distribution of air movement into a water heater data is shown in figure 3. The figure does not indicate the parameters for this measurement, e.g., floor mounted with gas fire x inches from the floor of a y BTU water heater. The conclusion is given that "the water heater does induce a flow field in its immediate vicinity but the effect is not significant beyond a distance of about 1-foot radius from the water heater. This statement seems to suggest that the rasing of the water heaters 18" should reduce the risk.

The report describes a bench-top test facility that was used to:

1. Determine the evaporation rate
2. Measure the growth of the flammable vapor layer
3. Visualize the vapor layer.

Unfortunately the data is not presented. However, the conclusions reached based on these experiments are presented.

The first conclusion is that heavier than air gases tend to stay on the surface unless disturbed. The next one is that "Small movements of air, e.g., initiated by a can spilling or human movement, will aid in dispersing and mixing the gas vapor." This second conclusion seems to support my concern for knowing the flow of air in the room before the spilling the gas, e.g., is the normal air flow along the floor expected to be toward or away from the water heater? What is the effect on this normal flow if the water heater is raised 18"?

The fire tests with the movement seemed to be primarily designed to show that fires could always occur. Even with this limitation the tests had some interesting implications.

<u>Floor Mounted</u>

When the water heater is floor mounted:

1. A gallon spill in all cases resulted in a fire when water heater operating.
2. Fires occurred with the pilot burner only.
3. Movement not necessary for ignition.

Draft

The stated conclusion was " . . . a floor mounted water heater will ignite flammable vapor from a one gallon spill or larger in a room the size of a one-car garage. For a smaller room of about 60 ft^2, the same hazard is present with a spill as small as .5 gallon."

Mounted on 18" Stand

When the heater is mounted on a 18" stand in the 10'x20'x8' room:

1.	Without movement[1]-	two gallon spill	two fires in five tests
2.	With movement -	two gallon spill	resulted in fires
		1.5 gallon spill	two fires in three tests
		one gallon spill	one fire in five tests.

When the heater is mounted on a 18" stand in small room:

1.	Without movement-	one gallon spills no ignition.
2.	With movement -	half gallon spills ignition.

Based on the data presented, I am somewhat confused by the conclusion in the report that:

> The conclusion to the tests with gasoline spills in small rooms (about 60 ft) with the elevated water heater is that ignition is likely with one gallon spills with no motion and with spills as small as .5 gallon with motion.

since the data shows no ignition for a one gallon spill with no motion.

---

[1] In one test in which there was a fire there was considerable air movement due to external factors. In the other there may have been significant internal thermal flows.

Draft

Conclusions:

It is difficult to give definitive conclusions on the task 2 work based only on the report. One thing that is disappointing is the lack of comparison of model predictions to test results. The modeling task for this problem is formidable due to the large number of variables.

A.D. Little appears to have taken a substantial step in the showing that raising a water heater 18" can reduce the number of incidents resulting in ignition. They may also have made significant inroads to the production of useful models that would allow further evaluation.

To: Allen J. Callahan

From: John F. McGraw

Atwood Mobile Products
4750 Hiawatha Drive
Rockford, IL 61103-1298

In case of error call: (815) 877-5700
FAX number: (815) 877-7469 - MAIN OFFICE
FAX number: (815) 877-0185 - SALES DEPT.

Number of pages (including this one): 5

Message: Based on the 23KGA water heater agenda I received today, I don't think Daryl Hosler received my fax of June 18, 1993. Would please forward the fax and attachments to him

Thanks

Atwood
Atwood Mobile Products
4750 Hiawatha Drive, Rockford, IL 61103-1298
Phone: (815) 877-5700 • Fax (815) 877-7469
FAX (815) 877-0185 - SALES DEPT.

ATWOOD MOBILE PRODUCTS

4750 Hiawatha Drive Rockford, IL 61103

FAX

Date June 18, 1993

Phone (815) - 877-5700
Fax (815) - 877-7469

Number of Pages 4

TO:

Daryl Hosler

Southern California Gas Company

Los Angeles, CA 90013-1011

FROM:

John F. McGraw

Atwood Mobile Products

Rockford, Ill 61103

ENGINEERING

REMARKS:

Attached are the first three pages of the National Appliance Energy Conservation Act of 1987. On the third page (101 STAT 105) under "Coverage Sec 322. (a) In General." an exclusion for products designed solely for use in recreation vehicles and other mobile equipment is given. This should answer the question you raised in par 3 of your letter of April 26, 1993.

Public Law 100-12
100th Congress

An Act

To amend the Energy Policy and Conservation Act with respect to energy conservation standards for appliances.

Mar. 17, 1987
[S. 83]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

National Appliance Energy Conservation Act of 1987. 42 USC 6201 note.

SECTION 1. SHORT TITLE.

This Act may be referred to as the "National Appliance Energy Conservation Act of 1987".

SEC. 2. DEFINITIONS.

(a) ENERGY CONSERVATION STANDARD.—Section 321(a)(6) of the Energy Policy and Conservation Act (42 U.S.C. 6291(a)(6)) is amended to read as follows:

"(6) The term 'energy conservation standard' means—

"(A) a performance standard which prescribes a minimum level of energy efficiency or a maximum quantity of energy use for a covered product, determined in accordance with test procedures prescribed under section 323; or

"(B) a design requirement for the products specified in paragraphs (6), (7), (8), (10), and (13) of section 322(a); and

includes any other requirements which the Secretary may prescribe under section 325(o)."

Post, p. 105.

Post, p. 105.

Post, p. 107.

(b) NEW DEFINITIONS.—Section 321(a) of the Energy Policy and Conservation Act (42 U.S.C. 6291(a)) is amended by adding at the end the following paragraphs:

"(19) The term 'AV' is the adjusted volume for refrigerators, refrigerator-freezers, and freezers, as defined in the applicable test procedure prescribed under section 323.

"(20) The term 'annual fuel utilization efficiency' means the efficiency descriptor for furnaces and boilers, determined using test procedures prescribed under section 323 and based on the assumption that all—

"(A) weatherized warm air furnaces or boilers are located out-of-doors;

"(B) warm air furnaces which are not weatherized are located indoors and all combustion and ventilation air is admitted through grills or ducts from the outdoors and does not communicate with air in the conditioned space; and

"(C) boilers which are not weatherized are located within the heated space.

"(21) The term 'central air conditioner' means a product, other than a packaged terminal air conditioner, which—

"(A) is powered by single phase electric current;

"(B) is air-cooled;

"(C) is rated below 65,000 Btu per hour;

"(D) is not contained within the same cabinet as a furnace the rated capacity of which is above 225,000 Btu per hour; and

"(E) is a heat pump or a cooling only unit.

"(22) The term 'efficiency descriptor' means the ratio of the useful output to the total energy input, determined using the test procedures prescribed under section 323 and expressed for the following products in the following terms:

Post, p. 105.

"(A) For furnaces and direct heating equipment, annual fuel utilization efficiency.

"(B) For room air conditioners, energy efficiency ratio.

"(C) For central air conditioning and central air conditioning heat pumps, seasonal energy efficiency ratio.

"(D) For water heaters, energy factor.

"(E) For pool heaters, thermal efficiency.

"(23) The term 'furnace' means a product which utilizes only single-phase electric current, or single-phase electric current or DC current in conjunction with natural gas, propane, or home heating oil, and which—

"(A) is designed to be the principal heating source for the living space of a residence;

"(B) is not contained within the same cabinet with a central air conditioner whose rated cooling capacity is above 65,000 Btu per hour;

"(C) is an electric central furnace, electric boiler, forced-air central furnace, gravity central furnace, or low pressure steam or hot water boiler; and

"(D) has a heat input rate of less than 300,000 Btu per hour for electric boilers and low pressure steam or hot water boilers and less than 225,000 Btu per hour for forced-air central furnaces, gravity central furnaces, and electric central furnaces.

"(24) The terms 'heat pump' or 'reverse cycle' mean a product, other than a packaged terminal heat pump, which—

"(A) consists of one or more assemblies;

"(B) is powered by single phase electric current;

"(C) is rated below 65,000 Btu per hour;

"(D) utilizes an indoor conditioning coil, compressors, and refrigerant-to-outdoor-air heat exchanger to provide air heating; and

"(E) may also provide air cooling, dehumidifying, humidifying circulating, and air cleaning.

"(25) The term 'pool heater' means an appliance designed for heating nonpotable water contained at atmospheric pressure, including heating water in swimming pools, spas, hot tubs and similar applications.

"(26) The term 'thermal efficiency of pool heaters' means a measure of the heat in the water delivered at the heater outlet divided by the heat input of the pool heater as measured under test conditions specified in section 2.8.1 of the American National Standard for Gas Fired Pool Heaters, Z21.56–1986, or as may be prescribed by the Secretary.

"(27) The term 'water heater' means a product which utilizes oil, gas, or electricity to heat potable water for use outside the heater upon demand, including—

"(A) storage type units which heat and store water at a thermostatically controlled temperature, including gas storage water heaters with an input of 75,000 Btu per hour or less, oil storage water heaters with an input of 105,000 Btu

per hour or less, and electric storage water heaters with an input of 12 kilowatts or less;

"(B) instantaneous type units which heat water but contain no more than one gallon of water per 4,000 Btu per hour of input, including gas instantaneous water heaters with an input of 200,000 Btu per hour or less, oil instantaneous water heaters with an input of 210,000 Btu per hour or less, and electric instantaneous water heaters with an input of 12 kilowatts or less; and

"(C) heat pump type units, with a maximum current rating of 24 amperes at a voltage no greater than 250 volts, which are products designed to transfer thermal energy from one temperature level to a higher temperature level for the purpose of heating water, including all ancillary equipment such as fans, storage tanks, pumps, or controls necessary for the device to perform its function.

"(28) The term 'weatherized warm air furnace or boiler' means a furnace or boiler designed for installation outdoors, approved for resistance to wind, rain, and snow, and supplied with its own venting system."

SEC. 3. COVERAGE.

Section 322(a) of the Energy Policy and Conservation Act (42 U.S.C. 6292(a)) is amended to read as follows:

"COVERAGE

"SEC. 322. (a) IN GENERAL.—The following consumer products, excluding those consumer products designed solely for use in recreational vehicles and other mobile equipment, are covered products:

"(1) Refrigerators, refrigerator-freezers, and freezers which can be operated by alternating current electricity, excluding—

"(A) any type designed to be used without doors; and

"(B) any type which does not include a compressor and condenser unit as an integral part of the cabinet assembly.

"(2) Room air conditioners.

"(3) Central air conditioners and central air conditioning heat pumps.

"(4) Water heaters.

"(5) Furnaces.

"(6) Dishwashers.

"(7) Clothes washers.

"(8) Clothes dryers.

"(9) Direct heating equipment.

"(10) Kitchen ranges and ovens.

"(11) Pool heaters.

"(12) Television sets.

"(13) Any other type of consumer product which the Secretary classifies as a covered product under subsection (b)."

SEC. 4. TEST PROCEDURES.

Section 323 of the Energy Policy and Conservation Act (42 U.S.C. 6293) is amended to read as follows:

ITEM 7.
Z21/CGA Joint Water Heater
Subcommittee Meeting,
September 23-24, 1993

RECONSIDER PROPOSED REVISIONS TO Z21.10.1 AND Z21.10.3 EFFICIENCY TEST METHODS TO REFLECT PROPOSED ANSI/ASHRAE STANDARDS

Action Requested

Reconsider actions taken at the subcommittee's September 21-22, 1992 meeting on adopting proposed revisions to Z21.10.1 and Z21.10.3 efficiency test methods to be identical with the following proposed standards, as applicable:

> *Proposed American National Standard for Method of Testing for Rating Commercial Gas, Electric, and Oil Water Heaters,* BSR/ASHRAE 118.1P; and
>
> *Proposed American National Standard for Method of Testing for Rating Residential Water Heaters [gas, electric & oil]*, BSR/ASHRAE 118.2P.

History

At its September 21-22, 1992 meeting, the subcommittee considered issues regarding standards duplication between the Z21 water heater standards and proposed ASHRAE standards.

After discussion, the subcommittee agreed to revise the test methods for "Recovery Efficiency" and "Standby Loss," under 2.8 in Z21.10.1, to be identical to the proposed ASHRAE 118.2 standard. In addition, the subcommittee agreed to revise the test methods for "Thermal Efficiency" and "Standby Loss" under 2.8 and 2.9 respectively, in Z21.10.3, to be identical to the proposed ASHRAE 118.1 standard. It was agreed that the revised Z21 test methods were to be distributed for industry review and comment, before recommending them to the Z21 Committee for approval.

In his attached April 26, 1993 letter to the subcommittee, Chairman Daryl Hosler directed the Z21 Secretariat to hold the above Z21 water heater standards proposals in abeyance pending further consideration at the subcommittee's next meeting. *(See Attachment I.)* Chairman Hosler's reasons for his action are contained in his attached letter.

Not ready for consideration, Frank S. recommends awaiting 3/13/95
working group - Ground.

CLEARED:
No Files Identified
Comments Processed

Based on the above, the remainder of proposals adopted at the subcommittee's September 1992 meeting were processed and distributed for review and comment during July 1993, without the above proposed revisions to the efficiency tests in Z21.10.1 and Z21.10.3. *(See agenda Items 3 through 5.)*

Background

In his attached May 3, 1993 letter to Mr. Steve Comstock, ASHRAE, Z21 Administrative Secretary Allen Callahan requested permission to reproduce the above proposed ASHRAE standards in the Z21.10.1 and Z21.10.3 standards, as applicable. *(See Attachment II.)*

Attached is a July 23, 1993 letter from Mr. W. Stephen Comstock, ASHRAE, to Mr. Callahan. *(See Attachment III.)* In his July 23 letter, Mr. Comstock responded that a royalty agreement will need to be negotiated if substantial portions or all of ASHRAE 118.1 and 118.2 are reproduced in approved Z21 standards. However, if the 118.1 and 118.2 standards are proposed for inclusion into the Z21 standards as references, ASHRAE will allow the reproduction of 118.1 and 118.2 as temporary information exhibits accompanying the Z21 standards' review and comment texts. This means that the 118.1 and 118.2 information exhibits would not be reproduced in the published Z21 standards revisions, once approved by ANSI.

Status of Proposed ASHRAE
118.1, 118.2 and 146P Standards

At its June 1993 Annual Meeting, the ASHRAE members approved proposed 118.1 and 118.2 standards as ASHRAE standards. In late July 1993, it is anticipated that ASHRAE will formally submit these standards to the American National Standards Institute (ANSI) for approval as ANSI/ASHRAE standards. An update on pending ANSI approval of these standards will be given at this meeting.

In addition to the above, proposed ASHRAE 146P, *Methods of Testing for Rating Pool and Spa Heaters*, is anticipated to be processed for a concurrent ASHRAE review and an ANSI Public Review period by mid-August 1993. Draft 92/4 of 146P was distributed to the subcommittee for information under staff's November 18, 1992 cover letter.

Additional Information

In his attached November 13, 1992 letter to staff, Mr. E. Ross Deter, California Energy Commission (CEC), comments on staff's report of the subcommittee's actions in response to his September 8, 1992 letters. *(See Attachment IV.)* It should be noted that the CEC did not approach the Z21 Committee at its April 1993 meeting regarding item #2 of Mr. Deter's November 13, 1992 letter.