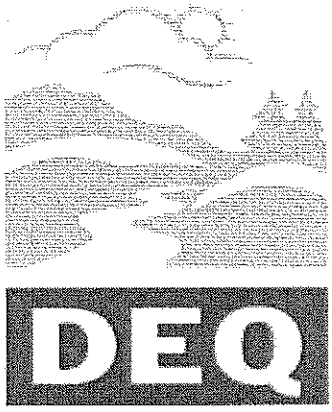
8/1/1983

OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS



State of Oregon
Department of Environmental Quality

OREGON ENVIRONMENTAL QUALITY COMMISSION

August 1, 1983

14th Floor Conference Room
Department of Environmental Quality
522 S. W. Fifth Avenue
Portland, Oregon

SPECIAL MEETING

The Environmental Quality Commission (EQC) will meet by conference telephone at 2:00 p.m. on August 1 in Portland to consider the composition of the Woodstove Advisory Committee; to formulate the charge to that committee; and to establish a time schedule for action by the committee.

Interested members of the public can be present during this conference call, which will be held at DEQ headquarters in Room 1400.

The woodstove certification bill (HB 2235), as signed into law by the Governor on July 5, 1983, gives the EQC authority to establish an advisory committee to aid the Commission in the adoption of woodstove emission performance standards and testing criteria.

THESE MINUTES ARE NOT FINAL UNTIL APPROVED BY THE EQC

MINUTES OF A SPECIAL MEETING OF THE

OREGON ENVIRONMENTAL QUALITY COMMISSION

August 1, 1983

On Monday, August 1, 1983, a special meeting of the Oregon Environmental Quality Commission was convened by conference telephone at the offices of the Department of Environmental Quality, Portland, Oregon. Present by telephone were Commission members Chairman Jim Petersen, Vice-Chairman Fred Burgess, Mary Bishop, and Arno Denecke. Commissioner Brill was absent. Present in person on behalf of the Department were its Director, William H. Young, and several members of the Department staff.

The staff report presented at this meeting, which contains the Director's recommendations mentioned in these minutes, are on file in the Office of the Director, Department of Environmental Quality, 522 S. W. Fifth Avenue, Portland, Oregon. Written information submitted at this meeting is hereby made a part of this record and is on file at the above address.

SPECIAL MEETING

The woodstove certification bill (HB 2235), as signed into law by the Governor on July 5, 1983, gives the EQC authority to establish an advisory committee to aid the Commission in the adoption of woodstove emission performance standards and testing criteria. At its July 8 meeting, the Commission agreed to establishing a committee and asked the staff to return with specific nominations and a charge. The Commission convened to consider the composition of the Woodstove Advisory Committee; to formulate the charge to that committee; and to establish a time schedule for action by the committee.

Director's Recommendation

The Director recommends that the EQC establish a nine-member wood stove advisory committee with specific members listed in the summation of this report. The Director further recommends that the EQC 1) appoint the scientific community representative as chairman; 2) direct the Department to solicit comments to the advisory committee from Drs. Schade and Campbell regarding establishment of a woodstove emission standard protective of public health; 3) approve the attached mission statement as the official charge to the committee; and 4) direct the Department to keep other interested parties informed about committee activities and to keep the committee informed about comments made by interested individuals on committee activities.

After a brief discussion, it was MOVED by Commissioner Burgess, seconded by Commissioner Denecke, to adopt the Director's Recommendation, and further MOVED to authorize the Director, with the concurrence of the Chairman, to approve alternate members to this committee should any member find he/she cannot serve. The motion passed unanimously.

There being no further business the meeting was adjourned and the call terminated.

Respectfully submitted,

Jan Shaw

Jan Shaw
EQC Assistant

MEMORANDUM

To: Environmental Quality Commission

From: Director

Subject: August 1, 1983 Conference Call - Establishment of Wood Stove Advisory Committee

Background

At the July 8, 1983 meeting, the EQC discussed establishment of a wood stove advisory committee. The EQC concluded that formation of such a committee was desirable to aid the EQC in adoption of wood stove testing criteria and emission standards as required by HB 2235. The Department had proposed establishment of a seven-member committee (Attachment 1) which had been favored at one time by a subcommittee of the House Environment and Energy Committee. Oral and written testimony (Attachment 2) on the issue was received by the EQC at this meeting. This testimony can be summarized as follows:

Tom Donaca, Associated Oregon Industries. Mr. Donaca felt the committee should be limited to highly technical people such as a four member group representing a wood stove manufacturer, a wood stove testing laboratory, an air quality specialist, and a member of the scientific community. He suggested others have input on an ex officio basis.

Keith Cochran, Chimney Sweeps Association. Mr. Cochran felt that the chimney sweeps should be represented on the committee. He felt the sweeps' knowledge and experience of actual stove operations would be valuable to the committee.

John Charles, Oregon Environmental Council. Mr. Charles supported the seven member committee proposed by the Department on the basis it would meet legislative intent. Mr. Charles also indicated that he would support addition of a chimney sweep and a medical profession member.

Lois Renwick, Irons in the Fire Retailer. Ms. Renwick submitted two letters in which she 1) indicated objection to the Oregon Retail Council nominating a wood stove retailer when none of their members were indicative of retailers, and 2) indicated that it would be

highly desirable to have a national authority on wood heating on the committee.

Tom Lichty, Larson-Thomas and Company. Mr. Lichty, a wood stove retailer, favored appointment of the proposed seven member committee.

Randy Iverson, Oregon Fire Marshall's Association. Mr. Iverson suggested that a fire service representative be appointed to the committee.

During discussion, the EQC emphasized that a "broad based" committee was desired and that the committee should act in a advisory capacity, generally commenting on specific proposals developed by Department staff. The EQC also raised concern that small wood stove manufacturers possibly not represented by an organization may be unjustly excluded from consideration as a committee member. The EQC also stated that a local government representative should have code and fire safety expertise.

After further discussion the Commission unanimously passed a motion which directed the Department staff to:

"proceed to formulate an advisory committee, not to exceed nine persons, consisting of the representation on Attachment 1 but with the possibility of adding two more. The agencies will be asked to nominate an individual or individuals; the staff will come back to us by telephone conference call, together with a charge to the committee, and that a timetable for action will be included in that charge."

As a result of action taken by the EQC at their July 8, 1983 meeting, the Department has contacted all the organizations identified in the originally proposed seven member committee and requested them to nominate an appropriate person or persons to serve on the committee. To aid in selection of appropriate committee representatives, the Department indicated that the person(s) nominated should meet the following four criteria:

- Have technological expertise, especially in wood combustion and emission testing principles.
- Demonstrated interest and willingness to work constructively on the standard and test method.
- Ability and willingness to attend up to four meetings per month for approximately four months.
- Ability to convey committee work to affected groups and to solicit comments from them.

In addition to the seven proposed nominating organizations, the Department has contacted all Oregon wood stove dealers and manufacturers on DEQ's master mailing list, the Chimney Sweeps Association, and the State Health Division with the thought of considering nominees representing 1) at large wood stove retailers, 2) at large wood stove manufacturer, 3) chimney sweeps, and 4) medical community. The State Fire Marshall and Building Codes Division were also directly contacted to insure nomination of a person experienced in fire codes as the League of Oregon Cities had given some indication they may not be able to nominate such an individual.

The Department has also drafted a proposed committee Mission Statement and Meeting Schedule (Attachment 3) as requested by the EQC which would be presented and discussed with the advisory committee at its orientation meeting.

Evaluation and Alternatives

The Department received 26 written committee nominations by the July 22, 1983 deadline for submission. These are contained in Attachment 4. Written qualifications of individuals varied considerably with some nominations only containing names and business affiliation.

With respect to the Oregon Wood Stove Manufacturer position, the Oregon Wood Energy Association nominated Tom Engle. Mr. Engle is president of the largest Oregon stove manufacturer, Fisher Century Corporation of Eugene, Oregon. Mr. Engle has worked with wood stove testing and pollution control specialists, has testified on HB 2235, and is a member of the National Wood Heating Alliance. Mr. Engle would meet the criteria for the wood stove manufacturers position.

With respect to an Oregon wood stove dealer position, the Oregon Retail Council declined to submit a nominee. Six dealers submitted nominations at large. These were:

Robert Buck of Buck's Stove Palace, Portland. Mr. Buck specializes in sale of new and antique stoves. He highly supports clean burning appliances and has lectured on the subject of wood burning.

Bill Day or Gerald Griswold of Anchor Tools and Wood Stoves, Portland. These retailers/distributors know wood stove combustion and testing principles and have a large Oregon dealer basis to solicit comments from. Mr. Day testified on HB 2235.

Carl English of Homestead Research, Camas, Washington. Mr. English, a stove retailer, has operated lots of stoves, dealt with products around the world and is familiar with testing standards in Europe and the United States.

Bette Hume of Klickitat Enterprises, Inc., Portland. Ms. Hume imports stoves certified for clean air standards in New Zealand for sale in Oregon and other states. She has worked with Underwriters Lab regarding safety testing, she has been in contact with DEQ for over three years regarding promotion of clean burning stoves. She testified on HB 2235 and she is a member of the Board of Directors of the National Wood Heating Alliance.

Tom Lichty of Larson-Thomas and Company, Eugene. Mr. Lichty, a store retailer, has been very actively involved in public education on wood stove emissions and design.

Of the nominees, the Department believes Bette Hume would have the best qualifications for the wood stove dealers position.

With respect to the Wood Stove Testing Lab position, the Department of Commerce did not submit a lab nominee. Four lab representatives were nominated at large. These were:

Gerald McCormack of McCormack Engineering, Bend. Mr. McCormack performs safety testing and has a practical sense about stove design.

Jay Shelton of Shelton Energy Research, New Mexico. Mr. Shelton is a nationally recognized expert on wood stove combustion and efficiency. He is now getting involved with emission testing.

Paul Tiegs of OMNI Environmental, Beaverton. Mr. Tiegs is among those having most experience in wood stove emission testing in the U. S. He has been DEQ's prime testing consultant and has also provided substantial testing work for stove manufacturers and stove pollution control equipment manufacturers directly. He has emission, efficiency and safety testing capability at his lab. He has testified on HB 2235 and will likely be a member of the National Wood Heating Alliance committee on Emission Testing Methods.

Of the nominees, the Department believes Paul Tiegs would have the best qualifications for the testing lab position.

With respect to the Environmental Organization position, the Oregon Environmental Council nominated Denis Heidtmann. Mr. Heidtmann is an engineer with Tektronix, Beaverton. He chaired the wood stove subcommittee of the Portland Air Quality Advisory Committee. Mr. Heidtmann would meet the criteria for the position.

With respect to the air quality specialist position, the Pacific Northwest Section of the Air Pollution Control Association nominated Paul Wilhite. Mr. Wilhite is presently a registered engineer employed by the Lane Regional Air Pollution Authority (LRAPA). Mr. Wilhite's background includes emission testing, combustion, and specifically wood stove control technology work as a consultant to EPA. His association with LRAPA would be useful as LRAPA was very active and demonstrated great interest in the legislative activities dealing with HB 2235. Mr. Wilhite would meet the criteria for the position.

With respect to the scientific community position, the Deans of Engineering at OSU and PSU nominated Dr. Graig Spolek. Dr. Spolek is a registered engineer and his background and experience includes wood combustion and emission testing. Dr. Spolek testified before the Senate committee on HB 2235. Dr. Spolek would meet the criteria for the position.

With respect to the local government position, no nomination was received from the League of Oregon Cities. Five fire service representatives nominated at large could be considered for this position. These were:

> Bruce Chinnock, Deputy State Fire Marshall, Salem. Mr. Chinnock has knowledge of building and fire codes relating to solid fuel burning appliances, is familiar with fire casualty data and is familiar with appropriate national and U. L. standards.
>
> Rex Jeffries, Fire Prevention Officer, Washington County Fire Department #1.
> Don Bloom, Fire Inspector, Multnomah County Fire District #10.
> Marie Morterud, Deputy Fire Marshall, Tualatin Rural Fire Department.
> Matthew Greenslade, Portland Fire Prevention Bureau.
> The above four individuals possess technical expertise relating to installation requirements of wood stoves, and are aware of fire safety problems and can access their staff and organizations for support.

The Department believes Bruce Chinnock would have the best qualification to represent local government concerns about fire safety and building code requirements for wood stoves.

The above nominees would constitute a seven member committee.

The Department believes it would be desirable to expand the committee to 9 members with representation being added from a chimney sweep and a small, unrepresented wood stove manufacturer.

With respect to a chimney sweep, the Oregon Chimney Sweeps Associations nominated Keith Cochran of Ch-Chimney Sweeps, Beaverton. Mr. Cochran has served as president of the organization, he is a certified sweep, a certified solid fuels safety technician and has worked with the State Fire Marshal and building Code Office. The Department believes Keith Cochran would meet criteria for a position on the committee.

With respect to a small, non-represented wood stove manufacturers, four manufacturers at large submitted nominations. These were:

> Robert Ferguson, a combustion engineer with Vermont Castings, Vermont,a large manufacturer of wood stoves. Mr. Ferguson was highly recommended by the National Wood Heating Alliance. Mr. Ferguson

has established a fully equipped testing laboratory, and has worked on test procedures. Mr. Ferguson has a long background in combustion.

F. N. Harris of Harco Manufacturing, Portland. Mr. Harris represents a company that is just entering the wood stove industry. He developed a stove which produces low emissions. Mr. Harris has been involved with combustion for over 35 years, and has worked on standard test methods. Mr. Harris testified on HB2235.

Orley "J.R." Milligan of Sunfire, Medford. Mr. Milligan represents a fairly large stove manufacturer. He has been involved in safety testing of stoves for some time, and has worked with building officials throughout the U. S. He has testified on HB 2235.

Val Neuman of Sweet Home Stove Works, Sweet Home. Mr. Neuman represents a moderate-sized stove manfacturer which is represented by the Oregon Wood Energy Association. Mr. Neuman has been past president of the Oregon Chimney Sweeps Association, has interacted with DEQ on development of low emission stoves, has been actively involved with stove safety issues, and has a good knowledge of safety, emission and efficiency testing.

Mr. Paul Runquist of Genesis Systems, Medford. Mr. Runquist has a small wood stove manufacturing and retailing business. He has been working on clean burning stove technology since 1974. He has participated in safety testing and is familiar with emission testing. He appeared before the EQC in Medford several years ago urging application of clean burning stoves to solve Medford's air quality problem. He testified on HB 2235.

The Department believes Paul Runquist would best meet the criteria for a small unrepresented wood stove manufacturer committee position.

Two medical doctors, Dr. Campbell of the Oregon State Health Division and Dr. Schade, Multnomah County Health Officer, were nominations for the wood stove advisory committee. Addition of a medical community representative to the previous identified nine positions would result in a ten member committee. The medical community interest and experience would be primarily useful in establishing an emission standard which would adequately protect public health. Many other time-consuming issues the committee will face, like test procedures, labeling, and fees may not be of interest to nor be the best use of the doctors' time. The Department would propose to bring both doctors into committee deliberations on an advisory basis when the emission standard is discussed.

There have been several other individuals who have expressed interest in providing assistance to DEQ and the advisory committee. The Department will make special efforts to keep these people informed on committee activities and will pass comments on to the committee.

It is noteworthy that three of the recommended committee members are active with the National Wood Heating Alliance (WHA). This will greatly help in exchange of information with WHA which is also forming a committee to address emission testing.

With respect to the issue of a committee chairperson, the Department believes a chairperson should be representative of a neutral interest group position and should be able to convey technical information on test methods and emission standards to the public, stove industry, and news media as well as, of course, to the Department and EQC. the Department believes the position representing the scientific community would best fit this criteria.

Summation

1. The EQC has decided to establish a wood stove advisory committee as provided in HB 2235 to aid and advise the EQC on adoption of wood stove testing criteria and emission standards.

2. At the direction of the EQC, the Department has solicted nominations for committee positions from the seven organizations originally identified by a legislative subcommittee as potential committee members. Other individual interest groups were also invited to submit nominees.

3. The Department received nominations of 26 individuals for committee membership.

4. The Department has identified 7 individuals who it believes would best represent the seven originally proposed organizations. These are:

   Wood Stove Manufacturing (large Oregon manufacturer represented by trade organization) - Tom Engle, Fisher Century Corporation, Eugene

   Wood Stove Dealer - Bette Hume, Klickitat Enterprise, Portland.

   Wood Stove Testing Laboratory - Paul Tiegs, OMNI Environmental Services, Inc., Beaverton.

   Air Quality specialist - Paul Wilhite, Lane Regional Air Pollution Authority, Eugene.

   Scientific Community - Dr. Graig Spolek, Portland State University, Portland.

   Environmental Organization - Denis Heidtmann, Tektronix, Beaverton.

   Local Government - Bruce Chinnock, Deputy State Fire Marshal, Salem.

5. The Department believes the committee could be more effective if chimney sweeps and a non-trade association represented, small Oregon Wood Stove Manufacturer were included on the committee. The

Department believes the best representatives of these two groups would be:

Chimney Sweeps - Keith Cochran, Ch-Chimney Sweeps, Beaverton.

Wood Stove Manufacturers - Paul Runquist, Genesis Systems, Medford.

6. The Department believes medical community input from committee nominees Drs. Schade and Campbell should be solicited on an advisory basis regarding establishment of an emission standard.

7. The Department favors keeping those interested in committee activities informed by sending meeting agendas and minutes and passing any comments on to the committee.

8. The Department believes that the committee should be chaired by the scientific community representative as this position is the most neutral technical representative on the committee.

Director's Recommendation

The Director recommends that the EQC establish a nine member wood stove advisory committee with specific members listed in the summation of this report. The Director further recommends that the EQC: 1) appoint the scientific community representative as chairman, 2) direct the Department to solicit comments to the advisory committee from Drs. Schade and Campbell regarding establishment of a wood stove emission standard protective of public health, 3) approve the attached mission statement as the official charge to the committee, and 4) direct the Department to keep other interested parties informed about committee activities and to keep the committee informed about comments made by interested individuals on committee activities.

Bill

William H. Young

Attachments

1. Initially Proposed Seven Member Wood Stove Advisory Committee
2. Oral and Written Testimony - July 8, 1983 EQC Meeting
3. Proposed Mission Statement and Meeting Schedule
4. Committee Nominations

JFKowalczyk:ahe
229-6459
July 25, 1983
AZ293

Attachment 1

WOOD STOVE ADVISORY COMMITTEE

(Proposed to EQC at July 8, 1983 Meeting)

Organization	Appointing Authority
Wood Stove Manufacturers	Oregon Wood Energy Association
Wood Stove Dealers	Oregon Retail Council
Wood Stove Testing Lab	Department of Commerce
Environmental Organization	Oregon Environmental Council
Scientific Community	Deans of OSU and PSU
Local Government	League of Oregon Cities
Aid Quality Specialist	Air Pollution Control Association/ Pacific Northwest International Section

AZ303

Attachment 2

Testimony Submitted

July 8, 1983 EQC Meeting

AZ304

AGENDA ITEM L

EQC
Young
Kowalczyk
Bonneson

IRONS in the FIRE

YAMHILL MARKETPLACE · 110 SW YAMHILL · PORTLAND, OR 97204 ·

July 5, 1983

Chairman
Environmental Quality Commission
P.O. Box 1760
Portland, OR 97204

RE: Agenda Item No.L, July 8, 1983 EQC Meeting
Proposed Establishment of Woodstove Advisory Committee

I would like to go on record of supporting the extablishment of aWoodstove Advisory Committee for standards of emmissions and efficiency as they relate to HB 2235. As noted by Director of the Department of Environmental Quality Bill Young, the committee members should have a technical background and experience to address issues associated with wood combustion and testing methods.

However, it is not clear to me that the proposed appointing authorities have the necessary background to appoint qualified committee members.

Since the impact of HB 2235 will have national implications, and federal EPA funds are being used for development of this standard, I feel very strongly that recognized National authorities in the wood heating industry should be included on the advisory committee.

I also feel that the committee member representing the woodstove dealers should be a retail owner whose primary interest is wood heating and wood heat safety.

Thank you for your consideration of these very important issues.

Lois R. Renwick
Lois R. Renwick

Young
EQC
Kowalczyk
Lombardo

IRONS in the FIRE

YAMHILL MARKETPLACE • 110 SW YAMHILL • PORTLAND, OR 97204 • 223-0121

July 7, 1983

Chairman
Environmental Quality Commission
P.O. Box 1760
Portland, OR 97204

RE: Agenda Item No.L, July 8, 1983 EQC Meeting
Proposed Extablishment of Woodstove Advisory Committee

I would like to go on record as opposing the Oregon Retail Council as an appointing authority for the Oregon Woodstove Retailer. I have been informed that they would find it necessary to appoint a member of the Oregon Retail Council. Their members that they concluded would be impacted by this legislation would be Sears and J.C. Penny. I do not feel that these retailers are indicitive of the Oregon woodstove dealer whose primary interest is wood heating and wood heat safety.

Thank you for your consideration.

Very truly yours,

Lois R Renwick

Lois R. Renwick

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 8 1983
OFFICE OF THE DIRECTOR

EQC
Young
Kowalczyk
Tomlinson

"Knowing Todays Cause . . . Preventing Tomorrows Loss"

Oregon Fire Marshals Association

July 8, 1983

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 11 1983
AIR QUALITY CONTROL

State Environmental Quality Commission
Department of Environmental Quality Headquarters
522 S W 5th Avenue
Portland, OR 97204

SUBJECT: WOODSTOVE ADVISORY COMMITTEE

I understand that at your July 8, 1983 regular meeting, you will be accepting public comment on the membership of a Woodstove Advisory Committee to set emission standards and establish a testing technique for woodstoves. Although I will be unable to attend that meeting, I would like to submit the following testimony:

SOLID FUEL BURNING/HEATING EQUIPMENT accounted for 49.5% of the total residential fires in the state of Oregon during 1982. Fires in single family dwellings increased from 4,072 in 1981 to 4,682 in 1982. The dominant cause of these increases was the ever growing number of heating equipment fires. Our Association is concerned about the possible detrimental effects of setting new pollution standards on the use of solid fuel burning/heating appliances. We are also concerned that any testing techniques that is utilized, specifically addresses the issue of fire and life safety. Many of the devices currently on the market or some of the designs that have been proposed in an effort to reduce pollution standards and testing criteria is essential to consider the potential effect on the requirements of stoves and venting systems as well as the actual construction installation of the components themselves. In an effort to maintain fire and life safety as a high priority, the establishment of standards the Oregon Fire Marshals' Association recommends that an identified fire service representative be appointed to the Woodstove Advisory Committee.

Recommendations on qualified individuals can be provided through both our Association and the State Fire Marshals' Office.

If you have any questions relative to this, please telephone me at 826-7100.

Submitted by,

Randy Iverson
President

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 11 1983
OFFICE OF THE DIRECTOR

bcm

cc: MM
7/12/83 Margaret will take care of this because she's working with Fire Marshals Office on their nominees

EQC
Young
Bondeson
Kowalczyk

AGENDA ITEM L

LARSON-THOMAS & CO.
411 High Street
Eugene, OR
97401
503-485-6474

OREGON DEPT OF ENVIRONMENTAL QUALITY
Environmental Quality Division
PO Box 1760
Portland, OR 97207

July 2, 1983

To the Environmental Quality Commission:

(Regarding Item L on your July 8, 1983 agenda)

A woodstove retailer since 1976, my interest in air quality has nonetheless remained paramount. I may very well have been the only retailer to attend the International Conference on Residential Solid Fuels held in Portland in 1981.

I write in support of the staff report regarding the formation of an EQC Woodstove Advisory Committee. The seven-member committee originally proposed by the House Environment & Energy Committee - appointed by the specified authorities - certainly seems the most equitable and preferable of the alternatives. Though the Oregon Wood Energy Association is justified in suggesting the deletion of the Air Quality Specialist, the resulting even number of committee members most certainly would provoke tie votes, diluting the committee's advisory authority.

Please submit this testimony in favor of alternative 1 as specified in the staff report.

Sincerely,

Tom Lichty

EQC
Young
Kowalczyk
Tomlesson

"Knowing Todays Cause . . . Preventing Tomorrows Loss"

Oregon Fire Marshals Association

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 11 1983
AIR QUALITY CONTROL

July 8, 1983

State Environmental Quality Commission
Department of Environmental Quality Headquarters
522 S W 5th Avenue
Portland, OR 97204

SUBJECT: WOODSTOVE ADVISORY COMMITTEE

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Recommendations on qualified individuals can be provided through both our Association and the State Fire Marshals' Office.

If you have any questions relative to this, please telephone me at 826-7100.

Submitted by,

Randy Iverson
President

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 11 1983
OFFICE OF THE DIRECTOR

bcm

Attachment 3

Proposed

WOOD STOVE ADVISORY COMMITTEE

Mission

The Wood Stove Advisory Committee has been established by the Environmental Quality Commission (EQC) to aid and advise the EQC in the adoption of emission performance standards and emission and efficiency testing criteria for wood stoves. The committee will also be asked to review and comment on laboratory accreditation procedures, labeling requirements, and certification application fees.

The committee should accomplish its mission primarily by reviewing and preparing comments to DEQ and the EQC on specific proposals developed by the DEQ staff. In reviewing and commenting on specific proposals, the Committee should keep the following objectives in mind:

- Emission performance standards should be based on reasonably available control technology with consideration given to the emission reductions needed to meet airshed requirements.

- Emission testing criteria should be reflective of typical stove operation to the extent practical.

- Testing criteria should be technically sound, precise, reasonable in cost, and compatible with national procedures to the extent possible while still meeting all other objectives.

- Testing criteria and emission performance standards based on currently available information should be developed as soon as possible and within a time frame which will enable the EQC to adopt them by no later than July 1, 1984 as prescribed by statute.

- Testing criteria and emission performance standards should primarily address the main problem to be solved, which is particulate air pollution.

- Testing criteria and emission performance standards should not aggrevate any fire safety or indoor air quality problem.

Proposed

WOOD STOVE ADVISORY COMMITTEE

Meeting Schedule

The following tentative meeting schedule and agenda has been developed to provide a fast track schedule for achieving the committee mission. This schedule is based on a leap-frog approach which allows for simultaneous consideration of several issues while allowing time for mailout and consideration of responses by DEQ staff on issues raised at meetings. Major issues are covered in the early stages of the schedule and if not resolved on the proposed schedule, they can be continued to subsequent meetings where less controversial and time-consuming subjects will be covered. A three month contingency period has been provided to allow for greater committee and/or EQC activity if needed to meet the statutory deadline of July 1, 1984.

Proposed

WOOD STOVE ADVISORY COMMITTEE MEETING SCHEDULE

Meetings Mondays 1:00 p.m. at DEQ, Room 1400

August 1, 1983	Committee Appointed
August 8	Background Information mailed out
August 17	Orientation Meeting (Note Wednesday meeting)
August 22	Tour Wood Stove Testing Lab and Manufacturer. Demonstration of cleaner burning stoves
August 29	DEQ Emission/Efficiency Testing
September 5	No meeting - Labor Day
September 12	Emission/Efficiency Testing Methods (others) - DEQ Method recommendations
September 19	Emission Standards
September 26	Recommendation on Conceptual Emission/Efficiency Testing Method
October 3	Laboratory Accreditation
October 10	Recommendation on Emission Standards
October 17	Labeling
October 24	Recommendation on Laboratory Accreditation
October 31	Certification Fees and Draft Test Procedures and Emission Standard Rules
November 7	Recommendation on Labeling
November 14	Recommendation on Fees
November 21	Final Recommendations
December *	DEQ Prepares Rules - EQC Hearing Authorization Report
January, 1984*	EQC Authorizes Hearing
February*	Hearing
March*	EQC Adopts

* Note: 42 day EQC meeting frequency, 30 day public notice requirements, and 21 day premeeting report preparation requirements necessitates at least 120 day rulemaking process.

Attachment 4

WOOD STOVE ADVISORY COMMITTEE

Nominees

Nominee	Representing	Business
Tom Engle	Stove Manufacturing	Fisher Century Corporation
Robert Buck	Stove Manufacturing	Buck Stove Palace
Tom Lichty	Stove Retailer	Larson-Thomas & Company
Bette Hume	Stove Distributor	Klickitat Enterprises, Inc.
Carl English	Stove Retailer	Homestead Research
Bill Day(4)	Stove Retailer	Anchor Tools & Wood Stoves
Gerald Griswold(4)	Stove Retailer	Anchor Tools & Wood Stoves
Paul Tiegs	Stove Testing Lab	OMNI Environmental Services, Inc.
Jay Shelton(3)	Stove Testing Lab	Shelton Energy Research
Gerald McCormack(1)	Stove Testing Lab	McCormack Consulting Engineers
Gene Wellman(2)	Stove Testing Lab	BWR Associates
Paul Wilhite	Air Quality Specialist	Lane Regional Air Pollution Authority
Dr. Graig Spolek	Scientific Community	Portland State University
Denis Heidtmann	Environmental Organization	Tektronix
Bruce Chinnock(5)(6)	Fire Service	Deputy State Fire Marshal
Rex Jeffries(5)	Fire Service	Washington County Fire District # 1
Don Bloom(5)	Fire Service	Multnomah County Fire District #10
Marie Morterud(5)	Fire Service	Tualatin Rural Fire District
Matthew Greenslade(4)	Fire Service	Portland Fire Prevention Bureau
Keith Cochran	Chimney Sweep	Ch-Chimney Sweeps
Robert Ferguson	Stove Manufacturing	Vermont Castings, Inc.

Nominee	Representing	Business
Val Neuman	Stove Manufacturing	Sweet Home Stove Works
Orley (JR) Milligan	Stove Manufacturing	Sunfire
Paul Runquist	Stove Manufacturing	Genesis Systems
F. N. Harris	Stove Manufacturing	Harco Manufacturing, Portland
Dr. Douglas Campbell	Medical Doctor	State Health Division
Dr. Charles Schade	Medical Doctor	Multnomah County

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(1) Nomination contained in letter from Paul Runquist which also nominates Runquist for manufacturers position.
(2) Declined nomination but offered assistance.
(3) Nominated in letter from Carl English who also nominated himself as a retailer.
(4) Nominated in letter from Lois Renwick.
(5) Nominated by Oregon Fire Marshal Association.
(6) State Fire Marshal.

FISHER CENTURY CORPORATION

July 14, 1983

TO: Environmental Quality Commission

FROM: Wood Energy Association

RE: Recommendation to the Woodstove Advisory Committee

The following is an outline of qualifications of one candidate to be considered for membership on the Woodstove Advisory Committee:

Tom Engle

President of the largest woodstove manufacturer in the State of Oregon and major supplier of U.S. and Canadian stoves.

Equipped with own laboratory to run tests to assist in decisions. Committed to work for an efficient cost-effective test method.

Has background in working with Corning and Dr. Barnett on emission testing methods. Basic understanding of wood combustion, afterburners utilizing catalytic combustors and secondary combustion chambers.

Available for meetings or to provide adequate substitute, if required to miss a meeting.

Highly respected in industry.

Thank you for your consideration.

Post Office Box 10605 - Eugene, Oregon 97440-2605 - (503)686-8424

ORC

OREGON RETAIL COUNCIL

1149 COURT ST. N.E. / P.O. BOX 12519 / SALEM, OREGON 97309 / 503 588-0050
PORTLAND AREA 503 227-5636

A Division of Associated Oregon Industries

Vice President
Katherine Keene

July 19, 1983

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 20 1983
AIR QUALITY CONTROL

Ms. Barbara Tombleson
Air Quality Division
Department of Environmental Quality
Box 1760
Portland, Oregon 97207

Dear Ms. Tombleson:

As Tom Donaca has indicated, we have reviewed our membership to determine if Oregon Retail Council can nominate a person meeting the Department's criteria to serve on the EQC's woodstove advisory committee. We must conclude that we are not able to make a nomination to represent Oregon woodstove dealers, distributors or retailers. We do, however, have a number of members interested in the work of the committee and would like to be placed on any mailing list that may be used for the purposes of communication about the development of woodstove emission standards.

Thank you for giving us the opportunity to participate.

Sincerely,

Katherine Keene
Vice President - Retail

pap

Buck's Stove Palace • FINE STOVES FOR FINE PEOPLE

Since 1945

Robert "Buck" Froman, Proprietor

7-22-83

DEQ Air Quality Division
522 S.W. 5th Ave.
Box 1760
Portland, Ore. 97207

Dear Sir:

My name is Buck Froman, owner and operator of Buck's Stove Palace. I have specialized in the restoration and sale of antique and new stoves for 8 years. Prior to that time I taught in the Gresham area for 4 years. Having been involved in both the sale and repair of stoves has made me vividly aware of the affects of woodburning. The "emissions standards" issue is important. I would be willing to spend adequate time on such a prodject. I have long been an advocate of better woodburning. From numerous conversations with the general public, firemarshalls like Matt Greenslade to an occasional "osmi" lecture. I wish to be involved — Let Me Know

Buck

7120 S.E. Foster Rd. • Portland, Oregon 97206 • (503) 771-3374

LARSON-THOMAS
& CO.
503-485-6474
411 High Street
Eugene, OR
97401

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Quality Division
PO Box 1760
Portland, OR 97207

July 19, 1983

To the Environmental Quality Commission:

I write to request the Commission's consideration of my inclusion on the EQC Woodstove Advisory Committee. A retailer of solid-fuel appliances since 1976, my active participation in public education programs on wood stove emissions and design is well known throughout this community. I have taught classes and seminars on the topic at Lane Community College, the Lane Extension Service, the Eugene Department of Parks and Recreation, and - next month - the Lane Regional Air Pollution Authority. In 1981 I was the only retailer - to my knowledge - to attend the International Conference on Residential Solid Fuels held in Portland.

My involvement in community woodstove awareness has a long and selfless history. My interest is sincere; my desire to serve on the committee is adamant. I urge the Commission's consideration of this application.

Sincerely,

Tom Lichty

1801 N.W. Upshur • Portland, Oregon 97209
(503) 295-0121

State of Oregon Importers of Kent Woodstoves

DEPARTMENT OF ENVIRONMENTAL QUALITY

RECEIVED

JUL 21 1983

AIR QUALITY CONTROL

Klickitat Enterprises, Inc.

July 20, 1983

To Whom It May Concern:

I would like to apply for a position on the Environmental Quality Commission's Woodstove Advisory Committee. If appointed I will do everything possible to work constructively with the other appointed members to develop an emissions standard for woodstoves and fireplace inserts plus the criteria and procedures for testing them.

I feel I have the qualifications to serve on the Commission since I have taken an active interest in the wood heating industry since 1979.

1. I am familiar with the Clean Air Council requirements for clean air zones in Christchurch, New Zealand. I have worked closely with the Kent manufacturers to encourage clean, efficient burning appliances for the U.S.A.

2. I am concerned with the safety in wood heating and acted as the liason between Kent Heating and U.L. in the U.S.A. prior to our U.L. listing.

3. I have followed the Oregon House Bill #2235 carefully and have testified at both the Legislative hearing, February 25, 1983 and the Senate hearing, May 11, 1983.

4. Presently I am serving as a member of the Wood Heating Alliance Board of Directors, a national trade association.

I was born in Eugene, Oregon where I attended the University of Oregon. I graduated from Emanuel Hospital School of Nursing in Portland, Oregon as a Registered Nurse. I have also acted as Oregon Symphony Auxiliary Coordinator and been a member of the Women's Board.

Klickitat Enterprises, Inc.

My husband is Clifford D. Hume and we have three children and two grandchildren.

Business experience includes restaurant management and property development.

I am presently President of Klickitat Enterprises, Inc., importer-distributor of Kent woodburning stoves from New Zealand.

I am a member of the First Christian Church of Portland. My hobbies are skiing, tennis and gardening. My husband and I make our home in Lake Oswego, Oregon.

Thank you for considering me.

Sincerely,

Bette Hume
President

BH/mh

HOMESTEAD RESEARCH, INC.

7/19/83

James Peterson, Chairman
Environmental Quality Commission
P.O. Box 1760
Portland, OR 97207

Dear Mr. Peterson,

Having spent at least 6 hours discussing stove design, combustion and installation with the Oregon DEQ staff in the last several months, I am extremely concerned that the emission standard they will propose will be unworkable, both for the public and the industry.

Since the proposed Oregon standard will undoubtedly have a significant impact on the rest of the nation, I feel it is imperative that the Oregon standard be compatible with the standards of other States and Nations. For this reason it is imperative that expertise be sought from outside the State of Oregon in developing the standards.

I would offer my time to help in this endeavor and I enclose some publications* to verify my familiarity with stove design and international standards.

If I am too close to Oregon to serve on the Advisory Committee, then I would suggest that you seek the help of Jay Shelton of Shelton Research. Jay is a widely recognized researcher in wood energy and has always displayed the highest integrity. No one in the country would be better than Jay and Oregon would be well-served by his advice

Sincerely,

Carl D. English

* attached to original, which WHY has

AT THE ENGLISH FARM/EAST MILL PLAIN, 17908 SE FIRST ST., CAMAS, WASHINGTON 98607 206/256-2465

IRONS in the FIRE

YAMHILL MARKETPLACE · 110 SW YAMHILL · PORTLAND, OR 97204 · 223-0121

July 19, 1983

TO: DEQ Air Quality Division

FROM: Person Interested in Woodstove Regulations

RE: Woodstove Advisory Committee

As per your July 11, 1983 memo, I would like to place the following names in nomination for membership on the Woodstove Advisory Committee:

Carl English - Homestead Research, Camus Washington Retailer and distributor of wood stoves. Has personally operated over fifty different woodstoves, and has his own research facility. He has delt with products from around the world and is familiar with testing standards in Europe as well as the United States.

Matthew Greenslate - Portland Fire Prevention Bureau. Has been active in the promotion of woodstove saftey since the beginning. A reasonable person who has a demonstrated knowledge of woodburning, saftey and ability to communicate.

Bill Day or Gerald Griswold - Anchor Tools and Woodstoves, Portland, OR. Retailers and Distributors who know wood combusion and emission testing principles. Has a large Oregon dealer base from which to solicit comments.

Lois Reneicke

ENVIRONMENTAL SERVICES, INC.
10950 S.W. 5th Street — Suite 245
Beaverton, Oregon 97005
(503) 643-3755

OMNI

Air Quality Division
Oregon Department of Environmental Quality
P.O. Box 1760
Portland, Oregon 97207

Attention: Mr. Jack Weathersby

July 15, 1983

Dear Mr. Weathersby,

This letter serves to transmit OMNI Environmental Services' nomination for a position, representing woodstove testing laboratories, on the Woodstove Advisory Committee. OMNI hereby nominates Mr. Paul Tiegs, president of OMNI Environmental Services, Inc., for a position on the committee.

OMNI Environmental Services, Inc. is a consulting/engineering services company, specializing in air quality testing and assessment projects for government and industrial clients. OMNI presently has one of the most complete woodstove research and testing facilities in the country. The laboratory is equipped to perform safety testing to Underwriters Laboratories (UL), International Conference of Building Officials (ICBO Laboratory # 130), and U.S. Housing and Urban Development (HUD) standards; efficiency by calorimeter room to Wood Heating Alliance (WHA) standards and emissions to U.S. EPA and State of Oregon specifications.

In the last three years OMNI has been contracted for six major woodstove research projects, in addition to our own in-house woodstove efficiency and emissions research programs. One project for the Oregon DEQ investigated emmission rates from four woodstoves which were considered advance design in 1980-81. Another project for the U.S. EPA (subcontracted by Del Green Associates) investigated emission rates from five appliances with primary objectives to determine the feasibility of add-on control devices and simplified sampling techniques, the effects of wood moisture content and burn rate on emissions, and to provide information for developing control strategies.

Additional projects have measured emissions from advanced design woodstoves and add-on devices. Project objectives were the documentaion of the effectiveness of new stove designs in reducing emissions and to establish the precision or reproducibility of test protocols and stove operating procedures, proposed for use in a state certification program. Measurements included carbon monoxide, volatile hydrocarbons, particulate emissions and efficiency determinations. OMNI Environmental Services, Inc. has also performed 28 woodstove efficiency and emission tests for stove manufacturers. In addition, eight efficiency and emissions tests have been completed on densified experimental fuels (eg., paper, wood, food processing wastes and fossil fuel wastes).

Mr. Tiegs' resume' is enclosed for additional background information and qualifications. Please advise me if more information will be necessary.

With sincere regards,

Paul E. Tiegs

Paul E. Tiegs
Senior Principal

Attachment

OMNI

PAUL E. TIEGS

Senior Scientist

EDUCATION B.A. and S. (Biology and Chemistry), University of Illinois
M.S., Western Washington University
EPA Combustion Evaluation Course #427

EXPERIENCE Present-Senior Principal, OMNI Environmental Services, Inc.

Project experiences since founding OMNI Environmental Services have included:
Industrial source testing for engineering information and compliance objectives. Sources have included coal-fired power plants, gas turbine power generators, lead oxide production plants, biomass fuel (hogged and bagasse) boilers, asphaltic cement plants, and refuse incinerators. Parameter studies have been total particulate material, particle sizing, nitrogen oxides, sulfur oxides, volatile organic compounds, and other priority pollutants.
Methods and operating protocol development studies for residential woodstove efficiency and emissions testing. Combustion processes and emission/efficiency studies have been carried out for Oregon State and Federal agencies and woodstove manufacturers. Study approaches have included mass balance of fuel and flue gas components as well as standard sampling methodologies for combustion products and emission parameters.

April 1976-January 1980: Beak Consultants, Inc. Senior Scientist and Project Manager. In this position, Mr. Tiegs was involved with management at both the project and company level. Immediate technical duties included the management of large scale studies of atmospheric and aquatic environments. He was solely responsible for developing Beak's air quality staff capabilities. Project experience in the capacity included indirect source and ambient monitoring and the development and installation of meteorological and ambient air quality monitoring networks for PSD applications. Meteorological data were collected for complex terrain modeling requirements. Air quality parameters included NO_x, SO_x, particulate matter, and ozone. Specific project experience include a planned 60,000 ton per day copper/molybdenum mine in central Washington State, a regional shopping center complex in Oregon, and the proposed oil pipeline through Washington State to the Midwest. Other disciplinary areas under Mr. Tieg's direction included chemistry, air quality, computer modeling, emission source testing, and hydrology.

May 1974-March 1976: Mr. Tiegs was employed by Greiner Engineering Sciences, Inc., as a Project Manager for air quality and water quality studies. Work in the capacity was completed on several large scale projects for transportation and energy transmission corridors, aeronautical and space facilities, shopping center, and the mining industry. Specific project experience included an alunite mining and coal fired power plant project in Utah and a phosphate mining and processing project in Idaho.

March 1973-April 1974: Mr. Tiegs completed a successful appointment as Regional Water Quality Director for Texas Instruments, Inc., Ecological Services Division, with primary duties in the northeastern United States. In this position he had the full responsibility for the installation and operation of a full capability analytical laboratory.

June 1971-April 1973: Prior to appointment with Texas Instruments, Mr. Tiegs was the Senior Research Technologist for the Institute of Freshwater Studies at Western Washington University. In this position, he was responsible for the development and implementation of experimental procedures used in limnological research. He wrote computer programs (in Fortran, PL/1, and PL/C languages) for data conversion, calculations, and storage; performed literature reviews, designed and fabricated laboratory and field apparatus including digital and analogue radio data transmitting systems, and automated total phosphorus analyzer using ultraviolet oxidation of samples in an Auto-Analyzer system, a flying spot scanner for automated counting and morphology analysis of bacterial colonies on petri dishes, and a total carbon analyzer using an oxidized agent or thermooxidation and infrared spectral analysis.

September 1970-May 1971: Mr. Tiegs attended graduate school at Western Washington University.

September 1968-August 1970: While Mr. Tiegs attended classes at the University of Illinois, he was employed full time at the University of Illinois Hospital as a Medical Technologist in Hematology.

February 1967-September 1968: Mr. Tiegs worked for Westinghouse X-Ray as a Service Technician. His duties included the maintenance and repair of Westinghouse's full line of diagnostic, therapeutic, and industrial X-Ray equipment.

MEMBERSHIPS

Source Evaluation Society
American Association for the Advancement of Science (AAAS)
Association of Official Analytical Chemists (AOAC)
American Chemical Society (ACS)

EDWARD C. BUTCHINO
598 Vista Park Drive
Eagle Point, Oregon 97524
503/826-5679

BWR ASSOCIATES
Environmental Consultants

EUGENE A. WELLMAN
Route 5 Box 1405
Klamath Falls, Oregon 97601
503/884-7538

July 17, 1983

Barbara Tombleson
Department of Environmental Quality
Air Quality Division
Box 1760
Portland, Oregon 97207

re:Woodstove Advisory Committee

Dear Ms. Tombleson:

We are in receipt of your memorandum of July 12, 1983 concerning participation on the Woodstove Advisory Committee for development of emission standards and a standard testing method.

BWR Associates,Inc. has, through the years, developed considerable expertise in evaluation and testing of wood combustion sources. We are familiar with testing and analytical procedures and have at our disposal a comprehensive inventory of specialized testing equipment. We feel that of all of the testing contractors in the northwest, we are probably better equipped and qualified to contribute to this committee effort. However, the logistics of meeting attendance in conjunction with a rather full schedule make it impossible for us to dedicate three hours per week in Portland as it would require at least one full day to commute from either Klamath Falls or the Medford area.

We are at present involved in an R&D project which addresses a number of the testing problems present in the stove test procedure now in use by the Department. In view of this on-going work, we would appreciate the opportunity to contribute comments and review committee progress. This most important task warrants the input of ideas and expertise from as broad an area as possible and should explore all possible approaches rather than just refinement of an existing procedure which has severe limitations and questionable applicability.

Enclosed please find resume's and informational data from BWR Associates. We hope that the Department will avail themselves of the offered assistance.

Sincerely,
BWR ASSOCIATES, INC.

Gene Wellman

E. A. (Gene) Wellman
President.

Encl.

EDWARD C. BUTCHINO
598 Vista Park Drive
Eagle Point, Oregon 97524
503/826-5679

BWR ASSOCIATES
Environmental Consultants

EUGENE A. WELLMAN
Route 5 Box 1405
Klamath Falls, Oregon 97601
503/884-7538

TO WHOM IT MAY CONCERN: The following is submitted to document the background and qualifications of emission testing personnel as is required in most agency regulations.

NAME: Eugene A. Wellman

FIRM: BWR ASSOCIATES, INC.
Environmental Consultants
Route 5, Box 1405
Klamath Falls, Oregon 97601

EDUCATION: BS Oregon State University 1951

WORK EXPERIENCE:
1951-1963 Analytical Chemist-Microbiologist
1963-1978 Associate Professor, Oregon Institute of Technology.
1969-1978 Chairman, Air Quality Control Technology, Department of Mechanical Engineering Technology, O.I.T.
1972-Pres. President, BWR Associates, Inc.

TRAINING: EPA Summer Institute "Principles & Practices of Air Pollution Control", 5 weeks, 1969.
EPA Field Courses in Sampling, Analysis, Special Procedures, Meteorology, Particulate Microscopy, Source Testing, all of 1 week duration 1969-72.

TEST EXPERIENCE:
1955-58 Ambient air analysis for pollens, molds, rusts and smuts in National Academy of Allergy national survey.
1971-73 Research on ambient dust sampling and analysis from aggregate surface roads. U.S. Forest Service special project.
1972-Present:
Extensive experience in emission testing of industrial wood, gas, oil, and coal fired boilers; incinerators, asphalt paving plants, veneer dryers, particle board dryers and cyclones.
R&D testing of control systems: bag houses, scrubbers, wet electrostatic precipitators, sand filters.
Combustion systems evaluation, particle sizing, gas analysis, operations.
Systems analysis and consultation.

EDWARD C. BUTCHINO
598 Vista Park Drive
Eagle Point, Oregon 97524
503/826-5679

BWR ASSOCIATES
Environmental Consultants

EUGENE A. WELLMAN
Route 5 Box 1405
Klamath Falls, Oregon 97601
503/884-7538

TO WHOM IT MAY CONCERN: The following is submitted to document the background and qualifications of emission testing personnel as is required by most agency regulations.

NAME: Edward. C. Butchino

FIRM: BWR ASSOCIATES, INC.
Environmental Consultants
Route 5 Box 1405
Klamath Falls, Oregon 97601

EDUCATION: Associate of Applied Sciences 1967
Automotive Instrumentation
Oregon Institute of Technology
Klamath Falls, Oregon

Associate of Engineering 1975
Air Quality Control Technology
Oregon Institute of Technology

Bachelor of Technology 1975
Industrial Technology
Oregon Institute of Technology

EXPERIENCE: Assistant Manager, Klamath Vector Control District, Klamath Falls, Oregon.
Responsible for district field inspection of mosquito sources covering 250 square miles. Conducted research with insect growth regulators and chemical resistance

Environmental Engineer, Beak Consultants, Inc., Portland Oregon. Administrator of Medford Oregon office. Conducted numerous stationary source tests in northwestern U.S. and Canada. Experience includes: Efficiency testing of Electrostatic precipitator systems in Aluminum industry, multi-point testing 600000 lb/hr fossil fuel fired boiler, Hog-fuel boiler evaluations, particle sizing, combustion efficience determination.

Environmental Engineering Analyst, Burley Industries, Eastside Oregon. Design team member for wet scrubber controls; applications included veneer dryers, cyclones, hog-fuel boilers and particle board material dryers

Environmental Engineering Analyst and Principle, BWR Associates, Inc. Klamath Falls, Oregon. Stationary source evaluation specialist. Process control and production consultant, veneer dryers and hog-fuel fired boilers.

PROFESSIONAL MEMBERSHIPS:
Air Pollution Control Association
Pacific Northwerst International Section APCA
Source Evaluation Society

TEST ACCEPTANCE: Reports have been accepted for compliance purposes by the following agencies:

Oregon Department of Environmental Quality
Washington Department of Ecology
Nevada Environmental Protection Services
Idaho Department of Health & Welfare
Hawaii Department of Health
Utah Department of Health, Div. of Environment
Wyoming Department of Environmental Quality
California Air Resources Board
California County Agencieswhere work has been performed.
Alaska Department of Environmental Conservation

New Source Performance TEsts have been accepted by:

EPA Regional Offices: Regions II, VIII, IX, X.

REFERENCES: The following individuals have observed field testing most recently:

Donald Peters	Source Test Engineer, Oregon DEQ Portland, Oregon.
Richard Ruth	Engineer, Lane Regional APCA Eugene, Oregon.
Fred W. Thoits	Engineer, Monterey Bay Unified APCD Salinas, California
Gary D. Criscione	Engineer, Tulare County APCD Visalia, California
Wayne Morgan	Deputy APCO, Stanislaus County Dept. of Environmental Resources Modesto, California
Earl Withycombe	Engineer-Admin. Asst. Mountain Counties Air Basin Sierra City, California
Vincent Leung	Kern County APCD Bakersfield, California
Steve Cimperman	Environmental Engineer USEPA Region IX San Francisco, California
David Haigh	Environmental Engineer USEPA Region IX San Francisco, California
Kathryn M. Young	Air Pollution Specialist California Air Resources Board Sacramento, California.
Daniel C. Belik	Air Pollution Inspector San Joaquin County APCD Stockton, California
Noel Bonderson	PH Environmentalist, Washoe County Reno, Nevada
Lynn Menlove	Utah Environmental Health Services Salt Lake City, Utah.

PROFESSIONAL AFFILIATIONS:

Air Pollution Control Association
Pacific Northwest International Section, APCA
Source Evaluation Society
BWR Associates, Inc. is registered as a Professional Engineering Firm in the State of Oregon.

Air Pollution Control Association **Pacific Northwest International Section**

July 15, 1983

Mr. John Kowalczyk
Air Quality Division
Dept. of Environmental Quality
P.O. Box 1760
Portland, OR 97207

Dear John:

PNWIS is pleased to respond to your request of July 12, 1983, and suggest that Paul Willhite be our nominee to serve on the Environmental Quality Commission's Wood Stove Advisory Committee.

Paul is an Air Quality Specialist. He is currently Engineering Services Supervisor for the Lane Regional Air Pollution Authority, has over 15 years experience in the environmental quality management field, and has a current knowledge of the Federal Clean Air Act as well as state and local environmental regulations. Mr. Willhite will satisfy the criteria stated in your correspondence, participate constructively in the committee's deliberations, and be able to satisfy the time requirements.

PNWIS is pleased to assist the Oregon Environmental Quality Commission in this request.

Sincerely,

Andre L. Caron, President 1983-84
Pacific Northwest Industrial Section
Air Pollution Control Association

ALC:rg
cc: John Thielke
Paul Willhite
George Hoefer

LANE REGIONAL

AIR POLLUTION AUTHORITY

(503) 686-7618
1244 Walnut Street, Eugene, Oregon 97403

Donald R. Arkell, Director

July 19, 1983

Mr. John Kowalczyk
Program Planning
Department of Environmental Quality
P. O. Box 1760
Portland, OR 97204

Re: Woodstove Advisory Committee

Dear John:

Enclosed is a copy of my resume for your use in reference to the Woodstove Advisory Committee position. In addition to the specific items listed on my resume, there are several special activities I have been involved with that directly relate to the committee position.

I have considerable experience in performing and evaluating source test information relating to combustion sources. Several of the tests evaluated were regarding woostove emissions. This was performed in conjunction with a technical report on woodstoves.

I was a principal author on a section involving woodstove design considerations, combustion principles, and operating techniques.

I have worked on and with several advisory committees in the past and would consider it a pleasure to be on this particular committee. If I may answer any further questions or if you desire additional information, please let me know.

Sincerely,

Paul T. Willhite
Engineering Services Supervisor

PTW:ceh

Enclosure

R E S U M E

PAUL T. WILLHITE, P.E.

Lane Regional Air Pollution Authority
Engineering Services Supervisor

EXPERIENCE:

Over 15 years experience working with industry in environmental and engineering programs. The environmental programs include air, water, solid waste and noise pollution. The engineering programs include source testing, control equipment selection and installation, and permit acquisition. The industries have been diversified.

In addition, my experience has provided me with a very active working knowledge of the Federal Clean Air Act and state and local environmental regulations.

AREA OF ENVIRONMENTAL ACTIVITY (AIR QUALITY):

Draft Regulations
Perform engineering evaluations
Develop extensive compliance evaluation reports
Draft professional technical reports
Set up ambient air monitoring network
Establish air permit program
Respond to citizen complaints
Review construction plans
Perform source tests
Conduct detailed inspections
Certified by DEQ and EPA on black and white visible emissions

PROFESSIONAL MEMBERSHIPS:

Registered Professional Engineer - State of Oregon
Air Pollution Control Association
American Society of Mechanical Engineers
Tau Beta Pi (Engineering Honorary)

SPECIAL COMMITTEES:

Natural Resource Committee of the Chamber of Commerce (past member)
Lane Council of Governments 208 Areawide Advisory Committee

PERTINENT EDUCATIONAL COURSES:

Measurement and Control of Air Pollution
Control of Particulate Emissions
Control of Gaseous Emissions
Fundamentals of Air Sanitation
Sanitary Engineering
Industrial Hygiene
Industriual Wastes
Visible Emission Evaluation - EPA Method 9
Plume Evaluation Training - State of Oregon
Soil Mechanics
Solid Waste Management
EPA Administration II

SIGNIFICANT REPORTS (primary author or significant contributor):

Technical Analysis of Wood Stoves

The Sampling Quantification of Emissions from Various Laboratory Sources and the Determination of Ambient Level Concentrations - Food and Drug Administration Laboratory

Registry and Compliance Inspections of Class A Sources on Five Montana Indian Reservations

Hazardous Wastes Disposal (Asbestos)

EXPERIENCE WITH THE FOLLOWING POINT SOURCE CATEGORIES:

Veneer Dryers
Boilers
Grain Mills
Primary Metals
Concrete Plants
Tile Manufacturing
Pulp Mills (kraft & sulfite)
Charcoal Plants
Plywood Plants
Gas Compression Plants
Refineries
Power Plants
Feed Pelletizing
Foundries
Asphalt Plants
Brick Plants
Incinerators
Coke Plants
Sawmills
Particle/Flake/Hardboard Plants
Tank Farms
Battery Manufacturing

PERTINENT EDUCATIONAL COURSES:

Measurement and Control of Air Pollution
Control of Particulate Emissions
Control of Gaseous Emissions
Fundamentals of Air Sanitation
Sanitary Engineering
Industrial Hygiene
Industriual Wastes
Visible Emission Evaluation - EPA Method 9
Plume Evaluation Training - State of Oregon
Soil Mechanics
Solid Waste Management
EPA Administration II

SIGNIFICANT REPORTS (primary author or significant contributor):

Technical Analysis of Wood Stoves

The Sampling Quantification of Emissions from Various Laboratory Sources and the Determination of Ambient Level Concentrations - Food and Drug Administration Laboratory

Registry and Compliance Inspections of Class A Sources on Five Montana Indian Reservations

Hazardous Wastes Disposal (Asbestos)

EXPERIENCE WITH THE FOLLOWING POINT SOURCE CATEGORIES:

Veneer Dryers
Boilers
Grain Mills
Primary Metals
Concrete Plants
Tile Manufacturing
Pulp Mills (kraft & sulfite)
Charcoal Plants
Plywood Plants
Gas Compression Plants
Refineries
Power Plants
Feed Pelletizing
Foundries
Asphalt Plants
Brick Plants
Incinerators
Coke Plants
Sawmills
Particle/Flake/Hardboard Plants
Tank Farms
Battery Manufacturing

Young
JFK
Lombleson
McCue

July 13, 1983

PORTLAND
STATE
UNIVERSITY
p.o. box 751
portland, oregon
97207
503/229-4631

school of
engineering
& applied
science

office of
the dean

Mr. William H. Young
Director, Department of Environmental Quality
Box 1760
Portland, OR 97207

Dear Mr. Young:

This is to endorse the nomination of Dr. Graig A. Spolek, Associate Professor of Mechanical Engineering at Portland State University, for appointment to the Woodstove Advisory Committee of the Environmental Quality Commission. I am pleased that Dr. Spolek also has the strong endorsement of Dean Fred Burgess of OSU's School of Engineering.

Dr. Spolek is especially qualified to serve on the Woodstove Advisory Committee because of his technical expertise and personal interest. He has directed three research projects investigating woodstove performance, two on emissions and one on thermal efficiency. He has demonstrated his interest in woodstove certification through his work with the Oregon DEQ and his testimony before the Senate committee on HB-2235. The time commitment necessary to serve on this advisory board would be compatible with his current teaching and research duties at PSU. Finally, he has the experience in technical presentations that will be necessary to convey the committee recommendations to interested parties.

If you need any additional information, please let me know.

Sincerely,

Chik Erzurumlu
Dean

cw
cc: F.J. Burgess
J.F. Kowalczyk
C.W. Savery

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY
RECEIVED
JUL 15 1983
OFFICE OF THE DIRECTOR

RESUME

Graig A. Spolek
Assistant Professor
Mechanical Engineering
Portland State University
P.O. Box 751
Portland, OR 97207
(503) 229-3814

Education:

B.S. (Mechanical Engineering)
University of Washington, Seattle, WA December, 1971

Curriculum: Mechanical engineering, mechanical design, bioengineering

M.S. (Mechanical Engineering)
University of Washington, Seattle, WA December, 1973

Curriculum: Solid body mechanics, biomechanics, instrumentation

M.S. Thesis: "An Instrumented Shoe System for Ambulatory Force Studies."

Ph.D. (Engineering Science, Mechanical Engineering)
Washington State University, Pullman, WA September, 1980

Curriculum: Fluid mechanics, thermodynamics, heat transfer, numerical methods/modeling

Ph.D. Dissertation: "A Model of Simultaneous Convective, Diffusive and Capillary Heat, and Mass Transport in Drying Wood." Solution of the governing equations for heat and mass transfer within wood during drying, using a regular porous model for wood studies. Numerical solution of the coupled, non-linear equations.

Registration:

Professional Engineer, Mechanical Engineering, Oregon #11202

Experience:

September, 1980 to present: Assistant Professor, Mechanical Engineering Department, Portland State University. Graduate and undergraduate instruction in thermal-fluid sciences, instrumentation, laboratory development, sponsored research.

June, 1979 to September, 1980: Research Assistant, Washington State University, Pullman, WA. Ph.D. thesis research, experimental wood drying facility design, industrial waste heat utilization survey.

September, 1977 to June, 1979: Teaching Assistant, Washington State University, Pullman, WA. Assisted in thermal power laboratory (two semesters), taught quiz sections in thermodynamics, taught a complete course in fluid dynamics.

Experience - continued:

July, 1975 to June, 1976: Director of Biomechanics Research, Veteran's Administration Hospital, Seattle, WA. Grant proposals, publication, administration, experimental planning, data analysis.

March, 1975 to June, 1976: Auxiliary Faculty, Department of Orthopaedics, University of Washington, Seattle, WA. Development and teaching biomechanics course, motor skills course.

January, 1975 to June, 1976: Consultant Biomechanist, Prosthetics Research Study, Seattle, WA. Experimental analysis of wound treatment method.

January, 1974 to June, 1975: Research Engineer, Veteran's Administration Hospital, Seattle, WA. Design of test facilities, data collection and analysis.

September, 1972 to December, 1973: Research Assistant, Department of Orthopaedics, University of Washington, Seattle, WA. M.S. thesis research.

March, 1971 to June, 1972: Design Bioengineer, Department of Orthopaedics, University of Washington, Seattle, WA. Design of biomechanics research equipment.

Summer 1968, 1969: Engineering Trainee, Continental Can Company, Seattle, WA. Engineering drawing, machine shop experience.

Publications:

Journals:

G. A. Spolek, E. E. Day, F. G. Lippert and G. S. Kirkpatrick, "Ambulatory Force Measurement Using an Instrumented Shoe System," Experimental Mechanics, 15(7), pp. 271-274 (1975).

F. G. Lippert, G. A. Spolek, G. S. Kirkpatrick, K. A. Briggs and D. K. Clawson, "Psychomotor Skills in Orthopaedics," Journal of Medical Education, 50(10) (1975).

G. A. Spolek and F. G. Lippert, "Instrumented Shoe - A Portable Force Measuring Device," J. Biomechanics, 9(12) (1976).

Y. S. Hang, F. G. Lippert, G. A. Spolek, V. H. Frankel and R. M. Harrington, "Biomechanical Study of the Pitching Elbow," International Orthopaedics, 3, pp. 217-223 (1979).

G. A. Spolek and O. A. Plumb, "Capillary Pressure in Softwoods," Wood Sci. Technol., 15, pp. 189-199 (1981)

Publications - continued:

Conference Papers:

G. S. Kirkpatrick, G. A. Spolek and F. G. Lippert, "Traction in Football Shoes Under Dynamic Loading," presented at the 27th Annual Conference of Engineering in Medicine and Biology, Philadelphia, PA, October, 1974. (Published in Proceedings of the 27th Annual Conference of Engineering in Medicine and Biology, October, 1974.)

G. A. Spolek, F. G. Lippert and G. S. Kirkpatrick, "A New Technique for Measurement of Ambulatory Forces," presented at the 27th Annual Conference of Engineering in Medicine and Biology, Philadelphia, PA, October, 1974. (Published in Proceedings of the 27th Annual Conference of Engineering in Medicine and Biology, October, 1974.)

G. A. Spolek, F. G. Lippert and G. S. Kirkpatrick, "An Instrumented Shoe for Ambulatory Force Studies," presented to Orthopaedic Research Society, San Francisco, CA, February, 1975. (Published in Proceedings of Orthopaedic Research Society, San Francisco, CA, February, 1975.)

G. A. Spolek, E. E. Day, F. G. Lippert and G. S. Kirkpatrick, "Ambulatory Force Measurement Using an Instrumented Shoe System," presented to the Society for Experimental Stress Analysis, Chicago, IL, May, 1975.

F. G. Lippert, S. A. Veress, T. Takamoto and G. A. Spolek, "Experimental Studies on Patellar Motion Using X-ray Photogrammetry," presented at the Symposium on Close-Range Photogrammetry Systems, University of Illinois at Urbana-Champaign, July, 1975. (Published in Proceedings of the Symposium on Close-Range Photogrammetry Systems, July, 1975.)

R. Evans, D. M. Spengler, D. J. Baylink and G. A. Spolek, "The Effect of Diphosphonates on Epiphyseal Plate Shear Strength," presented to the Orthopaedic Research Society, New Orleans, LA, January, 1976. (Published in Transactions of the 22nd Annual Meeting, Orthopaedic Research Society, New Orleans, LA, January, 1976.)

G. A. Spolek and O. A. Plumb, "A Numerical Model of Heat and Mass Transport in Wood During Drying," presented at the Second International Symposium on Drying, Montreal, Canada (1980). (Published in Proceedings of the Second International Symposium on Drying.)

G. A. Spolek and S. R. Jeffries, "Analysis of Large Deflections of Fishing Rods," presented to the International Conference on Computational Methods and Experimental Measurements, Washington, DC (1982). (Published in Proceedings of International Conference on Computational Methods and Experimental Measurements.)

G. A. Spolek, "Determination of Unsaturated Wood Permeability by Transient Flow Methods," Tenth Production Research and Technology Conference, Detroit, MI (1983).

OREGON ENVIRONMENTAL COUNCIL

2637 S.W. Water Avenue, Portland, Oregon 97201
Phone: 503/222-1963

July 22, 1983

John Kowalczyk
DEQ Air Quality Division
522 SW Fifth
Portland, OR 97207

Dear John,

Pursuant to your letter of July 12 I am nominating Denis Heidtmann to serve as OEC's representative on the woodstove advisory committee. The EQC was concerned that participants be qualified to deal with the technical aspects of the standard setting process. As the attached resume shows, Denis certianly meets that criterion.

He is also aware of the policy implications of setting the standard, having served on DEQ's Portland Air Quality Advisory committee for approximately 2 years.

In addition to our own nomination, I would strongly urge you to expand the proposed committee to 9 and include representatives from the chimney sweeps and the public health community. With regard to the latter, most air pollution laws have been enacted to protect public health. The advisory committee may look at several different potential standards, all of which may be technologically feasable. All else being equal then, the deciding factor might logically be the public health implications of choosing one standard over another. I understand that several qualified public health officials have submitted their names to your office. I urge you to include one of them in your staff recommendation.

We look forward to working with you on this very important task.

Sincerely,

John A. Charles
Executive Director

RESUME OF DENIS L. HEIDTMANN

7820 S. W. Walnut Lane
Portland, Oregon 97225
(503) 297-2837

6 feet
190 pounds
excellent health

EDUCATION	RENSSELAER POLYTECHNIC INSTITUTE	Troy, New York
1963-1965	Received Master of Electrical Engineering Degree. Speciality was Solid State Electronics.	
1956-1960	Received Bachelor of Electrical Engineering Degree in Electronics.	
MILITARY	UNITED STATES NAVY	
1960-1962		
EMPLOYMENT	TEKTRONIX, INC.	Beaverton, Oregon
7/80-present	CCD Development	
1967-6/80	SYLVANIA ELECTRIC/GTE LABORATORIES	Waltham, Massachusetts
	Device design and process development. Major projects include: Silicon vidicon, MOS, CCD.	
1965-1967	GENERAL ELECTRIC COMPANY	Syracuse, New York
	Worked in the Semiconductor Products Department. Linear circuit design, IC process development.	
1963	SPRAGUE ELECTRIC COMPANY	North Adams, Massachusetts
	Scientific computer programming; circuit analysis.	
PERSONAL BACKGROUND	The years through high school were spent in a small town on Long Island. In the Navy I was stationed on shipboard in the Mediterranean. I traveled extensively then and subsequently. Interests include carpentry, squash, hiking, skiing, sailing, photography and music.	
MARITAL STATUS	Married, no children	
PUBLICATIONS	"An Application of Forward Voltage Temperature Tracking of Dissimilar Diffused Junctions" GOSAM (GE organization) 1966	
	Sheet Resistivity Measurement as a Process Control" INDUSTRIAL TECHNOLOGY 1975	
REFERENCES	Personal references are available upon request.	

Denis L. Heidtmann

SUMMARY OF TECHNICAL EXPERIENCE

ACADEMIC

Undergraduate studies included network theory, field theory, feedback systems, digital logic design, and electronics. Graduate speciality was solid state electronics. Course work included field theory, network theory, solid state materials and device physics. Worked as a graduate assistant in two courses: digital logic design, and electronics laboratory. Thesis topic: "Design and Construction of a Diode Sputtering System for the Deposition of Nickel Films on Silicon."

EMPLOYMENT

Sprague: My position was established in an effort to acquaint design engineers with the application of computers to their work. I performed numerical analysis of various circuits, and assisted engineers in the formulation of their problems for efficient numerical solution.

General Electric: Responsible for the design of small-volume "chip and wire" circuits, preparation of production specifications, and providing engineering assistance to production. The projects included a design requiring the temperature matching of dissimilar PN junctions, and the analysis and design of a temperature-controlled chip.

Subsequently worked on IC process development. Developed techniques for detecting and measuring pinholes, and their effect on device yields. Studied methods for obtaining improved uniformity in boron open tube diffusions; applied results to resistor matching. Designed layout of linear IC's.

Sylvania/GTE Labs: Development of a silicon diode array vidicon. I was responsible for the photolithographic, diffusion, gettering, annealing, and evaluation portions of the project. Designed, constructed, and operated $POCl_3$ and BCl_3 diffusion systems. Established methods of monitoring diode size uniformity. Measured and evaluated the voltage and temperature dependence of leakage current densities, both surface and bulk. Evaluated fast state densities. Used results of these measurements to optimize the high temperature processes used in array fabrication. Designed, and operated a demountable camera system, including the vacuum system, glass electron gun housing, target loading scheme, and camera electronics modifications. The first targets made functioned with fair resolution and defect densities.

Denis L. Heidtmann

Sylvania/GTE Labs: (cont'd)

Establishing a P-channel MOS pilot line. I was to adapt an existing laboratory process to a pilot line operation. This included all furnaces, gas control systems, plumbing, wafer handling equipment, cleaning and etching operations, evaporations, SiO_2 deposition systems, in-process monitoring, testing and evaluation, and written specifications. The first transistors were tested successfully six months after initiation of the project; the first circuits were completed within one year.

CCD development. Work began with a literature search and the selection of a technology permitting the fabrication of the required overlapped gate structure. Involved studies of the $Si-SiO_2$ interface, work function differences, and the electrical behavior of the deeply depleted silicon surface.

Designed and developed a Si_3N_4 - Si gate CCD process, and functioning CCD shift register structures and masks. Studied experimentally charge transfer, input and output device performance. Designed CCD structures to be compatible with an iso-planar NMOS process concurrently under development. Designed CCD's to perform various functions including a linear optical detector array, input and output-weighted transversal filters, and a video delay line. Designed the peripheral NMOS circuits for a CCD video delay line.

TEKTRONIX: CCD development. Evaluated physical and electrical characteristics of existing devices including: Array leakage/dark current behavior, dislocation etching for defect analysis and determination, channel potential determination, and high-speed performance of the "fill-and-spill" input method.

Designed new test structures to provide information on transfer efficiency, dark current, input and output performance, and channel potential. Work included layout, testing, and documentation.

Studied device performance. Work lead to adjustment of channel doping to optimize charge-handling capacity.

Participated in modeling efforts which resulted in a practical experimental way to accurately determine the buried channel doping, thereby permitting identification of process parameters responsible for observed variations.

Designed numerious new test structures to aid in the development of a new process, and to meet performance goalsfor diverse applications. Proposed and designed alternate fabrication methods to meet some of these needs. Participated in the design of computerized DC test methods to be used for process characterization.

ADDENDUM: Served on the Portland Air Quality Advisory Committee, and chaired that committee's Wood Stove Subcommittee from the spring of 1981 to early in 1983.

VICTOR ATIYEH
GOVERNOR

Department of Commerce
OFFICE OF STATE FIRE MARSHAL
LABOR & INDUSTRIES BUILDING, SALEM, OREGON 97310 PHONE (503) 373-1276

July 20, 1983

Ms. Margaret McCue
Information Representative
Public Affairs Section
Department of Environmental Quality
522 Southwest 5th Ave.
Portland, OR 97207

Re: Nomination for Woodstove Advisory Committee

Dear Ms. McCue:

Thank you for the opportunity to nominate a representative of the Fire Services to the committee. As I indicated it is of utmost importance, we believe, that a Fire Code Official have input where proposals could impact fire safety.

After considering the demands upon my remaining time in this agency I cannot commit to a meeting a week for the next four months.

This agency would like to suggest Deputy Bruce Chinnock as a member of the committee.

Deputy Chinnock is:

1. Knowledgeable in Building and Fire Codes relating to Solid Fuel Burning Appliances.

2. Extremely familiar with our fire experiences with Solid Fuel Burning Appliances.

3. Can and will provide data if needed on our fire experience.

4. Is familiar with appropriate National and U.L. Standards.

Deputy Chinnock has a Bachelors degree in Mathematics and is quite knowledgeable in computers. He can be available for all of the meetings and will actively participate in all matters that come before the committee.

Your consideration of this individual for this committee will be appreciated by this agency.

Sincerely,

Patrick H. Franzen
Chief Deputy

PHF:gg

cc: Bruce Chinnock

"Knowing Todays Cause . . . Preventing Tomorrows Loss"

Oregon Fire Marshals Association

July 19, 1983

Margaret McCue
Department of Environmental Quality
522 SW 5th Avenue
Portland, OR 97207

RE: Woodstove Advisory Committee

Dear Margaret:

In response to your request for the Oregon Fire Marshals Association to nominate individuals to serve on the EQC's Woodstove Advisory Committee I would like to submit the following four (4) names:

Rex Jeffries - Fire Prevention Officer, Washington County Fire Dist. #1, 649-8577

Don Bloom - Fire Inspector, Multnomah County Fire Dist. #10, 761-7120

Marie Morterud - Deputy Fire Marshal, Tualatin Rural Fire Prot. Dist., 682-2601

Bruce Chinnock - Deputy State Fire Marshal, Oregon State Fire Marshal's Office, 378-4917

Each of these individuals has expressed the willingness to serve on this Committee. They possess technical expertise as it relates to the installation requirements of woodstoves and an awareness of the fire safety problems encountered with solid fuel burning appliances. In addition to their personal and professional qualifications, each of these individuals has access to strong staff support from their own organizations, as well as from the OFMA.

If you have any additional questions please feel free to contact me at 826-7100 or the individual nominees directly.

Thank you,

Randy Iverson
President

bjc

cc: Lee De Moret
Jim Kenworthy
Richard Butts
Pat Franzen

OREGON CHIMNEY SWEEPS ASSOCIATION, INC.
1211 S.W. Hayter
Dallas, OR 97338
623-6155

July 21, 1983

Environmental Quality Commission
Department of Environmental Quality
522 SW 5 Ave.
Portland, OR 97207

Dear Commissioners:

This letter is in response to a letter dated July 11, 1983 requesting our organization to nominate an individual to serve on the EQC's woodstove advisory committee.

The Oregon Chimney Sweeps Association, Inc. would like to nominate Keith Cochran, who has served our organization as President, Treasurer and maintains a current file of known Sweeps (members and non-members) within the state.

Keith has been a Sweep since 1977, reporting to our Industry on all materials, reports, conventions, etc. through our Newsletter, meetings and any other means available. He receives and retains research reports, which none of the other Sweeps hear about, such as the studies done by U.L. and Auburn University on Fireplace Inserts, the pollution emission report given by Dr. John Cooper in Atlanta, Georgia, and many others.

Keith is a Journeyman Machinist, ex-Law Enforcement Officer, Certified Chimney Sweep (National Chimney Sweep Guild), Certified Solid Fuel Safety Technician (Wood Heat Education and Research Foundation), ex-Water District Superintendant, and has worked with the State Fire Marshall and Building Codes Offices on Wood Stove Installation Procedures.

Mr. Cochran has agreed to the expenditure of his time and energies to work with the Committee on behalf of the Sweep Industry and has shown, in the past, his ability to fulfill his commitments.

Sincerely,

David S. Bull

David S. Bull, President
1379 E. 21
Eugene, OR 97403
344-5541

Keith Cochran
Ch-Chimney Sweeps
285 SW Devonwood
Beaverton, OR 97006
641-0353

WOOD HEATING ALLIANCE

1101 CONNECTICUT AVENUE, N.W. SUITE 700, WASHINGTON, D.C. 20036—202/857-1181

July 8, 1983

Barbara Tombleson
Oregon Department of Environmental Quality
Box 1760
Portland, OR 97206

Dear Barbara:

The Wood Heating Alliance recommends that the Oregon DEQ consider appointing a liaison member between WHA and Oregon DEQ to the Woodstove Advisory Committee. This would give the Oregon committee a direct link with the national pollution efforts of WHA, as well as give the industry outside of Oregon a fuller view of Oregon's important project.

The individual we recommend be appointed is Mr. Robert W. Ferguson, a Combustion Engineer with Vermont Castings, Inc. Mr. Ferguson has been an active member of WHA's Heater Technical Committee since its inception. Working at Vermont Castings, Mr. Ferguson has estabished a fully equipped testing laboratory for woodstoves. He has examined and developed a wide range of test protocols in attempts to establish realistic and reproducible methods.

Mr. Ferguson holds a B.S. degree in Chemical Engineering from Clarkson College (1972), and has three years experience with Vermont Castings. Before joining the woodstove industry, Mr. Ferguson worked for seven years as a Senior Engineer for United Technologies Corporation where he was responsible for development and experimental testing of prototype combustion and fuel processing equipment.

We believe that Mr. Ferguson has the personal attitude and professional competence to benefit the work of Oregon DEQ and WHA. Thank you for considering his appointment.

Sincerely,

Michael Sciacca
Technical Director

MS/d

Sweet Home Stove Works, Inc.
1307 Clark Mill Road
P.O. Box 233
Sweet Home, Oregon 97386
(503) 367-5185

TO: Department of Environmental Quality

FROM: Mr. Richard Jenkins, Vice President

REGARDING: Nomination to the Environmental Quality Commission's Woodstove Advisory Committee

DATE: July 20, 1983

BACKGROUND & QUALIFICATIONS

Employment: Sweet Home Stove Works, Inc. Sweet Home, OR.

Position: Marketing Director

Responsibilities: Research and Development; Sales and Market Research; Public and Industry Relations.

Part Pertinent Employment: Owner-operator of Chim Chimney Sweeps-1977-79.

Qualifications:

1. Past President of Oregon Chimney Sweeps Association.
2. Appointment to the city of Lebanon, Land Use Planning Commission 1976-79. Active in the preparation and submission of the Lebanon Land Use plan to LCDC. Familiarity with the public hearing processes.
3. Present Board Member of the Wood Energy Institute-West.
4. Interaction with the DEQ in development of low emission stoves.
5. Interest and participation in Wood Stoves Industry affairs on national level.
6. Active working relationship with the State Fire Marshall's office, the State Building Codes Department, and the International Conference of Building Officials, Los Angeles.
7. Activety involved in wood stove safety issues. Aggressively pursued passage of legislation requiring testing and listing of all solid fuel appliances sold in Oregon.
8. Thorough knowledge of safety, emmission, and efficiency testing methods and procedures.

SWEET HOME™ STOVE WORKS

Sweet Home Stove Works, Inc.
1307 Clark Mill Road
P.O. Box 233
Sweet Home, Oregon 97386
(503) 367-5185

9. Thorough knowledge of wood combustion process.

Conclusion:

Mr. Neuman would be an excellent choice for an appointment to the Advisory Committee because of his knowledge of both the business and technical aspects of the industry, his past and present involvement in public affairs, and his commitment to creating an industry concerned with the welfare of the consuming public.

Respectfully submitted,

Richard Jenkins

Rich Jenkins
Vice President

RJ/jae

SunFire
by RAINBOW RESEARCH, LTD.

July 13, 1983

Dept. of Environmental Quality
522 SW Fifth
Box 1760
Portland, OR 97207

RE: Woodstove Advisory Committee

ATTN: Margaret McCue

I would like to be submitted as a nominee for the advisory committee.

I have varied qualifications that I feel will be beneficial to the committee to help develope a complete, fair and enforcable standard.

To start with, keeping in mind a wood stove is a simple combustion engine, my background begins with 12 years of automotive racing, engine building and owning a custom exhaust header manufacturing business which deals with many of the same basic principles as wood stoves and other fire burning devices. I have 12 years background in welding and metal fabrication with accredited schools in the U.S. Marine Corp, and earned a government certified welders card for aircraft repair and construction using heliarc, arc and acetylene welding processes.

I cut my teeth in the wood stove industry with my father's company, Orley's Wood Stoves, and did his first testing along with Schrader and Fisher stoves (all at once) at the oldest testing lab in the country, Gas Mechanical Laboratories in Los Angeles. I spent several weeks there and also at the UL testing labs in Santa Clara, California, testing fireplace stoves. When we formed SunFire Stoves we tested at the Stove Testing Lab in Portland. I spent all the time myself in all this testing over the years.

I have also spent some time with the State Building Codes Division a few years ago on wood stove safety. I personally worked with all the Building Codes officials throughout the country on our stoves.

I have personally lobbied for and against certain provisions in HB 2235 through out it's course through the Senate and the House. I have made several personal meetings with Senator Hannon and Senator Day pleading to change to a state-wide boundry instead of an I-5 corridor as the House would have had it.

4820 Crater Lake Ave. • Medford, OR 97501 • (503)772-3094

I feel that I am very qualified to help establish a standard for wood stoves and fireplaces that would totally benefit the public and our industry.

I would like to recommend Chuck Lindstrom, Vice President of the Stove Testing Lab, Portland, as a technical advisor. I have worked with many engineers over the years and I feel he is very knowledgable, honest, creditable, and has had stove industry knowledge prior to getting into the saftey testing lab,

Sincerely,

Orley (J.R.) Milligan
General Manager

OJM/ms

Genesis Systems
1030 neil creek road
ashland, oregon 97520
(503) 482-3429

TO: DEQ Air Quality Division

July 20, 1988

FROM: Paul W. Runquist, Pres.

RE: EQC woodstove advisory committee

I am in receipt of your letter of July 12 requesting my resume of qualifications for the EQC woodstove advisory committee.

As you may be aware, I have been active in air quality concerns in the Rogue Valley as a citizen and as a manufacturer for many years. I believe that I can provide some unique perspectives to the difficult task of establishing equitable standards and test methods.

I therefore submit the following summary in brief with attachments for your consideration.

Paul Runquist, 34
B.S. Chemistry from Univ. of Calif. @ Riverside
Six years civil service employment as analytical chemist
First patented downdraft stove built Dec. 1974
Genesis clean burning woodstove first publicly displayed
Oct. 1981 (see articles and DEQ observations attached)
Additional features and improvements have been added since '81
Several new patents pending
Small family business format

As a former resident of Riverside Ca.,one of the smoggiest cities in America, I have a special interest in preservation of air quality in Oregon. My design efforts have always reflected this sensitivity. Demonstrable CLEAN burning environmentally compatible wood heat has always been a prerequisite to sales in lieu of more lucrative conventional design approaches which disregard air quality impact.

I have personally invested thousands of research hours and dollars in combustion technology since '74 resulting in the development of the principle of operation utilized in the Genesis.

As a technologist-manufacturer-retailer, I have an appreciation of the practical limitations implied by these functions and by the consumer. A delicate balance indeed. I have participated directly in safety testing and have familiarity with analytical emissions testing.

Because my combustion principles are unique, I am sensitive to the need to avoid regulation which may inadvertantly discourage new technologies by unfortunate limitations to concepts and manufacturing. Indeed such regulation should encourage the solutions.

Since Genesis Systems is a small family business, I am also sensitive to requirements tolerable only by large business. Recognition of small business interests is essential if the marketplace is to be supplied with technological competition and fresh ideas.

I enclose copies of testimony presented to House and Senate committees during consideration of HB 2235 and communications with Jackson Co. Commissioners concerning air quality advisory committee meetings which I attended.

I am interested in participation on this committee however I am advised to report that I do so at substantial expense:

- Due to the 600 mile round trip travel distance between Ashland and Portland for the occassional 3-hour weekday meetings
- The meetings are timed precisely during the highest period of retail sales and thereby some sales income will be jeopardized or lost and may affect participation.

Thus some travel allotment would be appreciated to help minimize budget stress.

Your letter solicits nominations for qualified individuals.

I would like to give my strongest endorsement to Gerald McCormack of McCormack Consulting Engineers of Bend, Oregon. Mr. McCormack is the test engineer who has performed safety testing on the Genesis and many other brands at his recognised test facility. He has an admirable sense of practicality regarding design engineering of woodstoves and has worked with NASA on innovative programs.

I find him highly professional and as a test engineer would be an asset as a committee member.

Thank you for your consideration.

Paul W. Runquist
Pres. Genesis Systems

References:

Gerald McCormack - McCormack Consulting Engineers, Bend, Ore.
Merlyn Hough - DEQ Medford Area Air Quality Coordinator
Eric Overland M.D. - Medford pulmonologist active in AQ concerns
Peter Sage - Jackson Co. Commissioner
Elliot Reinert - Director of the Ashland Chamber of Commerce

Genesis Systems
1030 neil creek road
ashland, oregon 97520
(503) 482-3429
A Wood Heat Manufacturer

Re: Woodstove Regulation Bill 5/9/83

To: Senator John Kitzhaber
Chairman, Senate Energy and Environment Committee

Dear Senator,

Although much misinformation exists concerning wood heat technology, we have demonstrated at least FIVE basic approaches to CLEAN burning for which many variations and combinations are possible.

These approaches are:

High rate / storage
Cycle programing
Fuel conditioning
Catalytics
and
Downdraft (the basis of our design)

These technologies are known yet many manufacturers have ignored them because of lack of CONCERN, MISUNDERSTANDING or just lack of INCENTIVE to improve.

Now these polluters feel threatened.

Many Oregonians have expressed frustration with the INABILITY to distinguish the CLEAN burning appliances from the polluters on the showroom floor. Mandatory test information will alleviate this difficulty.

A growing number of manufacturers of clean burning wood heaters assures a healthy competition in the marketplace and this legislation will encourage more research, improved construction and most of all, CLEAN air. The Bill allows the time for polluters to upgrade their appliances.

I encourage your favorable consideration of this Bill.

Thank you ... Paul W. Runquist

Paul W. Runquist
Engineer

Genesis Systems
1030 neil creek road
ashland, oregon 97520
(503) 482-3429
A Wood Heat Manufacturer

Re: HB 2235
Testimony in Summary by Paul Runquist 2/21/83
TO HOUSE ENERGY + ENVIRONMENT COMMITTEE

Dear Representative,

Since most of the committee members were absent during my presentation, I wish to provide the following points of emphasis

Although I strongly favor limitation of "dirty" stoves, I do feel that the legislature may not accept this format. Controversy over test methods, emission standards, DEQ authority, market impact and public liberties is assured.

I propose a compromise I believe agreeable to all.

Mandatory Emissions Labeling

Since Oregonians cannot easily distinguish CLEAN burners from "dirty" stoves, and to give manufacturers an incentive to manufacture clean burning appliances, I suggest,

That mandatory emissions test information be required and labeled on all new wood burning appliances including prefabricated fireplaces sold in the State of Oregon,
and
That a test method and protocol be accepted which may be considered to represent actual consumer use of the appliance,
and
That the DEQ be permitted to establish REFERENCE Standards which the public may use to consider the accepability of appliances,
and
That labeling methods may reflect these Reference Standards eg. through color or design to facilitate recognition,
and
That this information be freely and widely distributed by public agencies and woodstove dealers.

Under this program, no certifications are issued at this time however the program would facilitate assessment of the effectiveness of more severe measures should they be necessary at a later date.

This information would serve to expose the offensive appliaces and promote competition among manufacturers to be the cleanest. A natural thinning of offensive appliances will occur through time.

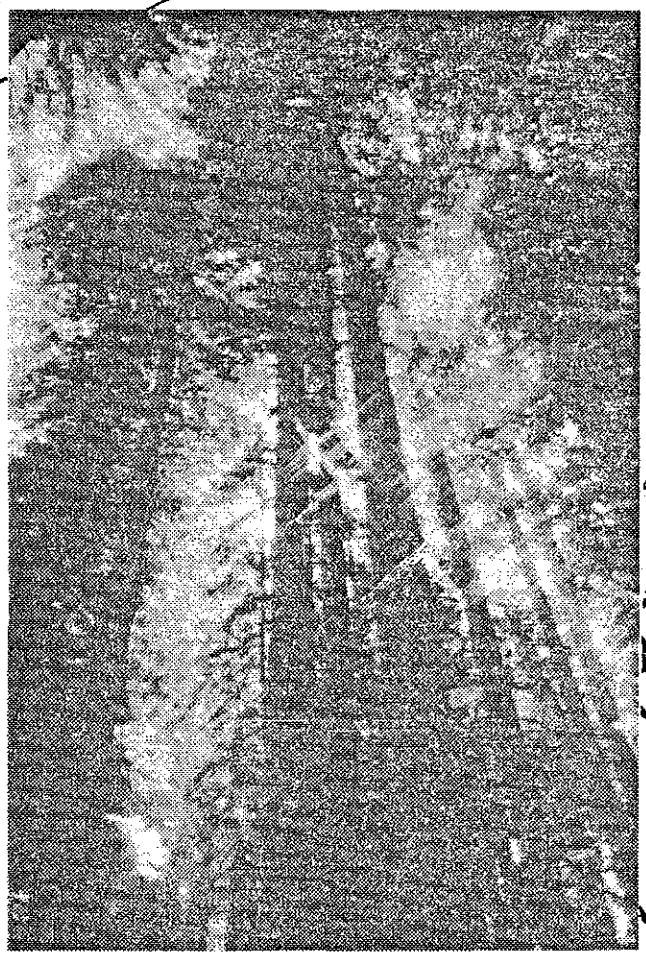
It is essential that test methods represent actual consumer use fo this program to be effective. Test methods used to date appear weak in this respect, however I am confident that DEQ equipped with public survey and engineering input can rectify this deficiency.

Thank you.

Paul W. Runquist - Engineer

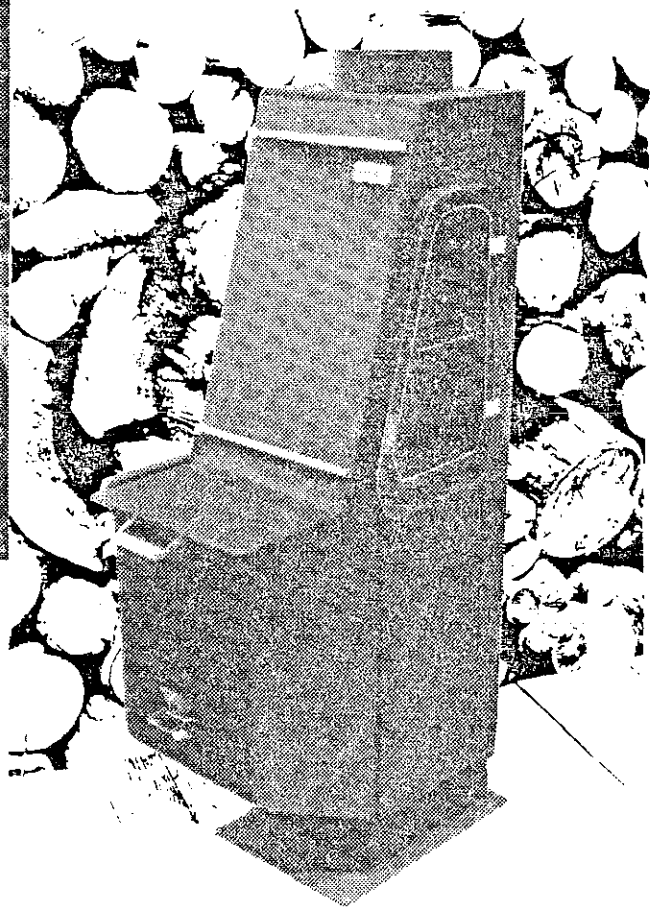
Genesis

. . . .with the ENVIRONMENT in mind



"The Genesis Wood Heater has been observed by Oregon Dept. of Environmental Quality (DEQ) to accomplish impressive low visible emissions."

Oregon Dept. of Environmental Quality



* Baking Oven with etched Glass Doors
* Ash Pan
* Easy to Start
* Top Loading Convenience
* Unique Water Heating System
* Safety Tested to UL Standards
  6½ inch rearwall clearance
* 14" wide x 55" tall x 28" deep
* Downdraft - Patents pending

NOTE: NO CATALYST NECESSARY
ITS TECHNOLOGY IS PERMANENT

Genesis Systems
phone (503) 482-3429
1030 neil creek road
ashland, oregon 97520

The MAIL TRIBUNE, Medford, Oregon, Sunday, December 27, 1981 C 13

Business

Local inventor marketing a 'smokeless' wood stove

By MARK HOWARD
Mail Tribune Staff Writer

ASHLAND — A local inventor may have come up with the answer to the clash between wood stove owners seeking alternatives to high-priced heating fuels and environmentalists warning of air pollution problems created by wood-burners.

Paul Runquist of Ashland is making "smokeless" wood stoves.

Dubbed "Genesis," the stoves work on roughly the same principle as an automobile's carburetor. Instead of mixing gasoline and air to the proper proportions, Runquist's stoves mix air and flames to create intense heat. Since wood smoke consists essentially of unburned particles, this re-heating process burns the smoke before it has a chance to go up the chimney, Runquist says.

Emissions from the Genesis stove, Runquist says, contain from 80 to 90 percent less smoke than is emitted from an average wood stove burning the same fuel. Also, very little ash is left to clean out of the stove — an average of about one coffee canful per month, he says.

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Employing Runquist's method of "carbureted pyrolysis," makes the stove burn cleanly, he says.

Okay, so it burns cleanly. Can it heat your house?

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As an added feature, the stove can be used for cooking. A central oven will maintain temperatures of 350 to 400 degrees.

"We cooked our whole Thanksgiving dinner in the Genesis," Runquist says, "including three loaves of bread."

The concept of Runquist's smokeless stove didn't come overnight. Genesis represents the ninth generation of prototype stove that the former Riverside, Calif., chemist has built since moving to Ashland in 1974. The first eight tries, he says, contained too many compromises to what he thought consumers would want in a stove. On the ninth design, Renquist says he forgot about compromises and went for "optimum clean burning."

"After eight tries, this one worked. Hence, 'Genesis,' implying a 'new beginning,'" he says.

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But his is the first heating and cooking stove to use a small, high temperature flame that is practical for the home, he says. In addition, the smokeless furnaces available cost between $5,000 and $6,000.

Genesis sells for $750.

How did this transplanted Californian happen to become interested in wood stoves?

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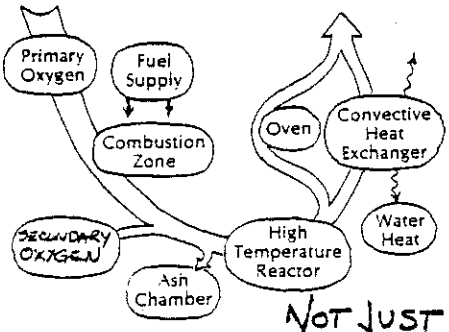
To get the production of his stoves under way, he still needs to do a lot of "tooling up," and that will take financial backing.

Paul Runquist and 'Genesis.' MT photo by Mark Howard



NOT JUST A ROOM HEATER

A COST OFFSET IN SAVINGS

PRICE COMPETITIVE NOW DESPITE ADDITIONAL FEATURES

MORE NOW!

OTHER LESS EXPENSIVE MODELS BEING DEVELO

GENESIS SYSTEMS
1030 Neil Creek Rd.
Ashland, Oregon 97520
482-3429

1/22/82

From: Paul Runquist

To: Jackson County Commissioners

Re: Wood Heating Suggestions

Dear Sirs,

Enjoyed the opportunity to discuss air quality concerns relating to wood heat on Wednesday Jan. 13, 1982 and came away feeling that you might like some other suggestions on means for reducing the problem. It seems that the wood heating tradition is replete with myths and ignorance.

My thoughts seem divisible into five divisions:

Appliance Design Improvements
Fuel Quality Comsciousness
Air Quality Concern
Consumer Product Awareness
Operational Education (or surviving the tradition)

Here are some ideas:

Manufacturers must issue operating instructions on proper utilization of the appliance with reference to clean air.

Manufacturers must teach wood seasoning as economically and environmentally sound.

Persons must attend or experience a demonstration of proper utilization as a condition of sale.

Encourage buyers to insist on seeing a demonstration so they can view emissions.

PR

cc: Merlyn Hough, DEQ

Co. Commissioners 1/22/82
Wood heating suggestions

Publish or distribute DEQ opacity estimations for models sold locally for specific fuel type and conditions as means for public to choose cleaner burning appliances.

General media education and workshops especially dealing with myths e.g. trash burning, use of green wood, technique, etc.

More than any other objective, making people "chimney watchers" would catalize the solutions -- both consumer and manufacturer..therefore indoctrination is essential.

Incentives may be helpful:

Alternate energy tax credits to buyers who choose"clean rated" appliances over polluters.

Property tax consideration to wood lot operators who inventory wood to season longer.

Tax advantage to homeowners who specifically construct shelters for keeping fuel dry and out of the weather.

Product improvements which would help:

Manufacturers design easier start-ups so people will let their wood stoves go out rather than nurse them along at minimum burn rates to avoid inconvenient startups ("the Slow Smoke Syndrome").

Development of a chimney emissions device to alert the owner of unacceptable emissions, i.e. smoke alarm.

Wood drying apparatus as accesory so that persons can do something about wood cutting procrastination.

Encourage heat storage methods and heat distribution methods which aid in preventing overheated rooms to which owner responds by drastic reduction of rate of burn and increased emissions (Slow Smoke Syndrome). Side benefit: More comfortable homes because of minimized temperature variations (We've put quite a bit of time into developing these subsystems)

Synthetic fuel use. We've found that pressed logs locally available can be burned cleaner and longer (the perfect overnighter) Because of the consistent dimensions and low water content, we've given thought to developing a model for pressed logs because of significant design advantages for clean burning. Also fuel and appliance marketing could be developed for areas without significant wood supplies.

I'd like to reinforce my feeling that weatherization while desirable and to some extent effective will also encourage the Slow Smoke Syndrome which will tend to counterbalance the benefits and therefore not very cost effective.

A final thought: encourage the solutions if you can without penalizing them or they will not come.

If I can be of assistance as an expediter or in public education or advisory to sensible solutions I offer my services.

Thank you once again for your time and consideration.

Paul W. Runquist

Staff photo by Caroline Green

New stove attracts attention at Thursday showing.

Inventor takes puff out of wood stoves

By CAROLINE GREEN
Of the Tidings

When there's smoke, there's fire.

But when there's fire, is there always smoke?

Paul Runquist certainly hopes not, at least when a fire burns inside his Genesis System wood stove.

Runquist is an Ashland inventor who, after seven years and eight models, says he has perfected a wood stove that is smokeless.

During a demonstration of the Genesis System Thursday at a private home in Ashland, Runquist lit the stove and — sure enough — only a small, occasional, vague puff of white smoke wafted from the chimney.

While one guest jokingly suggested the smoke was being funneled off into the home's attic, Runquist and his sleek, dull-black wood stove clearly impressed observers.

How can a stove burning wood not smoke? The answer is complicated and it took years to work out, but Runquist says the key is developing a balance between all reactions involved: high temperatures, down drafts and carburation.

"There's no straight line to it. It made for some unconventional solutions," he said.

The reasons why Runquist developed the stove are simpler.

The inventor moved to Ashland several years ago from an extremely smoggy city. His experiences prompted a fascination with the problem of energy consumption on its most basic level: the individual.

So Runquist set out to develop a system that lets people secure energy for themselves without polluting the way other energy sources do.

"I think that wood heat is a natural resource, and that if it can be used in an environmentally compatible way, then it's to local and national benefit," he said.

But Runquist designed the stove with more in mind than just blue skies. Convenience and usefulness are two more concepts he tried to incorporate into the project.

He doesn't even call the invention a stove. In fact, he said he hopes the Genesis System will be everything a wood stove isn't: functional, easy to start, easy to load.

Wood stoves are "little boxes with chimneys attached," Runquist said. "They might do some things inadvertently but they were designed to heat."

The Genesis System, on the other hand, warms its surroundings but it also can heat water for use in the home, bake bread or cook meals.

In fact, now that he's developed a system with acceptable emission standards, Runquist plans to turn his attention to expanding its performance. That would include developing the system's capacity to heat remote rooms radiantly and to hook up with a solar water heater for summer energy.

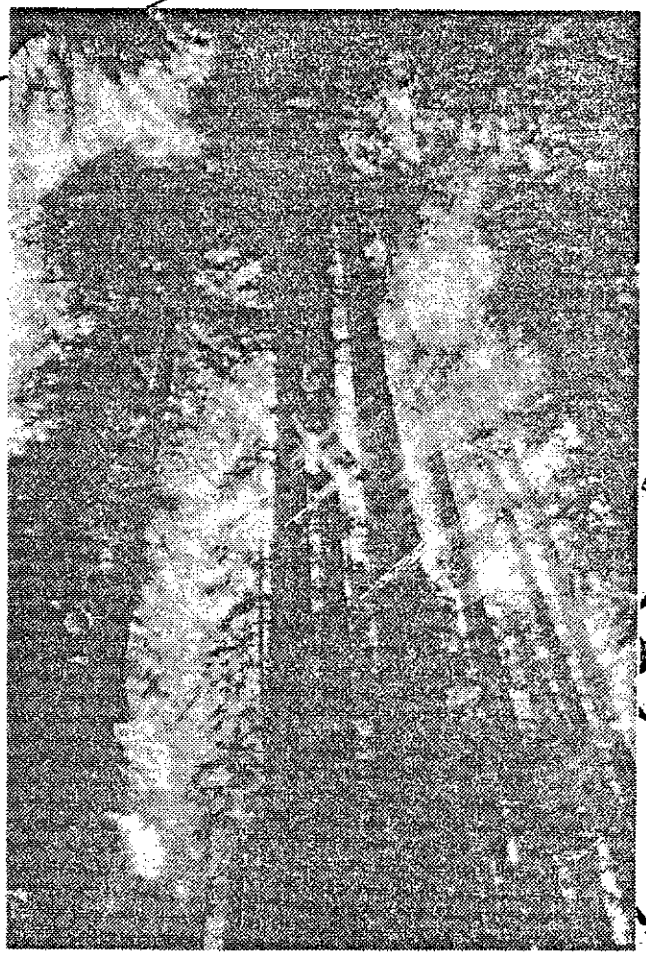
And after the system is complete?

Runquist said his next project will be doing for transportation what he's done for the plain wood stove.

For more information on the Genesis System, call Runquist at 482-0429 between 8 a.m. to 5 p.m.

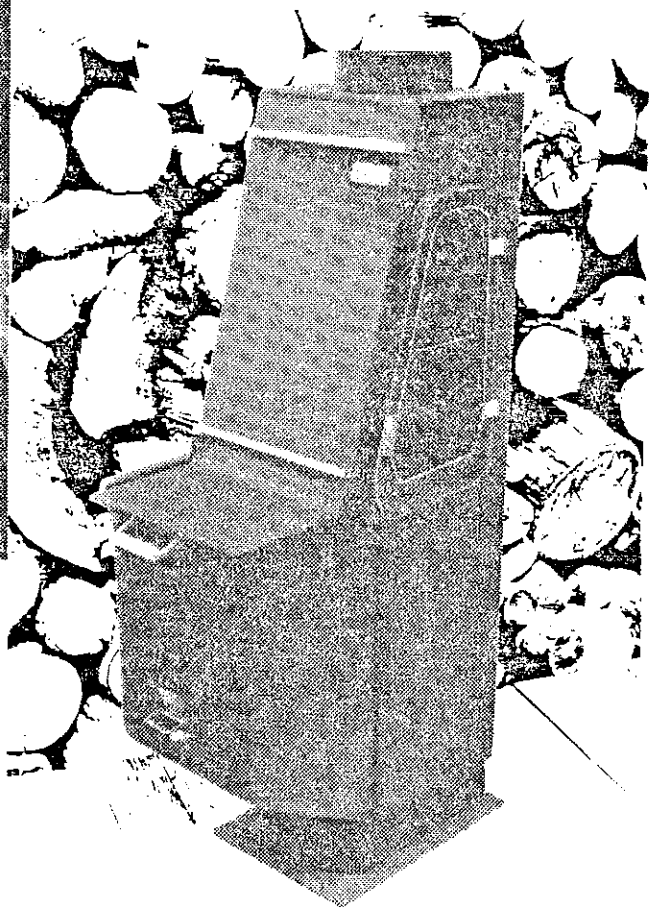
Genesis

. . . .with the ENVIRONMENT in mind



"The Genesis Wood Heater has been observed by Oregon Dept. of Environmental Quality (DEQ) to accomplish impressive low visible emissions."

Oregon Dept. of Environmental Quality



* Baking Oven with etched Glass Doors
* Ash Pan
* Easy to Start
* Top Loading Convenience
* Unique Water Heating System
* Safety Tested to UL Standards
  6½ inch rearwall clearance
* 14" wide x 55" tall x 28" deep
* Downdraft - Patents pending

NOTE: NO CATALYST NECESSARY
ITS TECHNOLOGY IS PERMANENT

Genesis Systems

phone (503) 482-3429

1030 neil creek road
ashland, oregon 97520

The MAIL TRIBUNE, Medford, Oregon, Sunday, December 27, 1981 C 13

Business

Local inventor marketing a 'smokeless' wood stove

By MARK HOWARD
Mail Tribune Staff Writer

ASHLAND — A local inventor may have come up with the answer to the clash between wood stove owners seeking alternatives to high-priced heating fuels and environmentalists warning of air pollution problems created by wood-burners.

Paul Runquist of Ashland is making "smokeless" wood stoves.

Dubbed "Genesis," the stoves work on roughly the same principle as an automobile's carburetor. Instead of mixing gasoline and air to the proper proportions, Runquist's stoves mix air and flames to create intense heat. Since wood smoke consists essentially of unburned particles, this re-heating process burns the smoke before it has a chance to go up the chimney, Runquist says.

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"After eight tries, this one worked. Hence, 'Genesis,' implying a 'new beginning,'" he says.

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But his is the first heating and cooking stove to use a small, high temperature flame that is practical for the home, he says. In addition, the smokeless furnaces available cost between $5,000 and $6,000. Genesis sells for $750.

How did this transplanted Californian happen to become interested in wood stoves?

"We moved here from Riverside, where Los Angeles' smog collects. And I just decided that if I was going to heat my home with wood, I wasn't going to contribute to a pollution problem here."

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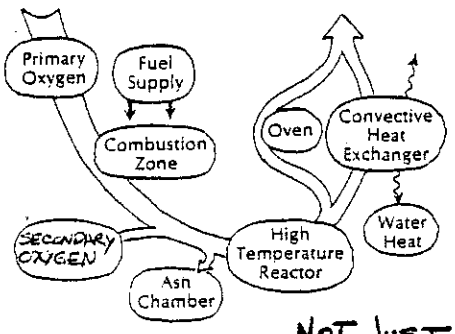
Paul Runquist and 'Genesis.' MT photo by Mark Howard



MY PRICE IS COMPETITIVE NOW DESPITE ADDITIONAL FEATURES

NOT JUST A ROOM HEATER

MORE NOW!

A COST OFFSET IN SAVINGS

OTHER LESS EXPENSIVE MODELS BEING DEVELOPED

AUTHORIZED OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY STATEMENT

The Genesis wood heater has been demonstrated on seperate occasions to Oregon Department of Environmental Quality staff and its performance observed with interest in reduced particulate emissions. Opacity readings of chimney emissions during these demonstrations were estimated as averaging less than 5% and 3% opacity with most readings of zero indicating no visible emissions and with highest readings during the initial 10 minute startup period. (25% is considered to be typical of the opacity readings of the opacity readings of the woodstoves which the Oregon Dept. of Environmental Quality has reviewed.)

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY — INTEROFFICE MEMO

TO: John Kowalczyk — DATE: October 30, 1981

FROM: Merlyn Hough

SUBJECT: Wood Stove Design

I attended the demonstration of the Genesis Wood Stove in Ashland on October 22, 1981. The demonstration was even more impressive than when I saw it in March, 1981. There was little or no smoke during the first 30 minutes of operation following start-up. The opacity ranged from 0-15% and averaged less than 3% during this period.

Also present were Paul Wallwork (776-7382), Jackson County Building Official, and Dave Bassett (776-7461), Medford Building Official. Both Wallwork and Bassett were kept advised of the Air Quality Committee deliberations on the Medford particulate strategy and Wallwork sat in on several sessions of the Vegetative Burning Subcommittee. Bassett spent 6 years on the ICBO Research Committee and is now on the National Board. Bassett indicated that the ICBO Research Committee may be willing to assist in or provide review comments on the woodstove certification program.

The safety testing for the Genesis woodstove was performed by G. M. McCormack, P.E., of McCormack Consulting Engineers at 63975 Quail Haven Drive, Bend, Oregon, 97701 (389-0864). G.M. "Mac" McCormack was at the Genesis demonstration. Mr. McCormack apparently has interest and familiarity with efficiency and emissions testing as well as his routine safety testing. He may be another resource during the development of a woodstove certification program.

MH:a
AAD151.2 (1)
Attachment: Opacity Readings During The Genesis Woodstove Demonstration
cc: Barbara Tombleson

STATE OF OREGON

INTEROFFICE MEMO

TO: Barbara Tombleson

DATE: 4/3/81

FROM: Merlyn Hough

SUBJECT: Wood Stove Design 6.414

BACKGROUND

Paul Runquist of Ashland reviewed the DEQ interpretation of 1980 wood stove emission testing. He is a local wood stove designer and manufacturer who is very interested in reducing wood stove emissions. He can be contacted at:

Paul Runquist (482-3429)
1030 Neil Creek Road
Ashland, OR 97520

I sent him copies of DEQ source testing methods 5 and 7. His latest stove design, Genesis, is in the prototype stage now and will be ready for production in June 1981.

EVALUATION

I inspected the Genesis prototype in operation on March 31, 1981. Runquist has applied for patents on various design features over the past 6 years.

The Genesis is a downdraft wood stove with secondary combustion air supply. Because of the basic downdraft design, it resembles the Jetstream in cross-section. However, there are many key differences. Table 1 is based on Runquist's notes contrasting the 2 units.

One key difference from the perspective of air quality strategies is that the Genesis would impact the wood stove market whereas the Jetstream would impact the wood furnace market. The estimated cost of the Genesis is $500 - $800 (depending on features) and the cost of the Jetstream is about $3000.

I observed the emissions off and on for about a 60 minute period. The opacity ranged from 0 - 25% and averaged about 5% over the hour. The plume evaluation report is attached. Heaviest emissions occurred during startup as expected. Dry (20-25% ?) white fir was used as fuel.

ains
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25-1387

SP*75683-125

VICTOR ATIYEH
GOVERNOR

Department of Human Resources
HEALTH DIVISION
1400 S.W. 5th AVENUE, PORTLAND, OREGON 97201 PHONE 229-5792

Margaret McCue
Department of Environmental Quality
522 S.W. Fifth Avenue
Box 1760.
Portland, OR 97201

July 18, 1983

Dear Ms. McCue:

I have been designated by Dr's Bader and Googins to represent the Health Division on the advisory committee to help develop standards and tests for woodstoves.

My expertise is in public health and epidemiology. Accordingly, my purpose in serving on this committee will not be to discuss details of wood combustion or test methods, but rather to consider the public health issues involved.

I will be available to attend the meetings of the committee.

Sincerely,

Douglas Campbell, M.D.
Medical Epidemiologist

DC/bw

MULTNOMAH COUNTY OREGON

DEPARTMENT OF HUMAN SERVICES
DISEASE CONTROL OFFICE
426 S.W. STARK STREET
PORTLAND, OREGON 97204
(503) 248-3406

DENNIS BUCHANAN
COUNTY EXECUTIVE

July 21, 1983

William Young, Director
Oregon Department of
Environmental Quality
522 S.W. Fifth
Portland, OR 97204

Dear Bill:

I understand that you've need for a public health-trained member of your advisory committee for woodstove emission standards.

Multnomah County is one of the areas of the state which is most affected by woodstove pollution. I'd be happy to serve on the committee if appointed.

Sincerely,

Charles P. Schade, M.D.
Health Officer

CPS/vc

H M C
HARCO MANUFACTURING COMPANY
7700 S. W. 69TH AVENUE
PORTLAND, OREGON 97223
503/244-7571

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CAB AIR PRESSURIZERS

FUEL/WATER S[illegible]ATORS

OILY-WATER SEPARATORS

July 22,1983

Dept. of Environmental Quality
522 SW 5th Ave.
Box 1760
Portland, OR 97207

RE:Woodstove Advisory Committee

In reference to the MEMORANDUM we have received from you,it is felt that perhaps I should offer to fill the position of a committeeman for several reasons. First we have developed a unique and amazing wood stove design which is being patented at this time through a application and search of any prior art. This is one of the few stove designs which can and will offer secondary combustion rather than the catalyctic combustor for a clean burn stove. I have to learn more about the means of emissions evaluating equipment although we have done much of this in the developement of a multi fuel space heater for the US Air Force. Our company has been testing various types of air cleaners,engine exhaust spark arresters, exhaust mufflers, and related equipment for 35 years. I have been a voting member of the spark arresters committee for SAE all through the years that the test procedures were being established for evaluating of that item. Most meetings were at Cobo Hall,Detroit,Michigan and some at Milwaukee, Wisconsin. Before those meetings I had designed a cold test or Simplified test procedure for testing of exhaust spark arresters which would determine which designs were effective in fire prevention efficencies. This design was then supplied to the University of Califor nia for correlation with actual engine tests. After one year the US Forest Service at their Equipment Developement Center in California used my testing design in the testing of spark arresters for all of the US. I worked closely with many people to get this system approved and accepted for use as the sole system for the entire US.

I would be willing to attend all meetings possible for the 4 month period. There is always the possibility that one or two meetings could not be attended due to unforseen circumstances. I have through our company personel the ability to help convey committee work to affected groups and solicit any comments from them.

Sincerely,

F. N. Harris

C U R R I C U L U M V I T A E

Charles P. Schade

ADDRESS:	2933 NE 16th Avenue, Portland, Oregon 97212
TELEPHONE:	(503) 248-3406 (office); 284-9466 (home)
MARITAL STATUS:	Married, two children
BORN:	Mt. Holly, New Jersey, April 24, 1945
EDUCATION:	
1973-74	University of Texas School of Public Health, Houston, Texas, Master of Public Health
1968-72	Baylor College of Medicine, Houston, Texas, Doctor of Medicine
1963-68	Rice University, Houston, Texas, Bachelor of Arts in Mathematics and Electrical Engineering
RESIDENCY:	
1976-77	University of Oregon Health Sciences Center, Portland, Oregon, Clinical Residency in Public Health
MILITARY:	
1974-76	United States Public Health Service, Center for Disease Control, Epidemic Intelligence Service
MEDICAL LICENSURE:	Texas, Tennessee, Oregon
BOARD CERTIFIED:	American Board of Preventive Medicine (Public Health)
PROFESSIONAL GROUPS:	Fellow, American College of Preventive Medicine; Member Multnomah County Medical Society; Member Oregon Medical Association; Member American Association for the Advancement of Science; Member American Public Health Association; Board of Directors Oregon Public Health Association

POSITIONS HELD:

1980--	Health Officer and County Epidemiologist, Multnomah County, Oregon. Responsible for disease prevention and control activities in a mixed urban(City of Portland) and rural area in Oregon. Line supervisor of the Health Protection Division of the Department of Human Services, with a staff of 47 and budget of $1.3 million (1981-82).
1978-80	Assistant Health Officer, Multnomah County, Oregon. Responsible for medical policies in County facilities (corrections, detoxification center, clinics) and for providing physician consultation to the Disease Control and Sanitation programs. For part of this period I also served as Acting Medical Director.
1977--	Clinical Instructor in Public Health and Preventive Medicine, Oregon Health Sciences University. In this capacity, I teach medical students and residents, both in classrooms and in clinics.
1977-78	Staff Physician, Multnomah County, Oregon. Provided primary and specialty medical care to mostly poor patients in County clinics and facilities. Special interest in alcohol detoxification. Developed treatment protocols for the detoxification center.
1974-76	Epidemic Intelligence Service in Nashville, Tennessee and Baltimore, Maryland. Performed evaluative studies on Federally-funded family planning programs in these two states with combined patient loads of nearly one quarter million.
1972-1974	Research Associate, Baylor College of Medicine, Houston, Texas. Developed patient care protocols, computerized medical records, and evaluated ambulatory medical care in a community clinic.

OVERSEAS EXPERIENCE:

1975	World Health Organization, Smallpox Evaluation Program, Bangladesh (three months).

REFERENCES: Will be supplied on request.

November, 1981