

OK 700

CPSA 6 (b)(1) Cleared  
10/15/97  
No Mfrs/PrvtLblrs or  
Products Identified  
Excepted by \_\_\_\_\_  
Firms Notified, \_\_\_\_\_  
Comments Processed.

MEETING LOG  
DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: Discussion of CPSC Gas-Related Projects  
PLACE: CPSC Headquarters, 4330 East West Highway,  
Bethesda, MD

MEETING DATE: September 29, 1997

LOG ENTRY SOURCE: Donald W. Switzer *DWS*

ENTRY DATE: October 14, 1997

COMMISSION ATTENDEES:

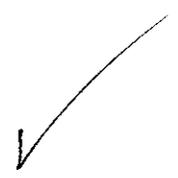
Donald W. Switzer ES  
Andrew G. Stadnik ES  
James F. Hoebel ES

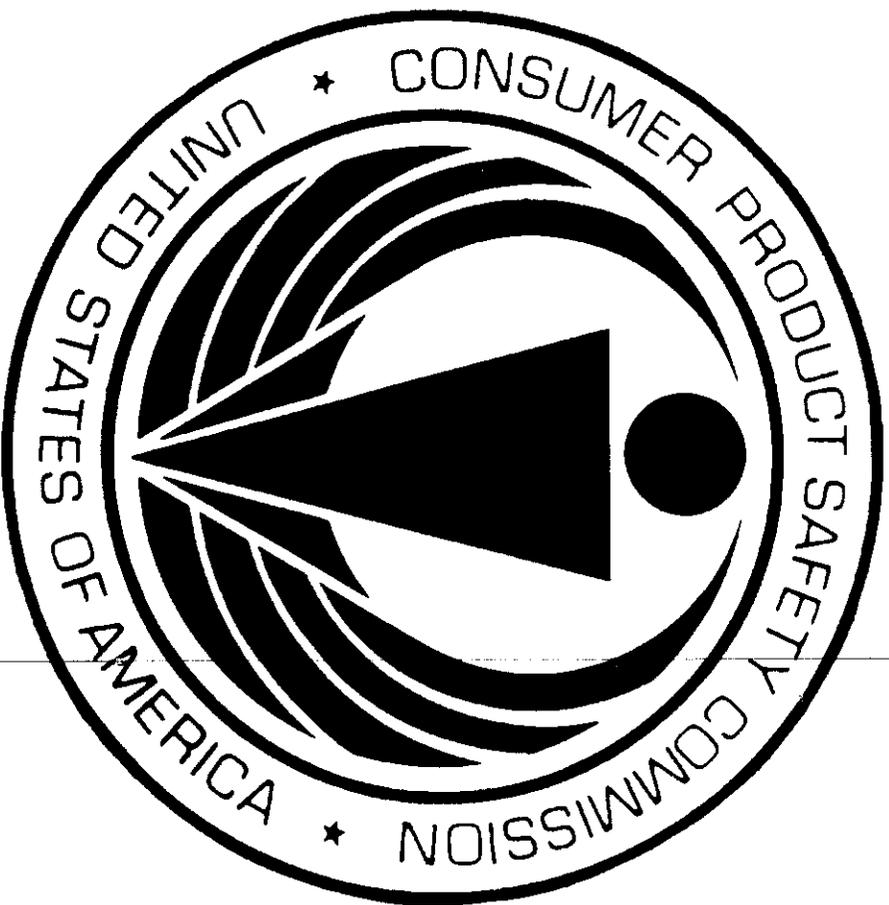
NON-COMMISSION ATTENDEES:

Yoshikuni Takahashi Japan Travel Bureau  
Dr. Motoyasu Kamata University of Tokyo  
Isao Kemanai The Japan Community Gas  
Association  
Kozo Suzuki The Japan Gas Association  
Miyoko Hyodo Japan Housewives'  
Association  
Toshihide Takeda Japan Gas Appliances  
Inspection Association  
Osamu Shinohara Japan Industrial  
Association of Gas And  
Kerosene Appliances  
Masayuki Niwa Toho Gas Co. Ltd.

MEETING SUMMARY

Delegates from the Japanese Committee on Advancement of Town Gas Safety requested this meeting to learn about CPSC's efforts to improve gas appliance safety, and to learn how CPSC collects data on gas appliance accidents. Staff gave the attached presentation.



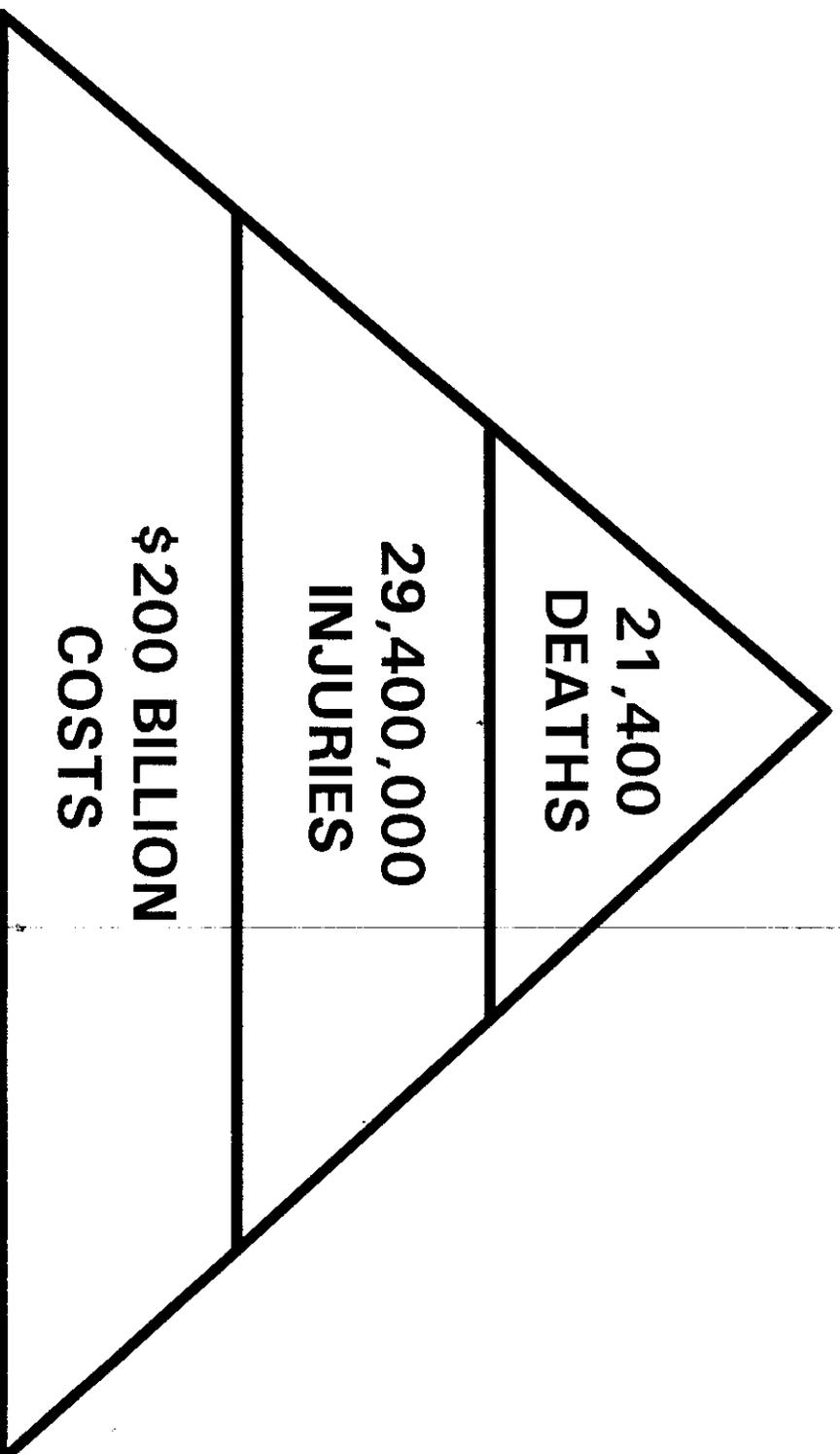


**Presentation to the Japan Gas Association  
Committee for the Advancement of Town Gas Safety  
September 29, 1997**

# Agenda

- **Overview of CPSC**
- **CPSC Incident Data Systems**
  - **Gas Incident Data**
  - **Typical Gas Product Hazards and Solutions**
  - **Gas Product Activities - Status**

# Current Annual Impact of Consumer Products



# **CPSC Mission**

- **To protect the public against unreasonable risks of injuries and deaths associated with consumer products**
- **Develop safety standards - mandatory and voluntary**
- **Minimize conflicting state and local regulations**
- **Provide comparative safety information**
- **Promote research and investigation into the causes and prevention of injuries**

# CPSC History

- **Established in 1973 under the Consumer Product Safety Act**
- **Independent Federal regulatory agency**
- **3 Commissioners**
- **Jurisdictional Authority in 5 Acts**
  - **Consumer Product Safety Act (CPSA)**
  - **Federal Hazardous Substances Act (FHSA)**
  - **Flammable Fabrics Act (FFA)**
  - **Poison Prevention Packaging Act of 1970 (PPPA)**
  - **Refrigerator Safety Act (RSA)**

# Size of CPSC

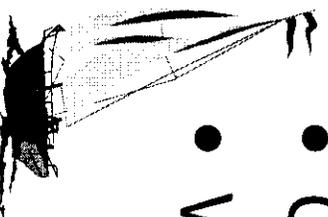
- **Current FY 97 budget of \$42.5 million**
- **About 485 staff**
  - **Headquarters 305 (Bethesda, MD)**
  - **Field 150**
  - **Laboratory 30 (Gaithersburg, MD)**

# Product Jurisdiction

15,000 types of products - found in the home

Product types we do NOT regulate:

- Tobacco products
- Medical devices
- Food and drugs
- Motor vehicles
- Boats
- Aircraft
- Firearms
- Pesticides
- Cosmetics
- Workplace products



# How CPSC Selects Projects

- **How Often Does the Injury Occur?**
  - Frequency and Severity of Injuries
- **Are There Hidden Hazards?**
  - Cause of Injuries
  - Chronic Illness and Future Injuries
  - Unforeseen Nature of the Risk
- **Does It Affect Children Or the Elderly?**
  - Vulnerability of the Population at Risk
- **Is the Problem Addressable?**
  - Cost and Benefits
  - Probability of Exposure to Hazard

# **How CPSC Prevents Injuries and Deaths**

**Voluntary Standards**

**Information/Education**

**Mandatory Standards**

**Partnerships**

**Recalls/Compliance**

**Guidelines**

**Chairman's Round Tables**

# **CPSC Incident Data Systems**

# CPSC Data Systems

- **NEISS**
  - NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM
- **INCIDENT INVESTIGATIONS**
- **DEATH CERTIFICATES**
- **MECAP**
  - MEDICAL EXAMINERS AND CORONERS ALERT PROJECT
- **HOTLINE**
- **NEWS CLIPS**

# NEISS

- **101 Reporting Hospitals**
  - Statistical sample of 5400 Hospital ER's in US
- **330,000 Reports Annually**
- **Electronic Daily Reporting**
- **National Estimates**
- **Collect Information for Other Agencies**
  - CDC Firearm Study, NIOSH Work-Related Study

# Death Certificates

- **Collect from all 50 states**
- **4,000 annually related to consumer products**
- **Sources for investigations**
- **Provides annual death estimate**

# **MECAP**

## **Medical Examiners and Coroners Alert Project**

- **Timely death reporting**
- **2,400 annually**
- **Source for identifying emerging hazards**

# Other Data Sources

- **NFIRS**
  - **NATIONAL FIRE INCIDENT REPORTING SYSTEM**  
(Operated by U.S. Fire Administration)
- **NCHS**
  - **NATIONAL CENTER FOR HEALTH STATISTICS**  
(Morbidity and Mortality Data)
- **U.S. Census - Bureau of Labor Statistics**
- **Product Liability Attorneys**
- **State Fire Marshals**
- **Arson Investigators**

# Information and Education

- News releases relating to recalls of defective products
- Publish product safety booklets; e.g., playground safety, fire safety, baby safety, indoor air quality, electrical safety, etc.
- 24 hr Hotline: 1-800-638-CPSC
- Internet Home Page <http://www.cpsc.gov>
- Fax on Demand: 301-504-0051
- Consumer Product Safety Review - quarterly publication
- Injury Information Clearinghouse 301-504-0424 ext. 1504

# Gas Incident Data

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**Table 5**  
**Estimated Fire Losses Involving Selected**  
**Gas-Fired Equipment in Residential Structures, 1994**

Gas-Fired Equipment	Fires	Civilian Deaths	Civilian Injuries	Property Loss (In Millions)
<b>Total Residential</b>	<b>451,000</b>	<b>3,465</b>	<b>20,025</b>	<b>\$4,317.0</b>
<b>Total Gas-Fired Equipment</b>	<b>52,200</b>	<b>320</b>	<b>2,210</b>	<b>\$294.9</b>
<b>Gas Heating Equipment</b>	<b>12,700</b>	<b>160</b>	<b>680</b>	<b>\$140.3</b>
Fixed Heater	2,600	50	100	\$28.3
Portable Heater	800	30	60	\$10.7
Central Furnace	3,100	50	140	\$37.4
Fireplace	300	--	*	\$2.6
Water Heater	4,900	20	310	\$48.4
Other or Unknown	1,000	--	70	\$13.0
<b>Gas Cooking Equipment</b>	<b>27,100</b>	<b>120</b>	<b>1,120</b>	<b>\$79.7</b>
Range/Oven	24,800	90	1,020	\$67.4
Open GrillGas	600	--	30	\$3.6
Portable Cooking	200	--	20	\$2.0
Other or Unknown	1,500	30	60	\$6.2
<b>Gas Appliances (Except Above)</b>	<b>3,600</b>	<b>*</b>	<b>80</b>	<b>\$18.3</b>
Dryer	3,300	*	70	\$14.1
Other or Unknown	300	--	10	\$4.2

Source: U.S. Consumer Product Safety Commission/EHHA, from data obtained from the U.S. Fire Administration and NFPA.  
 Note: Detail may not add to total due to rounding. Estimates less than 10 are denoted by an asterisk(\*).

**Table 1**  
**National Estimates of Non-Fire-Related**  
**Carbon Monoxide Deaths (1993) and Injuries (1995)**  
**Associated with the Use of Residential Appliances**

Appliances by Fuel Type	Deaths		Injuries	
	Number	Percent	Number	Percent
<b>Total</b>	<b>214</b>	<b>100%</b>	<b>5,900</b>	<b>100%</b>
<b>Gas</b>	146	68%	4,100	69%
Space Heater	59	28%	1,600	27%
Furnace	59	28%	1,800	31%
Range / Oven	6	3%	400	7%
Lantern	6	3%	0	0%
Water Heater	12	6%	100	2%
Other	3	1%	200	3%
<b>Solid</b>	43	20%	1,300	22%
Charcoal Grill	29	14%	100	2%
Wood/Coal Heating	14	7%	1,200	20%
<b>Liquid</b>	25	12%	500	8%
Gasoline Appliances	14	7%	100	2%
Kerosene Heating	11	5%	100	2%
Oil Heating	0	0%	300	5%

Detail may not add to total due to rounding. The asterisk (\*) represents that the estimate is less than 100.

Sources: U.S. Consumer Product Safety Commission / EHPHA  
National Center for Health Statistics and CPSC Death Certificate File, 1993  
National Electronic Injury Surveillance System, 1995

# **Typical Gas Product Hazards and Solutions**

# **Hazards of Concern**

- **Fire**
- **Carbon Monoxide**
- **Gas Leaks/Explosion**

# Solutions

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- **Design out**
- **Detection/warning**

# Gas Product Activities

# Carbon Monoxide Detection

- **At least 200 poisoning deaths per year (non-fire related household appliances)**
- **About 10,000 treated in emergency rooms annually**
- **Goal: Reduce deaths/injuries through prevention and detection**
- **Approach: Encourage annual appliance inspection and promote use of detectors**

## **Carbon Monoxide Detection, Con't**

- **Underwriters' Laboratories (UL) proposed changes to UL 2034 voluntary standard to improve reliability**
- **Developing responder guidelines - sending out for comment soon**
- **Testing detectors to evaluate performance over time**
- **Updating consumer information**
- **Developing building code proposals and model legislation**

# Gas Appliances

- **Approach: Develop changes to voluntary standards and model codes**
- **1997 activities include furnace fires and emissions, unvented appliance emissions, gas-fired camping equipment CO poisoning, and flexible gas connectors**

# Gas Appliances, Con't

- **Gas-fired Furnaces**
  - 3,100 Fires, 50 Deaths in 1994
  - Analyzing incident data
  - Recommendations to voluntary standards in 1997
- **Gas-Fired Camping Heaters**
  - About 20 CO poisoning deaths/year
  - Conducted extensive tests
  - Proposal made to ANSI standards group

# Gas Appliances, Con't

- **Unvented Appliances**
  - Low level carbon monoxide
  - Purpose: Change voluntary standards
  - **Testing**
    - ranges
    - unvented log sets
    - built-in ovens
- **Flexible Connectors**
  - Obsolete brazed-end connectors fail, cause fires/explosions
  - Developed national campaign alerting consumers to replace with stainless steel or coated brass connectors. Includes Video News Release.
  - Working with AGA, GAMA, AHAM, NPGA

# CONSUMER ALERT

## **! DANGER!**

### **Certain Older Gas Connectors May Be Dangerous**

Gas connectors are corrugated metal tubes used to connect gas appliances in your home to fuel gas supply pipes. Some older brass connectors have come apart, causing fires and explosions resulting in deaths and injuries.

These older brass connectors have a serious flaw in how their tubing was joined to their end pieces. Over time, the end pieces can separate from the tubing, and cause a serious gas leak, explosion, or fire. To our knowledge, these dangerous uncoated brass connectors have not been made for more than 20 years, but many of them are still in use. The older these connectors get, the greater the possibility of failure.

Although not all uncoated connectors have this flaw, it is very difficult to tell which ones do. Therefore, any uncoated brass connector should be replaced immediately with either a new plastic-coated brass or a new stainless steel connector. Connectors can wear out from too much moving, bending, or corrosion. Connectors should always be replaced whenever the appliance is replaced or moved from its location.

**WARNING: Only a qualified professional should check your connector and replace it if needed. Don't try to do this yourself!**

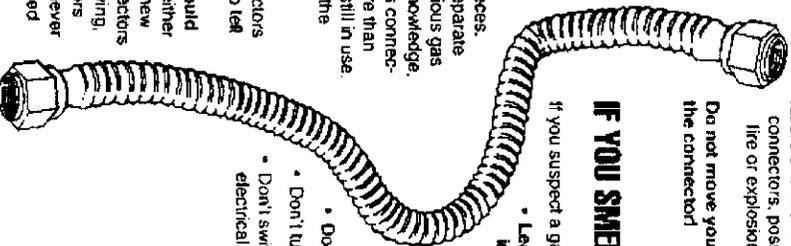
Moving the appliance, even slightly, whether to clean behind it or to inspect its gas connector, can cause the complete failure of one of these older weakened connectors, possibly resulting in a deadly fire or explosion.

**Do not move your appliance to check the connector**

### **IF YOU SMELL GAS**

If you suspect a gas leak:

- Leave the house immediately.
- Don't use your phone; call your gas supplier or the telephone operator for assistance from a neighbor's house.
- Don't light a match.
- Don't turn on a light.
- Don't switch on anything electrical.



# Gas Water Heaters

- **4,900 Fires, 20 deaths in 1994**
- **Current water heaters take combustion air from the floor. If flammable liquids spill near the appliance, the vapors can be drawn into the appliance and ignited.**
- **Goal: Prevent fires by development of voluntary standards.**
- **Approach: Stimulate product redesign by industry.**

# **Gas Water Heaters, Con't**

- **Product development proprietary, but several approaches are promising.**
- **Test methodology recently published.**
- **Testing with current heaters to be followed by testing of new heater prototypes.**
- **Cooperating with Water Heater Industry Joint Product Development Consortium, American Gas Association, Gas Research Institute, Arthur D. Little.**

# Range Fires

- **88,500 fires, 210 deaths in 1994**
  - Number one product cause of home fires
- **About 3/4 of fires involved ignition of cooking material.**
- **Goal: Prevent start of fires through advanced pre-fire detection technology.**
- **Approach: Identify nature of physical and chemical activity associated with overheating foods.**

# **Range Fires, Con't.**

- **Tested devices with potential for detecting such activity.**
- **Working with USFA, NIST, AHAM**
- **NIST and CPSC testing completed - reviewing analysis and reports**
- **Preparing additional testing to demonstrate prototypes, encourage sensor development and promote new/revised voluntary standards.**