NITE Annual Report on Product Safety (FY2006)

1. Accident Information Collection System of NITE

The National Institute of Technology and Evaluation (NITE) collects accident information on consumer products under the jurisdiction of the Ministry of Economy, Trade and Industry (METI) such as “Home electrical appliances”, “Combustion appliances”, “Vehicles”, “Leisure items”, “Baby products”, etc. every year in relation to:

1) accidents causing human injury
2) accidents causing property damage with a high probability of causing human injury
3) defective products with a high probability of causing human injury

2. Accident Information Collection System and number of collected information cases

NITE seeks to collect exhaustive accident information by receiving daily information from sources including consumers, consumer affairs centers nationwide, administrative agencies, manufacturers, importers and distributors, as well as by establishing a system to acquire daily accident reports from nationwide on newspapers and the Internet.

The total number of accident information cases collected in FY2006 was 4,084, a 38% increase from the previous year. The following chart is the breakdown of the number of accident information cases by information source. Information from the press was a main source of information for our system, accounting for 44.5% of the total, a 5% decrease from the previous year. The second greatest source of information source was “Manufacturers”, accounting for 30.2% of the total, or a 115% increase from the previous year. This increase is attributed to a series of consumer product accidents (e.g. carbon monoxide poisoning due to instant gas water boilers and paper shredder accidents involving children and the loss of fingers) being widely exposed as social issues, which boosted accident reports from manufacturers. This later led to the revision of the Consumer Product Safety Law.

Proportions of information from other sources are; “Consumer affairs centers” (9.3%), “Local governments” (6.6%), “National institutions” (5.4%) and “Consumers” (2.5%). The number of information cases from the above four sources increased substantially by 180%, 37%, 376% and 145% respectively, from the previous year.

Information Source	FY2005		FY2006		Ratio (year on year)	Component ratio change (points)
	Number of accidents	Component ratio	Number of accidents	Component ratio		
Manufacturers	575	19.5%	1,235	30.2%	115%	10.7
Local governments (including Fire Department)	196	6.6%	268	6.6%	37%	0.0
Consumer affairs centers	135	4.6%	379	9.3%	180%	4.7
National institutions	46	1.6%	219	5.4%	376%	3.8
Consumers	42	1.4%	103	2.5%	145%	1.1
Others	42	1.4%	60	1.4%	43%	0.0
Subtotal	1,036	35.1%	2,264	55.5%	118%	20.4

Press monitoring	1,919	64.9%	1,820	44.5%	▲5%	▲20.4
Total	2,952	100.0%	4,084	100.0%	38%	-

As of June 11, 2007, the net number of accidents was 3,382 when duplication and unrelated information were excluded. The breakdown of the accident information by product category is shown below.

"Combustion appliances" ranked top, accounting for about 39% of the total, a 54% increase from the previous year. Increased media exposure of accidents involving these appliances is thought to raise social awareness of product safety, and thus, urge manufacturers to report the accidents. Such exposure includes an emergency order, issued in FY2005 under Article 82 of the Consumer Products Safety Law, in relation to accidents involving kerosene fan heaters and carbon monoxide poisoning cases caused by instant gas water heaters.

"Home electrical appliances" (38.3%) and "Personal products" (6.7%) followed with the incremental ratios of 71% and 178% respectively, from the previous year.

	Product classification	FY2005		FY2006		Ratio (year on year)	Component ratio change (points)
		No. of accidents	Ratio	No. of accidents	Ratio		
1	Combustion appliances	855	41.4%	1,314	38.9%	54%	▲2.5
2	Home electrical appliances	759	36.7%	1,295	38.3%	71%	1.6
3	Personal products	82	4.0%	228	6.7%	178%	2.7
4	Vehicles/vehicle related products	187	9.0%	208	6.2%	11%	▲2.8
5	Furniture/home products	74	3.6%	160	4.7%	116%	1.1
6	Kitchen and table appliances	22	1.1%	72	2.1%	227%	1.0
7	Leisure products	58	2.8%	34	1.0%	▲41%	▲1.8
8	Health and sanitary products	17	0.8%	28	0.8%	65%	0.0
9	Textile products	7	0.3%	22	0.7%	214%	0.4
10	Baby products	6	0.3%	20	0.6%	233%	0.3
11	Others	0	0.0%	1	0.0%	-	0.0
	Total	2,067	100.0%	3,382	100.0%	64%	-

3. Further Investigation of Accidents

I. Accident investigation status

Investigations are conducted into all the collected accident information cases to clarify the circumstances of accidents. NITE initially collects detailed information on accidents through telephone interviews with information providers or involved parties, or in writing, or by visiting the people involved.

In FY2006, NITE conducted on-site investigations for 84 cases including; electric cooking stove fires caused by electro magnetic interference, fires breaking out from dishwashers, etc.

NITE investigations also verified products which supposedly caused accidents in 461 cases. Such accidents include; fires involving kerosene water heaters; loss of infants' fingers caused by paper shredders; smoke emission from toilet seats with hot water washing functions; smoke emission and fire ignition from electric heaters; dermatitis developed through contact with PVC desk pads; and fire ignitions from deteriorated electric fans.

Once manufacturer and model are identified through investigations, NITE forwards accident information to the manufacturer, and instructs these manufacturers to submit a report on the cause of the accident and preventive measures.

The following chart shows the status of investigations conducted by NITE in FY2006.

On-site investigation / Accidental product	Conducted on-site investigation	84 cases
	Obtained the actual product which had caused accident	461 cases
Manufacturer of product	Identified by report from manufacturer	899 cases
	Identified through investigation by NITE	777 cases

II. Further Investigation of the serious accidents

NITE proceeds with investigations while promptly sharing information with the Ministry of Economy, Trade and Industry (METI) upon receiving not only initial reports, but information acquired through subsequent investigations on accidents requiring special attention; serious accidents involving human injury including death and severe injuries, and fire, frequent accidents caused by same model of products and accidents related to the violation of technical standards.

The following chart indicates some of the representative cases of investigations performed by NITE in FY2006, which include; fire accidents caused by kerosene water heaters and gas laundry dryers, allergic contact dermatitis due to contact with desk pads and fire ignition cases caused by electric stoves with touch switches.

Name of product	Investigation summary	Remedies
Kerosene water heater <Accident requiring special attention>	<Accident details> Fire broke out from a kerosene water heater fitted to the outside of a residence. The power went out after the user smelled smoke while washing dishes with hot water. The fire burned the water heater and the panels housing the water heater. <Investigation results> Kerosene may have leaked from the deformed O-ring and caught fire. Insulation on the solenoid valve coil in the electromagnetic pump had deteriorated. This caused the coil to overheat due to the decreased resistance value, and consequently melt and deformed the O-ring inside the valve.	The manufacturer carried out inspections based on a users list which recorded past repair data. In addition, the company provided free replacement services for the electromagnetic pump unit when accepting requests for repair.
Gas laundry dryer <Accident requiring special attention> <Frequent case>	<Accident details> The user smelled an unusual odor coming from the dryer after about 5 minutes of operating the unit, and discovered that the inside of the dryer was burning. The fire also damaged the room. <Investigation results> It was found that lint (cotton dust) can build up in the rear panel, inside the drum and the exhaust duct. The investigation deduced that the lint, accumulated on the rear panel, was ignited in the vicinity of the hot air exhaust duct which releases heat from the burner to the drum. The ignited lint dropped and spread the flame to the lint accumulated at the bottom of the dryer. The flame further spread to the blower housing and the polystyrene soft foam	The manufacturer issued a press announcement on December 15, 2003 and as an interim measure, provided cleaning and inspection services as well as labeling warnings directly onto the product. NITE also issued a NITE Alert on the matter on the same day. In November 2005, the manufacturer began providing the owners, based on the owners list, with replacements for the orifice nozzle which regulates gas consumption, and also replaced the sealing material (Moltopren) for the exhaust duct with nonflammable material.

	(Moltopren), and caused the fire.	
Desk pad <Frequent case>	<Accident details> Several cases were reported of allergic contact dermatitis developing on both arms using a desk pad. <Investigation results> The investigation found that the desk pad contained pyridine organic antimicrobials (2,3,5,6-Tetrachloro-4-[Methylsulfonyl] Pyridine), a dermal sensitizer. It deduced that continual contact with these substances through the product caused the dermatitis.	The manufacturer issued announcements recall and replacement services in the press as well as on their website, eight times between October 11, 2006 and May 29, 2007, to draw consumers' attention to this matter. In addition, since 13 similar cases were reported between August 2005 and July 2006, NITE issued a "NITE Alert" in order to raise awareness ot this matter.
Electric stove with touch switch <Frequent case>	<Accident details> A fire broke out from the electric stove while the resident was away from home for a prolonged time. The fire burned a dish drainer, some wooden bowls and a part of the wall. <Investigation result> A reproduction test using electro-magnetic noise generated from electric power supplies (Electrical Fast Transient / Burst Immunity test) proved that the power can be turned on by a false signal. It was deduced that the stove was switched on by electromagnetic noise generated when other electric appliances were switched on or off with devices such as relays. The noise caused a malfunction of the control IC on the control board, which activated the stove, and consequently heated and damaged combustible materials on top of the stove.	The manufacturer had a list of owners since the affected products were delivered and installed in specific apartments. They have been distributing announcements to the apartment tenants on the matter, concerning the provision of repair or replacement services for the control board.
Electric heater <Frequent case>	<Accident details> A carpet caught fire when an electric heater's glass tube suddenly exploded and the pieces scattered on the carpet. The fire was put out by the user. <Investigation results> A study of the broken glass pieces revealed that there was a fracture on a boundary between the glass and metal film attached to seal the glass heater tube. In addition, residual distortions from the molding process were found on the glass pieces. These factors suggest that insufficient sealing of the glass tube caused the oxidation of the metal film and increased its volume. The change of volume promoted further fractures between the metal film and glass. This, combined with the residual distortions and the inner pressure of the halogen gas caused the tube to burst.	The manufacturer issued an announcement in the press on March 6, 2006, and implemented an inspection and repair program. In 2005, 138 cases of smoke emission and fire ignition were reported and16 companies have been conducting voluntary recalls. However, as product recovery and replacement programs have not necessarily progressed favorably, NITE issued a "NITE Alert" on December 22, 2006, to raise consumer awareness on this matter.

Handlebar lock for bicycle <Frequent case>	<Accident details> A handle became stiff while riding a bicycle, causing the rider to lose control and fall from the bike. The rider sustained bruises and scrapes. <Investigation results> The bicycle is equipped with a lock integrated in the handle stem which can lock the back wheel and the handlebars at the same time. The gear inside the lock broke due to the poor material quality and its broken teeth were caught in the rotating part, causing the handlebars to become uncontrollable.	The manufacturer changed the gear system, while issuing an announcement on August 12, 2005 and on their website on May 24, 2006. They also contacted owners of the affected bicycles by direct mail, offering inspections and free replacement of the lock.
Electric combo washer/dryer <frequent case>	<Accident details> A combination washer/dryer caught fire while the machine was in operation. The fire resulted in damage to parts of the machine, and partial damage to the ceiling, and the walls of the bathroom and hallway. <Investigation results> It was deduced that the fire was due to the corrosion of the lead wire. Laundry detergent that spilled onto the washer lid became wet and liquefied. The detergent leaked into the outer washing tub and adhered to the lead wire. The detergent, absorbed by capillary action, corroded the lead core. This, together vibrations from the washing machine caused the wire to break and emit sparks, which ignited the plastic resin part of the machine.	The manufacturer issued an announcement in the press and on their website on December 21, 2005, offering to replace of the lead wire with a capillary action free Teflon wire harness, free of charge.
Extension cord <Frequent case>	<Accident details> A multi-plug extension cord used on an office desk caught fire and ignited a paper bag on the desk. A computer LCD display was deformed by the heat and part of a partition panel was also damaged. <Investigation results> Soldering defects were found at points where the surge protection ceramic varistor was attached. In addition, this section had sustained significant damage, which indicated that the varistor may have suffered dielectric breakdown and caused a short circuit of the electrode plate.	The manufacturer posted a product recall announcement on the company website on January 13, 2006, and issued a press announcement on February 6, 2006.
Lawn mower <Accident requiring special attention>	<Accident details> The user was severely injured on the left outer thigh by the mower's blade. When the user released both hands from the mower while the blade was rotating, the resin buckle attached to the shoulder	The manufacturer issued an announcement in the press and on their website on February 9, 2006, providing free replacements of shoulder harnesses. As of July 2004, the manufacturer stopped deburring the buckle and replaced the

	harness also became unfastened. The spinning blade contacted the ground and bounced, causing the mower to spin around. The spinning blade struck the user's thigh, causing a severe injury. <Investigation results> The accident was due to the insecure locking mechanism of the buckle; the male portion of the shoulder strap buckle did not fully catch on the receptor, which allowed it to slip off. Releasing both hands from the mower while the blades were spinning also contributed to the injury.	metallic mold in November of the same year to eliminate burring.
Table with glass table top <Frequent case>	<Accident report details> The mountings of the metal brackets that secure the glass table top came away from the table top and dropped to the floor, striking a child's leg and causing contusions. <Investigation results> Some of the tables were insufficiently bonded; adhesive for bonding the tabletop and the fixing brackets was stored in bad conditions with container lids open in excessive temperatures; only 50 to 70 percent of the adhesive area was coated and dust could have adhered to the coated area; and adhesion time varied by the unit.	The manufacturer issued an announcement on their website on February 2006, announcing the voluntary recall of the product, and provided free replacement services, and suspended imports and sales of the product. As a preventive measure, the company has started taking thorough control of adhesive storage, in addition to adding adhesive condition as an inspection item and required it to be specified in the manufacturing process. The working environment for the adhesion process was improved.
Lighting apparatus (Ceiling pendant light) <Frequent case>	<Accident report details> The pendant light in the living room fell off from the broken suspension hook and broke objects including dishes on the table. <Investigation results> The L-shaped hook was not strong enough to support the weight of the light due to lack of long-term durability. The stretched or broken hook caused the light to fall off.	The manufacturer discontinued selling the product as of January 16, 2006, and announced the voluntary recall of the product on their website on February 11, and further, in the press on May 17. The shape of the suspension hook was changed from an L-shape to an O-shape.
Baby formula warmer <Frequent case>	<Accident report details> The handle attached to the glass pot broke. <Investigation results> The product displayed a crack on the polycarbonate plastic handle attached to the glass pot, which was due to typical fatigue breakdown initiated from the section where maximum stress was loaded. Inspection of the torque level found that some of the affected products exceeded the average value of torque, which indicated that the crack might	The manufacturer issued a recall announcement on March 31, 2005 in the press and on their website, while the material for the handle was changed from polycarbonate plastic to melamine resin.

	have appeared from the section where the metal holder was attached to the handle, due to over-tightening of the screw to secure it. The crack widened through repeated use and caused the break.	
Electric heater <Accident requiring special attention>	<Accident details> A fire broke out in the bathroom area of a two storied wooden house, and burned about 90 square meters of the property. <Investigation results> The defective crimping of the lead wire and its crimping terminal caused a contact failure, which subsequently generated heat and then ignited.	The manufacturer placed a company announcement in newspapers on December 8, 2005, and has been offering free inspections and repair services. The manufacturer has also taken the following measures: ● Thickening the wire diameter to increase the allowable current ● Adopting bigger crimping terminals ● Enhancing the flame retardancy of the body case. NITE called for consumers' attention via the NITE website.
Air conditioner <Frequent case>	<Accident details> The air conditioner generated smoke which was put out with water and a fire extinguisher. <Investigation results> The investigation confirmed a burnout supposedly due to a tracking phenomenon at the power connector part of the internal fan motor. The air conditioner had been cleaned without removing electric components. The tracking phenomenon is presumed to have been caused by a combination of residual electrolytic substances in the connector part, such as cleaning liquids, which facilitates electrical conduction, and the build up of condensation inside the air conditioner.	The manufacturer placed a company announcement in newspapers and on their website on August 20, 2004, and has been offering free inspection and repair services. Also, the following measures were taken to prevent liquid intrusion to the power connector part which caused the tracking phenomenon: ● Installation of a cover on to the power connector part of the internal fan motor ● Injection of insulating silicon into the connector cover
Electric wheel chair <Frequent case>	<Accident details> The left front wheel turned sideways after running onto a wheel stopper, which caused the bracket welding, mounted on the upper arm, to come off. <Investigation results> The welding process was unskilled and lacked penetration. This, in combination with overloading to the front wheel due to running over bumps and wheel stoppers, accelerated the detachment of the upper arm from the bracket.	The manufacturer placed a company announcement on their web page on February 23. Also, the company mailed notice to its users about inspections of the frame and exchanging defective products. In addition, the company switched the hand welding process to robotic welding.
Gas lift chair (for study) <Frequent case>	<Accident details> A child fell off a chair and suffered a bruise due to a breakage of a chair leg made of polypropylene. <Investigation results> Air bubbles and silver streaks were	The importer discontinued imports and sales of the subject products, and placed a company announcement on their web page on January 23, and conducted a voluntary recall. Further, the manufacturer is to clearly control the defective products separately to prevent them being mixed

	found on the cross section; which were supposedly caused by insufficient temperature control. Defects were seen with a limited number of products manufactured during a specific period. The products with intensity defects were manufactured before the resin and the molds reached table temperatures in the molding process, and were mixed with non-defective products when shipping.	with the non-defective products.

III. Investigations on products

NITE looks into all collected accident information and conducts accident information processing tests or market monitoring tests to identify the causes when these accidents; require clarification of the cause of accidents; have uncertain origins; or have a high probability of frequent occurrence.

Also, NITE has been attempting to establish an appropriate environment to expedite investigations by implementing tests to develop techniques for identifying causes of accidents when such methods have not been developed or the necessary basic data is not fully available.

The test results are distributed to information providers, related government institutions and industry organizations. NITE utilizes the results of investigations for technical development, and offers these techniques to related testing organizations.

Examples and results of accident information processing tests performed in FY2006 are listed below. One of the significant tests performed was on FF (Forced Flue) type kerosene heaters of a specific manufacturer which had caused carbon monoxide poisoning in four consecutive cases in FY2005, resulting in 2 fatalities and 7 injuries.

The investigations revealed the following:

1. NBR (Acrylonitrilebutadiene rubber) was used for the second air hose of the subject kerosene heaters. The material deteriorated from the effects of oxidized substances such as ozone.
2. Due to installation location, stress remained in the second air hose when being installed.
3. Multiple malfunctions occurred in the input/output ventilator, fan blower and heat exchanger in addition to the cracks forming on the second air hose through prolonged use.

NITE reported the above investigation results to the METI and presented preventive suggestions.

Test case	Outline of accident and test objectives	Test results and remedies
FF (Forced Flue) type kerosene fan heater	Following a series of fatal and serious carbon monoxide poisoning cases involving kerosene fan heaters, NITE investigated the causes of the carbon monoxide leaks.	During prolonged use, cracks developed and formed a hole on the bended surface of the second air hose where stresses remained from installation. It was affected by oxidized substances in the ambient atmosphere such as ozone, and heat accelerated the reaction. The combustion exhaust containing carbon monoxide presumably flowed backward and leaked from the combustion chamber through the hole.
FE (Forced Exhaust) type instant gas water heater	Improper alterations of the safety devices caused serious incidents between 1985 and 2005, with 28 cases resulting in fatalities or serious injuries. NITE investigated the defective conditions which had led users to make improper alterations.	1. The control box, a safety device which is extremely important for gas equipment operations, was found to develop cracks in soldering relatively quickly, and this disabled ignition. 2. The safety device was easily bypassed to allow ignition. 3. Of the products of 11 other manufacturers, no alterations were observed, except for 13 cases with one other manufacturer, as of September 30,

		2006.
Microwavable foot warmer	NITE received accident information of microwavable foot warmers exploding when removing from a microwave. Two women were burnt by the leaked contents. As there have been several similar accidents caused by overheating of the products, NITE tested the equivalent products available in the market.	NITE tested 14 samples (9 gel types / 4 solid – liquefied by heat / 1 liquid) under the following conditions; 1. Heating as instructed 2. Heating excessively (1) Reheating whilestill warm (2) Heating at higher output power than instructed (3) Heating continuously until damaged Results revealed that no samples indicated problems when heating as instructed. However, when heating excessively, some samples did explode, splashing out their heated liquid filling from the microwave in the process. It is presumed that the excessively heated polyethylene-glycol, a heat storage medium, heightened the internal pressure, and caused a crack to form on the container made of polymethyl-pentene. This resulted in an explosion and the splashing of contents when removing the product from the microwave.
Electric heater (carbon heater)	A fire broke out while using an electric heater. It was smothered with a scarf and water after burning *tatami* and blackening an air conditioner and wall. NITE investigated the cause of the fire.	The subject heater was disassembled to observe the internal wiring with X-ray and to remove the molten residue. As a result, the melting trace and the copper oxide were observed with the internal wiring gathered with the crimping terminal. The fire was presumably caused by the abnormal heat generated by the proliferation phenomenon of copper oxide from a caulking defect at the crimping terminal, which developed a contact failure.
Bicycle	NITE has received a report that the right crank of a bicycle broke while riding up hill and the rider suffered a minor injury from falling over. The subject crank had an engraved mark, and NITE investigated the cause, and also explored the possibility that the mark caused the fracture.	Various tests were implemented including fractographic studies, material analysis, hardness measurement and analysis using the Finite Element Method. No defects were found with the materials and compositions of the crank. The fracture started from the engraved part, and an inclusion was confirmed at the starting point. The cause of the fracture was presumably as follows: - Substantial loads were applied for a number of times, such as climbing out of the saddle on the uphill. - A foreign material mixed in with the engraved part where the stresses concentrate when it was manufactured. -A crack was formed for the above reasons, and developed by the repeated stress from pedaling to fracture the crank.
Electric cooking stove	A fire broke out in the vicinity of an electric cooking stove while the residents were away for many hours, and burned a draining basket and wooden bowls on top of the stove as well as a part of the wall. NITE investigated the cause of	According to the on-site investigation and analysis test, no ignition trace was found inside the main body. A reproduction test with electromagnetic noise (electrical fast transient / burst immunity test) revealed that the stove could be activated by a false signal. It is presumed that electromagnetic noise,

	the fire as the stove was off when the fire started.	from an external source, caused the malfunction of the control IC to turn the stove on, which resulted in the heating and burning of inflammable materials on top of the stove.
Aluminum footstool	While stepping on a footstool, a user lost balance, fell off the stool, and suffered bruising to the hip and the knee. Two of the four supporting posts were found bent over, and NITE looked into the cause.	After the on-site investigation and external observation, the buckling load and the bending strength were calculated using the Finite Element Method. Results of the reproduction test revealed that, the stool had adequate strength, and no abnormality was observed in the basic performance. It was presumed that the user lost balance when stepping on the stool, and fell on the posts of the tipped-over stool.

(Investigation to develop techniques for identifying causes of accidents performed in FY2006)

Theme	Investigation objectives	Summary
To accumulate analysis data of the conductor by primary and second thermal conditions	Residual electric wires (conductor) at the fire scene show various characteristics configurations such as getting thinner at the end or in the middle, having rough surfaces, or becoming coated with verdigris. NITE conducted an investigation with a view to extract effective information from those characteristics to look into the cause of fire.	To confirm the characteristics of cables, two conditions were applied to the sample wires for external observation and internal analysis; the first order was to generate abnormal heat and the second order was to apply thermal condition when fire break out. Results of the tests confirmed the following differences between the first and the second conditions for the interim report. 1) VVF cable Local diameter size deduction of wires. 2) PVC covered twisted wire Taper-like thinning of wires, and the compound amount of copper with contained elements developed between wires. 3) Rubber covered twisted wire Spreading of copper from wires.

4. Analysis on the Investigation Result and Accident Trend

I. Analysis on the investigation result

The investigation results are analyzed and evaluated from a technical perspective by "Accident cause analysis working groups (Technology groups)". The results, together with the investigation results by NITE, are to be reviewed by the "Accident Trend Committee" for the final results. Further, in FY2006, the review group for gas combustion appliances was established to review and evaluate the specific technical matters.

(1) Accident Trend Committee

NITE has established the "Accident Trend Committee" comprised of academic experts and consumer groups to conduct fair and impartial examinations of the investigation results.
After investigating accident causes and preventive measures, the Committee implements comprehensive discussion and analysis of the accident trend based on the technical analysis and evaluation conducted by Technology groups.

(2) Accident cause engineering analysis working groups (Technology groups)

Accidents are investigated, technically analyzed and evaluated by the following four "Accident cause analysis working groups" composed of third parties such as academic experts and intellectuals, offering suggestions from the viewpoint of expertise.

Technology groups	Job descriptions
Electrical Engineering	Accident analysis and evaluation of investigation results/prevention measures for smoke emission and ignition accidents caused by electric appliances including TVs, air conditioners, refrigerators and domestic wiring. Advising on tests conducted by NITE and evaluating the results.
Mechanical Engineering	Accident analysis and evaluation of investigation results/prevention measures for accidents caused by broken bicycles, fire accidents caused by combustion appliances such as kerosene heaters and bath boilers. Advising on tests conducted by NITE and evaluating the results.
Chemicals/Physical Impediment	Accident analysis and evaluation of investigation results/prevention measures for accidents caused by personal items such as gas lighters, and skin lesions including allergies caused by chemicals contained in rubber gloves or clothes, etc. Evaluation of investigation results submitted by manufacturers and preventive measures. Advising on tests conducted by NITE and evaluating the results.

(3) Review Group

In FY2006, the "Review Group for Misuse and Negligence" was newly established under the Technology Groups to thoroughly investigate the causes of specific cases. The group reviewed product safety verification from an ergonomic perspective, looking at judgment-criteria when considering misuse or negligence in relation to combustion appliances and the mechanisms of occurrence, etc.

II. Results of Investigation in FY2006

(1) Accident Information Classified by Causes

The table below shows accident information classified by causes for which investigations were completed in FY 2006. Investigations for 2,181 accident information cases were completed; 48 cases collected in FY2003 or before, 31 in FY2004, 1,041 in FY2005, and 1,061 in FY2006.

Causes of Accidents (Number of total collected accident information)	2003 or before	2004 (2,121)	2005 (2,067)	2006 (3,382)
Accidents Caused by Product	1	10	192	327
A : Accidents supposedly caused by problems of design, manufacturing process, labeling, etc.	1	9	142	257
B : Accidents supposedly caused by defective products, and affected by use conditions	0	1	17	25
C : Accidents supposedly caused by performance degradation due to extended periods after manufacturing and long duration of operation	0	0	33	45
Accidents not caused by products	26	7	632	542
D : Accidents supposedly caused by improper installation, repair work, handling during transportation, etc.	1	1	27	29
E : Accidents mainly due to misuse or negligence	25	5	586	488
F : Other accidents not caused by products	0	1	19	25

Accidents caused by unknown factors	21	14	217	192
G : Unidentified cause	21	14	217	192
Total (*Number of cases which investigation completed in FY2006)	48	31	1,041	1,061

(2) Accident Information Classified by Products and Causes

The following table shows accident information collected in FY2006 according to products and accident causes. The table only includes the cases for which investigations were completed as of June 11, 2007.

"Combustion appliances" (497 cases) was the top accident cause. 98 cases (about 20%) accounted for "Accidents caused by products", while 371 cases were "Accidents not caused by products", which is about 75 percent of the total accidents related to "Combustion appliances." 361 cases or 97% of "Accidents not caused by products" were due to "Misuse or negligence."

"Home electrical appliances" ranked second with 131 cases attributable to "Accidents caused by products", or about 41% of total accidents of the kind (320 cases), while 91 cases (about 28%) were "Accidents not caused by products." "Misuse or negligence (68 cases)" is the most frequent cause (75%) of "Accidents not caused by products." This comprises about 21% of total accidents involving "Home electrical appliances." There were also 98 cases, or 31%, for which accident causes were unidentified due to lack of sufficient in-depth information.

In other categories, "Accidents caused by products" comprised about 74% (60 cases) of "Furniture/home products" (81 cases) while about 15% or 12 cases were "Accidents not caused by products." Meanwhile, for 49% or 41 cases of "Vehicle/vehicle related products" accidents (83 cases), the causes were "Unidentified", and 42% (35 cases) were "Accidents not caused by products."

(Accident information classified by products and causes)

Note: Showing 1,061 cases completed in FY 2006 among 3,382 accident information collected in FY2006.

Accident cause / Product	Caused by product				Not caused by				Unidenti-fied	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Home electrical appliances	83	24	24	131	14	68	9	91	98	320
Kitchen and table appliances	6	0	0	6	0	2	3	5	3	14
Combustion appliances	79	0	19	98	7	361	3	371	28	497
Furniture/home product	60	0	0	60	1	9	2	12	9	81
Vehicle/vehicle related	5	0	2	7	7	26	2	35	41	83
Personal products	7	0	0	7	0	8	2	10	3	20
Health and sanitary products	1	0	0	1	0	7	0	7	3	11
Leisure products	3	1	0	4	0	3	3	6	5	15
Baby products	4	0	0	4	0	1	1	2	0	6
Textile product	9	0	0	9	0	3	0	3	2	14
Total	257	25	45	327	29	488	25	542	192	1,061

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products

G: Unidentified

(3) Injuries and Damages

The table below shows the extent of damage classified by accident causes for cases collected in FY2006, for which investigations were completed as of June 11, 2007.

Among "Accidents caused by products", 59 cases involved bodily injuries including one fatality and four serious injuries. A fatal accident involved a hospitalized woman becoming entrapped between the side rails of a bed and subsequently dying from suffocation due to chest compression. Serious injuries were sustained in accidents such as; a user caught the left hand in a folding meeting table and suffered a fracture of the little finger and palm laceration; a user opened the top cover of a washing machine and put a hand in during the spin cycle, thinking it was done. The fingers were tangled with the laundry, and the fourth finger was injured. Meanwhile, 239 cases involved damaged properties only (product breakage and extended damage).

203 cases of "Accidents not caused by products" involved bodily injuries including 64 severe injuries (fatalities/serious injuries), while 335 cases damaged properties only. Human injuries were mostly caused by "Misuse or negligence", which triggered 28 fatalities and 26 serious injuries.

Fatal accidents were mainly caused by "Combustion appliances"; fires from "Electric heaters" or "Kerosene heaters", carbon monoxide poisoning by "Gas water heaters", clothes catching fire from fire sources such as "Gas cooking stoves" and fires from "Wood stoves", "Wood bath boilers", etc.

Serious injuries were due to fires while cooking with "Gas cooking stoves", fires and explosions from "Spray cans" such as antiperspirants and coolants, and burn injuries from adding "Fireplace starters."

(Accident information classified by injuries or damages as of June 11, 2007)
Showing 1,061 cases completed in FY 2006, among 3,382 accident information collected in the same year.

Accident cause / Damage	Caused by product				By other than product				Unidenti-fied	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Death	1	0	0	1	2	27	5	34	25	60
Serious injury	3	0	1	4	1	26	2	29	12	45
Minor injury	50	1	3	54	6	129	5	140	26	220
Extended damage	82	19	16	117	10	282	11	303	91	511
Product breakage	92	5	25	122	10	21	1	32	35	189
No damage	29	0	0	29	0	3	1	4	3	36
Total	257	25	45	327	29	488	25	542	192	1,061

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

The table below shows the extent of damage classified by product categories.

"Leisure products" decreased by 38% from the previous year due to a reduced number of snorkel accidents, while FY2006 saw incremental accidents in other product categories. "Home electrical appliances" and "Combustion appliances", which account for a substantial portion, increased by 85% and 33% respectively.

Many of the fatal accidents involved "Home electrical appliances", such as fires from "Electric heaters" and "Electric *kotatsu*" (foot warming table with a coverlet); "Combustion appliances"

including fires from “Gas cooking stoves”, ”Kerosene heaters” and “Furniture/home appliances” , such as falls from “Ladders.”

Severe injuries include the loss of fingers in paper shredders in “Home electrical appliances”, and fires from “Gas cooking stoves” and “Kerosene heaters” in “Combustion appliances.”

For accidents with property damage only (product breakage and extended damage), the number increased in most product categories except “Vehicle/vehicle related products” and “Leisure products.”

(Accident information classified by products and damages)
Note: Showing 3,382 accident information collected in FY2006.

Damage / Product	Human injuries				No human injuries			Total
	Death	Serious injury	Minor injury	Subtotal	Extended damage	Product breakage	No damage	
Home electrical appliances	82 (74%)	43 (105%)	156 (86%)	281 (85%)	654 (36%)	321 (155%)	39 (1,850%)	1,295 (71%)
Kitchen and table appliances	0	6 (500%)	40 (400%)	46 (411%)	6 (20%)	15 (114%)	5 (400%)	72 (227%)
Combustion appliances	121 (41%)	59 (79%)	268 (24%)	448 (33%)	648 (33%)	152 (533%)	66 (843%)	1,314 (54%)
Furniture/home product	10 (25%)	22 (▲39%)	42 (162%)	74 (23%)	41 (583%)	41 (412%)	4 -	160 (116%)
Vehicle/vehicle related	16 (129%)	15 (88%)	41 (▲7%)	72 (22%)	35 (46%)	99 (▲5%)	2 -	208 (11%)
Personal products	6 (500%)	19 (280%)	91 (107%)	116 (132%)	68 (325%)	37 (131%)	7 -	228 (178%)
Health and sanitary products	3 -	3 (50%)	11 (38%)	17 (70%)	7 (0%)	2 -	2 -	28 (65%)
Leisure products	9 (▲25%)	6 (▲25%)	13 (▲48%)	28 (▲38%)	2 (0%)	4 (▲56%)	0 (▲100%)	34 (▲41%)
Baby products	0 -	1 (0%)	10 (400%)	11 (267%)	0 (▲100%)	6 (500%)	3 (200%)	20 (233%)
Textile product	4 -	2 -	14 (133%)	20 (233%)	1 -	0 (▲100%)	1 -	22 (214%)
Others	0 -	0 -	0 -	0 (0%)	1 -	0 -	0 -	1 -
Total	251 (56%)	176 (53%)	686 (51%)	1,113 (52%)	1,463 (42%)	677 (129%)	129 (892%)	3,382 (64%)

*Numbers in parentheses are year-on-year ratios.
*”Serious injury” indicates injury requiring one month or more to heal.
*”Extended damage” indicates property damage beyond product breakage.

(4) Preventive measures

The table below shows the number of preventive measures taken for “Accidents caused by products” out of the 2,181 accident information cases for which investigations were completed in FY2006.

Of the 530 cases of “Accidents caused by products”, preventive measures have been taken for 474 cases, or about 89 percent, by manufacturers.

The remaining 56 cases consist of cases for which no particular preventive measures could be implemented because manufacturers, etc, could not be identified due to fire damage, etc, cases for which manufacturers were unable to take corrective actions due to bankruptcy (*), and incidents caused by deteriorated products now rarely seen in market for which no other accident information has been collected..

As preventive measures, manufacturers of the involved products have been placing company announcements in newspapers and/or on their websites, and conducting recall/replacement programs. Other accidents are supposedly due to incidental defects, problems of labeling or misuse, therefore, the relevant manufacturers have taken preventive measures such as promoting consumer awareness through their websites or posters displayed in retailers, improving manufacturing process, enhancing quality control or improving instruction manuals and labeling.

*NITE issues NITE Alerts for incidents requiring immediate attention.

(Preventive measures taken for accidents caused by product defects)

Information Collected in	No. of accident information		
	Investigation completed in FY2006	Caused by product defect	Preventive measures taken
FY2003	48	1	1
FY2004	31	10	8
FY2005	1,041	192	161
FY2006	1,061	327	304
Total	2,181	530	474

III. Accident Trend in Last Three Years

(1) Numbers of collected accident information cases by information source

The following table is the breakdown of the number of accident information cases collected by NITE in the last three years. They were; 2,721 in FY2004, 2,952 in FY2005, and 4,084 in FY2006.

The numbers of information sources have been increasing each year. In FY2006, increments are seen in all information sources except "Press monitoring." Information from "Manufacturers" jumped up to 1,235 from 575, an increase of about 115% or 660 cases from the previous year.

This was followed by "Consumer affairs centers" (up 181%, from 135 to 379 cases), "Consumers" (up 145%, from 42 to 103) and "Local government (including fire departments)" (up 37%, from 196 to 268).

The significant increment of information from "Manufacturers" is attributed to the heightened social concerns about product safety due to the increased media coverage on safety issues, such as carbon monoxide poisoning caused by instant gas water heaters, infants losing fingers in paper shredder accidents, etc. In FY2004, the number of information cases related to specific manufacturers increased due to the frequent cases caused by their products. Similarly, the heightened awareness of product safety through media exposure of accidents and the Information Collection System may have boosted information reporting from "Consumer affairs centers" and "Consumers."

(Number of collected accident information by source, as of June 11, 2007)

	FY2004		FY2005		FY2006	
Information source	No. of accidents	Component ratio	No. of accidents	Component ratio	No. of accidents	Component ratio
Manufacturers	1,084	39.8%	575	19.5%	1,235	30.2%
Local governments (including Fire Dept.)	113	4.2%	196	6.6%	268	6.6%
Consumer affairs centers	105	3.9%	135	4.6%	379	9.3%
National institutions	80	2.9%	46	1.6%	219	5.4%
Consumers	48	1.8%	42	1.4%	103	2.5%
Others	53	1.9%	42	1.4%	60	1.5%
Subtotal	1,483	54.5%	1,036	35.1%	2,264	55.5%
Press monitoring	1,238	45.5%	1,916	64.9%	1,820	44.5%
Total	2,721	100.0%	2,952	100.0%	4,084	100.0%

(2) Numbers of collected accident information cases by product category

The net numbers of accidents, including those under investigation, were 2,121 in FY2004, 2,067 in FY2005 and 3,382 in FY2006 when duplications and unrelated information are excluded. (as of

June 11, 2007)

The number of reports on “Home electrical appliances” increased in FY2004 due to frequent cases caused by products of specific manufacturers. Influenced by media coverage, such as on carbon monoxide poisoning caused by instant gas water heaters and infants losing fingers in paper shredder accidents, people have become more socially aware of product safety in FY2006, which may have led to increasing numbers of information cases from sources including “Manufacturers” and “Consumer affairs centers.”

As for “Combustion appliances”, the numbers of accident reports jumped up in FY2005 and FY2006: in FY2005, due to the increased media coverage following an emergency order issued in relation to kerosene heater related accidents; and in FY2006, an increase possibly related to growing press coverage of accidents involving “Gas combustion appliances”, including “Gas water heaters” and “Gas bath water heaters”, following the issuance of an emergency order in relation to carbon monoxide poisoning incidents involving instant gas water heaters. In addition, reports from manufacturers and governmental agencies for frequent kerosene water heater accidents also contributed to the increase.

(Number of collected accident information by product category)

Information source	FY2004		FY2005		FY2006	
	No. of accidents	Component ratio	No. of accidents	Component ratio	No. of accidents	Component ratio
Home electrical appliances	945	44.6%	759	36.7%	1,295	38.3%
Kitchen and table appliances	24	1.1%	22	1.1%	72	2.1%
Combustion appliances	565	26.7%	855	41.4%	1,314	38.9%
Furniture/home products	54	2.5%	74	3.6%	160	4.7%
Vehicles/vehicle related products	324	15.3%	187	9.0%	208	6.2%
Personal products	96	4.5%	82	4.0%	228	6.7%
Health and sanitary products	51	2.4%	17	0.8%	28	0.8%
Leisure products	39	1.8%	58	2.8%	34	1.0%
Baby products	19	0.9%	6	0.3%	20	0.6%
Textile products	4	0.2%	7	0.3%	22	0.7%
Others	0	0.0%	0	0.0%	1	0.0%
Total	2,121	100.0%	2,067	100.0%	3,382	100.0%

*The numbers exclude duplicated or irrelevant information.

(3) The Top 10 Items in the Last Three Years

The following table indicates the top ten accident causing items reported in the last three years from FY2004 to FY2006.

The number of collected information cases on “Electric heaters” , which was the most frequent cause in FY2004, decreased by half in FY2005. These accidents were related to the defects with products of specific manufacturers, and the number was supposedly reduced in FY2005. However they ranked third in FY2006 with increased number sof accidents.

“Gas cooking stoves”, “Kerosene heaters”, “Electric heaters” and “Four wheel vehicles” have ranked in the top five every year.

A notable increment of 48% was seen with “Gas cooking stoves”. This was supposedly due to increased media coverage of product safety issues including carbon monoxide poisoning, and accidents involving these appliances, and “Accidents caused by misuse or negligence.”

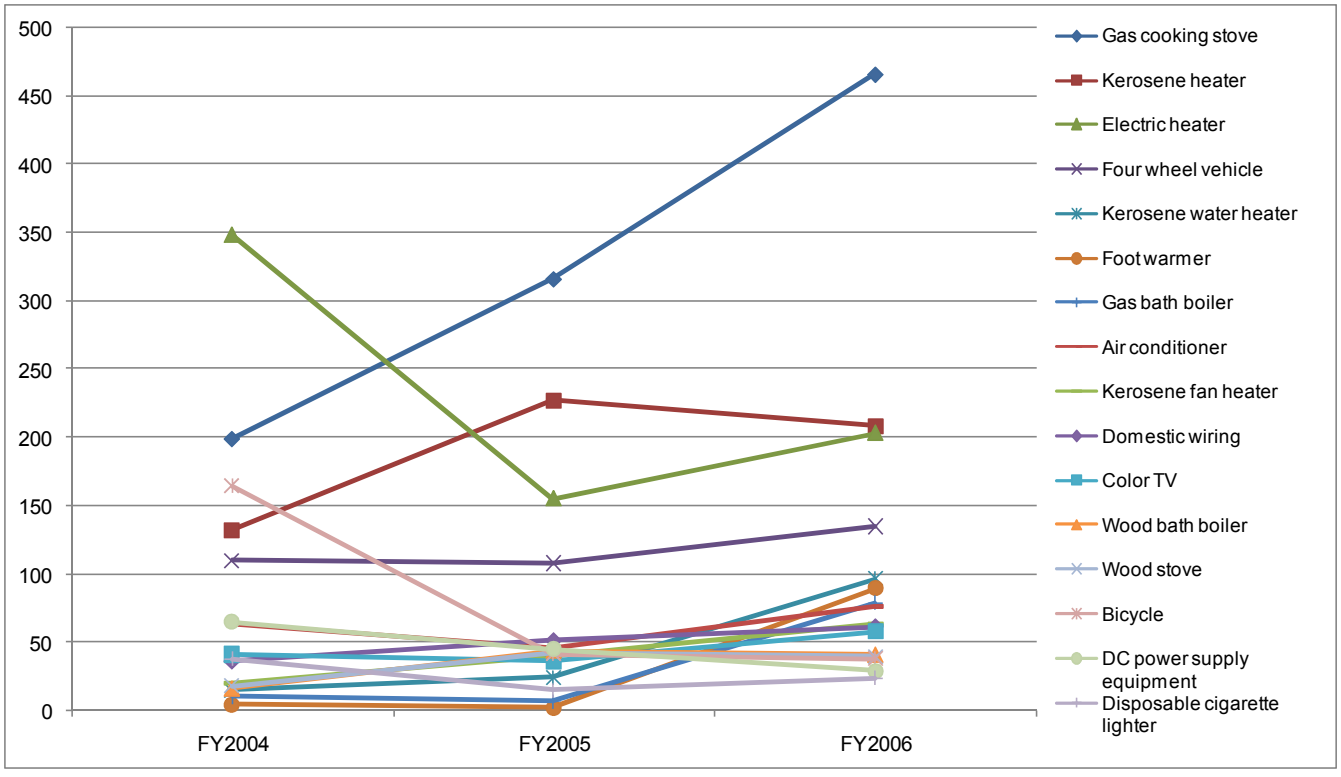
FY2004	FY2005	FY2006
(2,121 cases)	(2,067 cases)	(3,382 cases)

Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Electric heater	348	16.4	Gas cooking stove	316	15.3	Gas cooking stove	466	13.8
Gas cooking stove	199	9.4	Kerosene heater	227	11.0	Kerosene heater	208	6.2
Bicycle	164	7.7	Electric heater	155	7.5	Electric heater	203	6.0
Kerosene heater	132	6.2	Four wheel vehicle	108	5.2	Four wheel vehicle	135	4.0
Four wheel vehicle	110	5.2	Domestic wiring	51	2.5	Kerosene water heater	96	2.8
Subtotal	953	44.9	Subtotal	857	41.5	Subtotal	1,108	32.8
DC power supply equipment	65	3.1	Air conditioner	46	2.2	Foot warmer	89	2.6
Air conditioner	63	3.0	DC power supply equipment	45	2.2	Gas bath boiler	79	2.3
Color TV set	41	1.9	Wood bath boiler	44	2.1	Air conditioner	76	2.2
Disposable cigarette lighter	38	1.8	Wood stove	42	2.0	Kerosene fan heater	63	1.9
Domestic wiring	36	1.7	Bicycle	41	2.0	Domestic wiring	61	1.8
Subtotal	243	11.5	Subtotal	218	10.5	Subtotal	368	10.8
Total	1,196	56.4	Total	1,075	52.0	Total	1,476	43.6

(4) Transition of the Top 10 Items

The chart below shows the transition of the Top 10 items in the last three years.

Changes in FY2006 are due to increased reporting from manufacturers for “Kerosene water heaters”, and from both manufacturers and national institutions for “Gas bath boiler.” Most accident information cases on “Foot warmers” were related to microwavable warmers reported by suppliers (manufacturers/importers.) “Domestic wiring” and “Air conditioners” are also frequent causes of accidents, and both ranked in the top 10 in the last three years. Most of the “Four wheel vehicle” related accidents involved vehicle fires.



(5) Accident Information classified by cause

The table below shows accident information classified by causes for the last three years.

Investigations for 5,041 accident information cases out of 7,570 have been completed; "Accidents caused by products" accounts for about 30%, or 1,529 cases, while about 47% or 2,388 cases were "Accidents not caused by products."

Meanwhile, "Problems of design, manufacturing process, labeling" accounts for about 84% of the total "Accidents caused by products" with 1,292 cases. Among "Accidents not caused by products", "Misuse or negligence" accounts for about 89%, or 2,133 cases.

FY2004 saw more "Accidents caused by products" (about 40%) than "Accidents not caused by products" (about 37%), unlike in FY2005 with the ratios of 20% and 56%, and 31% and 51% in FY2006 respectively.

This may be because the number of accidents caused by products of a specific manufacturer, which occurred frequently in FY2004, decreased in FY2005.

(Note) "NITE Alerts" were issued to draw attention to these matters.

Accident cause	FY2004	FY2005	FY2006	Total
Caused by product	827	375	327	1,529
A: Problems of design, manufacturing process, labeling, etc.	749	286	257	1,292
B: Defective products, and affected by use conditions	37	28	25	90
C: Performance degradation due to extended periods after manufacturing and long duration of operation	41	61	45	147
Not caused by products	775	1,071	542	2,388
D: Improper installation, repair work, handling during transportation, etc.	67	47	29	143
E: Misuse or negligence	660	985	488	2,133
F: Other accidents not caused by products	48	39	24	112
Caused by unknown factors	484	448	192	1,124
G: Unidentified	484	448	192	1,124
Subtotal	2,086	1,894	1,061	5,041
Under investigation	35	173	2,321	2,529
Total	2,121	2,067	3,382	7,570

(6) Accident causes by product category

The three tables below show accident causes classified by product in FY2004, 2005 and 2006.

For accident information cases collected in FY2006, investigations have been completed for only about 31% of the total information cases. Thus, in this section, accident causes are observed for information cases collected in FY2004 and 2005, for which investigations were completed in FY2006.

"Combustion appliances" ranked top in FY2006. According to the tables, "Accidents not caused by products" (FY2004: 443 cases, FY2005: 689 cases) accounts for about 80% of total combustion appliance accidents (FY2004: 559, FY 2005:832), and about 90% of "Accidents not caused by products" were due to "Misuse or negligence." (FY2004: 412 cases, FY2005: 664 cases) Meanwhile, "Accidents caused by products" accounts for 6% or 34 cases in FY2004 and 2% or 20 cases in FY2005.

"Home electrical appliances" ranked second. "Accidents caused by products" accounts for about 60% (556 cases) in FY2004 and 32% (216 cases) in 2005 of the total for "Home electrical appliances" (FY2004: 928, FY2005: 666), while "Accidents not caused by products" accounts for about 20% (188 cases) and 36% (243 cases) respectively. FY2004 saw greater numbers of "Accidents caused by products", which is attributable to increased reporting from the manufacturers for frequent cases caused by a specific product of a specific manufacturer.

About a half of “Vehicle/vehicle related products” accidents are due to “Unidentified” causes, with 167 cases out of 323 in FY2004, and 85 cases out of 174 in 2005. For “Personal products”, “Accidents not caused by products” accounts for about 26% (24 cases) in FY2004 and about 20% (15 cases) in 2005, out of 93 and 73 total accident cases respectively. Meanwhile, for “Personal products”, about 52% (48 cases) in FY2004 and 66% (48 cases) in FY2005 were “Accidents caused by products.”

(FY2004 Accident cause by product category)

Accident cause / Product category	Caused by product				Not caused by product				Unidentified	Completed	Under-investigation	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G			
Home electrical appliances	492	29	35	556	37	122	29	188	184	928	17	945
Kitchen and table appliances	7	2	0	9	0	5	0	5	8	22	2	24
Combustion appliances	28	0	6	34	21	412	10	443	82	559	6	565
Furniture/home product	17	1	0	18	2	23	0	25	7	50	4	54
Vehicle/vehicle related	97	1	0	98	7	47	4	58	167	323	1	324
Personal products	46	2	0	48	0	24	0	24	21	93	3	96
Health and sanitary products	37	1	0	38	0	11	0	11	2	51	0	51
Leisure products	14	1	0	15	0	15	3	18	5	38	1	39
Baby products	9	0	0	9	0	1	2	3	6	18	1	19
Textile product	2	0	0	2	0	0	0	0	2	4	0	4
Total	749	37	41	827	67	660	48	775	484	2,086	35	2,121

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

(FY2005 Accident cause by product category)

Accident cause / Product category	Caused by product				By other than product				Unidentified	Completed	Under-investigation	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G			
Home electrical appliances	153	21	42	216	21	196	26	243	207	666	93	759
Kitchen and table appliances	12	1	0	13	0	5	1	6	1	20	2	22
Combustion appliances	9	2	9	20	21	664	4	689	123	832	23	855
Furniture/home product	5	3	1	9	0	48	1	49	7	65	9	74
Vehicle/vehicle related	46	1	0	47	5	34	3	42	85	174	13	187
Personal products	46	0	2	48	0	14	1	15	10	73	9	82
Health and sanitary products	1	0	0	1	0	12	0	12	1	14	3	17

Leisure products	13	0	7	20	0	12	3	15	9	44	14	58
Baby products	0	0	0	0	0	0	0	0	4	4	2	6
Textile product	1	0	0	1	0	0	0	0	1	2	5	7
Total	286	28	61	375	47	985	39	1,071	448	1,894	173	2,067

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

(FY2006 Accident cause by product category)

Accident cause / Product category	Caused by product				By other than product				Unidentified	Completed	Under-investigation	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G			
Home electrical appliances	83	24	24	131	14	68	9	91	98	320	975	1,295
Kitchen and table appliances	6	0	0	6	0	2	3	5	3	14	58	72
Combustion appliances	79	0	19	98	7	361	3	371	28	497	817	1,314
Furniture/home product	60	0	0	60	1	9	2	12	9	81	79	160
Vehicle/vehicle related	5	0	2	7	7	26	2	35	41	83	125	208
Personal products	7	0	0	7	0	8	2	10	3	20	208	228
Health and sanitary products	1	0	0	1	0	7	0	7	3	11	17	28
Leisure products	3	1	0	4	0	3	3	6	5	15	19	34
Baby products	4	0	0	4	0	1	1	2	0	6	14	20
Textile product	9	0	0	9	0	3	0	3	2	14	8	22
Others	0	0	0	0	0	0	0	0	0	0	1	1
Total	257	25	45	327	29	488	25	542	192	1,061	2,321	3,382

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

The tables below show the Top 5 items for “Accidents caused by products” and “Accidents caused by misuse or negligence.”

“DC (direct current) power supply equipment” has ranked in the top 5 for three consecutive years. This is attributed to a series of accidents (754 cases as of June 11, 2007) caused by battery chargers for electric shavers of a specific manufacturer, which had smoke emission and ignition hazards due to design defects. Trends in other product categories differ each year. There were a number of accidents involving “Bicycles”, “Shoes”, “Kerosene water heaters”, “Chair”, “Gas bath boilers”, many of which were caused by products of specific manufacturers.

(Top 5 Items of "accidents caused by products")

FY2004 (827 cases)			FY2005 (375 cases)			FY2006 (327 cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Electric heater	292	35.3	DC power supply equipment	45	12.0	Kerosene water heater	55	16.8
Bicycle	65	7.9	Electric heater	31	8.3	Chair	42	12.8
DC power supply equipment	65	7.9	Bicycle	22	5.9	Gas bath boiler	33	10.1
shoes	27	3.3	Electric cooking stove	17	4.5	DC power supply equipment	24	7.3
Tooth brush	26	3.1	Shoes	16	4.3	Electric cooking stove	17	5.5
Subtotal	475	57.5	Subtotal	131	35.0	Subtotal	171	52.2

According to the Top 5 items for "Accidents caused by misuse or negligence", "Gas cooking stoves" and "Kerosene heaters" have ranked first and second for the last three years. For "Gas cooking stoves", the increment may be attributed to fires from heated cooking oil while deep frying and insufficient cleaning of the equipment.

(Top 5 Items of "accidents caused by misuse or negligence")

FY2004 (660 cases)			FY2005 (985 cases)			FY2006 (488 cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Gas cooking stove	180	27.3	Gas cooking stove	291	29.5	Gas cooking stove	221	45.3
Kerosene heater	108	16.4	Kerosene heater	178	18.1	Kerosene heater	51	10.5
Electric heater	35	5.3	Electric heater	81	8.2	Four wheel vehicle	22	4.5
Four wheel vehicle	28	4.2	Wood fuel bath boiler	36	3.7	Kerosene bath boiler	18	3.7
Kerosene bath boiler	26	3.9	Wood fuel heater	36	3.7	Domestic wiring	16	3.3
Subtotal	377	57.1	Subtotal	622	63.2	Subtotal	328	67.3

(7) Accident classified by injury or damage

The four tables below show accident information cases classified by injury or damage.

NITE has collected 7,570 accident information cases in the last three years between FY2004 and FY 2006. Among the 5,041 cases for which investigations were completed, there were 23 cases (about 0.5%) involving fatalities or serious injuries due to "Accident caused by products", while 361 cases (about 7.2%) were due to "Accidents not caused by products."

Among the 361 cases of "Accidents not caused by products", 336 cases were caused by "misuse or negligence," which accounts for the majority of serious human injuries including fatalities. The same trend is observed each year.

Meanwhile, of the total 251 cases of "Accidents caused by products" which involved human injury, the majority, 222 cases, were caused by "Problems of design, manufacturing process, labeling." This too shows the same trend every year.

(FY2004 Accident information classified by injury or damage)

Showing 2,086 cases completed by end FY 2006, among accident information collected in FY2004.

Accident cause / Damage	Caused by product				Not caused by products				Unidenti-fied	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Death	1	0	0	1	2	76	4	82	36	119
Serious injury	8	1	1	10	1	37	3	41	33	84
Minor injury	75	6	1	82	5	179	7	191	85	358
Extended damage	150	28	22	200	33	330	23	386	163	749
Product breakage	502	2	17	521	24	33	11	68	160	749
No damage	13	0	0	13	2	5	0	7	7	27
Total	749	37	41	827	67	660	48	775	448	2,086

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

(FY2005 Accident information classified by injuries or damages)

Showing 1,894 cases completed by end FY 2006, among accident information collected in FY2005.

Accident cause / Damage	Caused by product				By other than product				Unidenti-fied	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Death	1	0	0	1	1	99	3	103	51	155
Serious injury	2	2	2	6	1	70	0	71	23	100
Minor injury	81	1	10	92	7	232	8	247	71	410
Extended damage	109	22	26	157	27	542	23	592	210	959
Product breakage	89	1	23	113	10	40	5	55	89	257
No damage	4	2	0	6	1	2	0	3	4	13
Total	286	28	61	375	47	985	39	1,071	448	1,894

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

(FY2006 Accident information classified by injuries or damages)

Showing 1,061cases completed by end FY 2006, among accident information collected in FY2006.

Accident cause / Damage	Caused by product				By other than product				Unidenti-fied	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Death	1	0	0	1	2	27	5	34	25	60
Serious injury	3	0	1	4	1	26	2	29	12	45
Minor injury	50	1	3	54	6	129	5	140	26	220
Extended damage	82	19	16	117	10	282	11	303	91	511

Product breakage	92	5	25	122	10	21	1	32	35	189
No damage	29	0	0	29	0	3	1	4	3	36
Total	257	25	45	327	29	488	25	542	192	1,061

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

(FY2004-2006 Accident information classified by injuries or damages)
Showing 5,041 cases completed by end FY 2006, among accident information collected in FY2004-2006.

Accident cause / Damage	Caused by product				By other than product				Unidenti-fied	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Death	3	0	0	3	5	202	12	219	112	334
Serious injury	13	3	4	20	3	133	5	141	68	229
Minor injury	206	8	14	228	18	540	20	578	182	988
Extended damage	341	69	64	474	70	1,154	57	1,281	464	2,219
Product breakage	683	8	65	756	44	94	17	155	284	1,195
No damage	46	2	0	48	3	10	1	14	14	76
Total	1,292	90	147	1,529	143	2,133	112	2,388	1,124	5,041

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.
B: Defective products, and affected by use conditions
C: Performance degradation due to extended periods after manufacturing and long duration of operation
D: Improper installation, repair work, handling during transportation, etc.
E: Misuse or negligence
F: Other accidents not caused by products
G: Unidentified

5. Disclosure of collected Accident Information

I. Accident Information Collection Reports

The accident information cases collected by NITE are compiled quarterly, following the necessary analyses or investigations of the cases, and approval by the Accident Trend Committee, and published as the “Collection Results of Accident Information”. This information is further compiled and published as the “Annual Report on Product Safety” to provide information to consumers, etc.
Also, NITE broadly disseminates information concerning accidents and preventive measures through its website.

II. NITE Alert

NITE Alerts (special news) are issued for cases requiring immediate action and distributed to consumers and related organizations, calling for their attention.
NITE Alerts are circulated to approximately 1,200 organizations including local consumer affairs centers, local governments, fire and police departments and related industry groups in addition to being posted on the NITE website.

The NITE Alerts circulated in FY2006 include; “Paper shredders”, “Emergency order to Paloma Industries Ltd”, “Electric heaters with remote controls”, “Desk pads”, “Microwavable foot

warmers." Brief summaries of major alerts issued in FY2006 are shown below.

III. Product Safety E-mail Magazine

NITE distributes bi-weekly e-mail magazines for product safety personnel. The information is provided in a timely manner from the perspective of accident prevention; and includes safety alerts based on accident information cases collected by NITE, and information on recalls and company announcements. In addition, extra editions are issued when immediate attention is required. In FY2006, NITE distributed 15 extra issues including "Preventive measure for carbon monoxide poisoning caused by instant gas water heaters manufactured by Paloma Industries Ltd.", "Malfunction of electric heaters with remote controls", and "Skin lesions hazard caused by desk pads."

IV. Life and Safety Journal (PR Magazine)

NITE has launched a PR magazine "Life and Safety Journal" to provide comprehensive product safety information including efforts taken by NITE and concerned parties. Three issues were published in FY 2006 featuring the following topics:

1st issue: "Expectations for product safety PR magazine"
2nd issue: "Review of improper use"
3rd issue: "Examining accidents involving combustion appliances"

Accident Information "NITE Alert" Topics

No.70: Measures to prevent further incidents involving paper shredders

After a series of incidents in which children's fingers were severed by paper shredders in March and July 2006, the Ministry of Economy, Trade and Industry (METI) urged the Japan Business Machine and Information System Industries Association (JBMIA) and the All Japan Stationery Association (AJSA) to promptly consider preventative measures. To prevent further incidents, NITE alerted consumers not to let children touch paper shredders and keep children away from shredders in operation.

No.71: METI issued emergency order to Paloma Industries Ltd.

The Ministry of Economy, Trade and Industry (METI) issued an emergency order to Paloma Industries Ltd., based on Article §82 of the Consumer Products Safety Law on August 28, 2006, to inspect, recall, alert consumers and report to METI on the progress inspection and recall activities. With seven of its instant gas water heater models, the control box, installed as the safety device, broke down relatively shortly after purchasing due to a solder fracture, and consequently failed gas ignition. In addition, these models had a flaw that made it possible to make alterations easily to bypass the control box to allow ignition. NITE urged users of the subject heaters to immediately contact the manufacturer for inspections.

No.72: Malfunction of remote controlled electric heaters

NITE implemented product tests of remote controlled electric heaters in response to information concerning their malfunctions such as: an electric heater was turned on inadvertently when a user changed TV channel with a TV remote-controller; and an electric heater with remote control function automatically turned on without operation. As a result, malfunctions have been confirmed in some products which are turned on by operating remote controllers of other electric appliances or by electro-magnetic noise. To prevent further incidents, NITE called on users' attention to

unplug the heaters when not in use and to keep the heaters away from inflammable materials, such as curtains, etc.

No. 73: Alert -Desk pad may pose Skin Lesions Hazard

NITE conducted investigations into desk pads in response to a report from a medical institution indicating that a patient had developed allergic contact dermatitis by using these desk pads. Results confirmed that the causative substances were organic antimicrobials (2,3,5,6-Tetrachloro-4-[Methylsulfonyl] Pyridine) used for the desk pad, and that continuous contact with these substances caused the allergic contact dermatitis. Considering 13 similar incidents received from medical institutions from August 2005 to July 2006, NITE alerted consumers to discontinue use or to take appropriate actions by referring to the manufacturer's company announcements to prevent further incidents.

No.74: Safety alert on skin entrapment with swimming trunks

In August 2006, NITE obtained information on 2 cases of hospital treatment involving 6-year-old boys whose penis skin become entrapped in the mesh holes of swimming trunk linings while bathing in the sea. NITE urged caregivers to give children another pair of non-mesh fabric garments to wear underneath when wearing the swimming trunks to prevent recurrences.

No.75: Safety alert on Electric heaters (Halogen heater)

Due to a series of ignition incidents since April 2003 involving an electric heater (halogen heater) imported and distributed by Yu Corporation, followed by 2 more incidents of this kind in 2006, NITE alerted users to discontinue its use to prevent any further incidents.

No. 76: Electric heater (Halogen heater) imported and distributed by Yu Corporation (2nd alert)

NITE issued a safety alert for an electric heater (halogen heater) imported and distributed by Yu Corporation in December 2006 (see No.75). However, the company was not able to take corrective action for consumers due to its bankruptcy. As a result, retailers were to conduct a voluntary recall for the units they had sold. NITE notified the involved users to consult with the listed retailers where they had purchased their units.

No.77: Electric heaters - Recall information and Precautions for use

According to the research implemented by NITE, 138 cases of smoking or ignition accidents involving electric heaters occurred in FY2005 and 39 models were under recall by 16 companies. However, recall or replacement procedures had not been fully completed. NITE compiled a list of recalled products and urged consumers to check if their units were subject to recall as a preventive measure. The users of recalled models were advised to discontinue use and call the listed toll free contact numbers. Since many fire accidents involving electric stoves occur every year, safety information related to the use of these products was provided in an effort to prevent further accidents.

No.78: Safety alert on Electric heaters (Halogen heaters) imported and distributed by Daio International Japan

In response to a series of accidents involving electric halogen heaters, such as burst glass heater pipes burning a *tatami* mat or consumers sustaining burn injuries from the glass fragments, NITE and the Ministry of Economy, Trade and Industry (METI) checked out the importer/distributor, Daio International Japan Co., Ltd. As a result of the investigation, the company could not be found at its registered address and its telephone line was disconnected. In response, on January 18, 2007,

METI and the Okinawa General Bureau alerted consumers to immediately stop using the product as it might pose similar hazards. NITE also alerted consumers on this matter to prevent further incidents.

No. 79: Safety alert Prevention of burning incidents involving microwavable foot warmers

With the recent increase in use of microwavable foot warmers, accidents causing burn injuries have been observed due to excessive heating. NITE implemented product safety tests with purchased samples available in the market. Result showed that in some products, excessive heating would cause the explosion of containers or the leaking of contents which may cause consequential burns/scalds. As a preventive measure, NITE urged consumers to always follow the instructions including power settings and heating times.

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