

## Company's Brief History 1

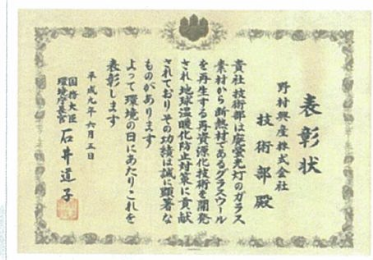
- 1936 • Large Ore deposit at Mt. Taisetsu in Hokkaido, Japan was found
- 1939 • Started to produce the Mercury as a No.1 mercury production site in the area of Far East
- 1975 • Founded current Nomura Kohsan Co., after closing Mining site
- 1979 • Started to collect Household Battery
- 1980 • Started to collect Household Fluorescent Lamp
- 1993 • Awarded "Ministry of Environment Prize" at the "Second Earth Environment Grand-Prix" in Japan



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## Company's Brief History 2

- 1996 • Was selected as a sole Treatment of Battery Center by the Japan Waste Management Association ( Later Fluorescent Lamp Treatment as well)
- 1997 • Awarded "10<sup>th</sup> Technical Prize" due to materializing Ferrite in the "Japan Energy Resource Congress", Awarded "Ministry of Environment Prize" due to materializing Glass Wool in the same Congress
- 2001 • Took ISO Certificate in all Sites of the company
- 2007 • Awarded "Ministry of Environment Prize" in the "3R"



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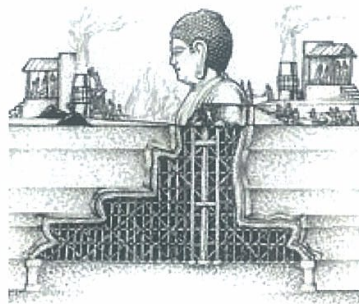
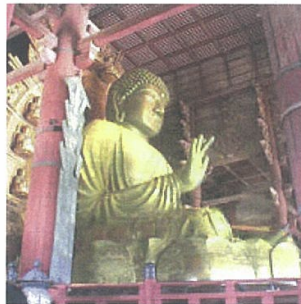
## History of Mercury Reduction Effort in Japan

- 1968 • Minamata disease certificated as pollution- related illness
- 1973 • Stopped the production of Mercurochrome
- 1986 • Mercury method of Chlor-Alkali plant became "0%"
- 1990 • Mercury adding Zero completed in carbon Zinc Battery
- 1992 • Mercury adding Zero completed in Alkaline Battery



## Great-Buddha-of-Nara

- Gold-plating (Amalgam Method) of " Great Buddha of Nara" is famous. This has long history in Japan.
- The Great Buddha is 16 meters high and weighs 112.5 tons.
- For the Great Buddha, 499 tons of copper, 8.5 tons of tin, **2.5 tons of mercury** and 440 kilograms of gold were used.



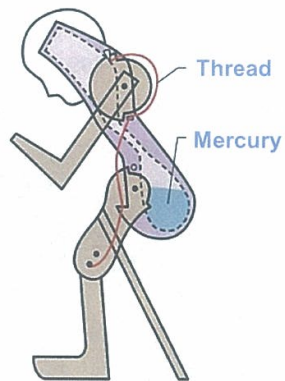
## KARAKURI Doll ( Back flip Doll )



Back-flipping and Stepping down Doll  
By Mr.Minesaki Jugo

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## KARAKURI Doll ( Inner Structure )



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## Traditional Japanese Art



World Cultural Heritage :  
Itsukushima Shrine



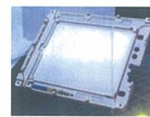
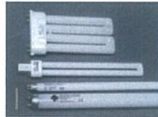
World Cultural Heritage :  
Shuri-jō site



Japan crafts

## Usage of Mercury

Lamps: Fluorescent / Mercury / Metal-halide / Sodium vapor / LCD Back light



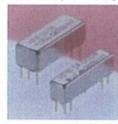
Vermilion: Red pigment



Battery (Button etc.)



Mercury Relays



Gyroscope



pH/ORP Electrode  
Chemical Reagent  
Gas detect tube  
Chlor-Alkali

Thimerosal  
(Vaccine preservative)



Manometer

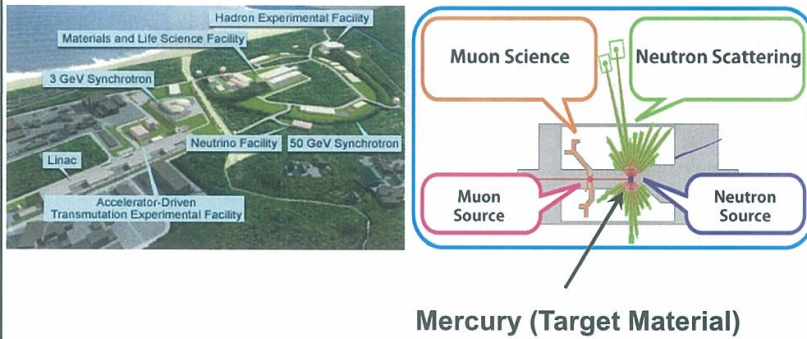


Mercury switch



Picture from Web site

**“The latest science facilities for research”  
J-PARC(Japan Proton Accelerator Research Complex)**



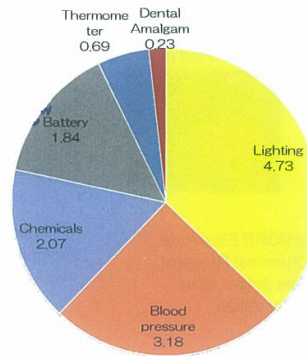
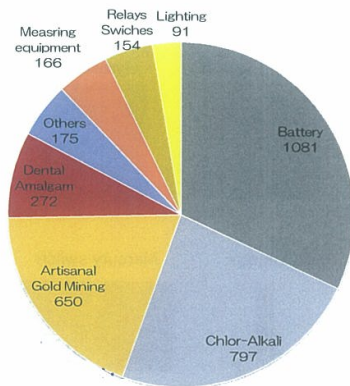
From web site

**Comparison between Japan's usage and World's**

World's usage in 2003  
Total 3,386t/y



Japan's usage in between  
2002 – 2006  
Total Ave. 13t/y



※Mercury method of Chlor-Alkali operating plants in 2007: World=135 EU=43 USA=9

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## Nomura's Responsibility at Recycling Site

- The plant specializes in treating and recycling of mercury contained wastes with treating capacity of **40,000** tons
- Its authorized facilities consist of 2 **Herreshoff furnaces**, 2 **rotary kilns**, 2 **high temp. incinerators**, each performing respective roles according to the kinds and properties of incoming wastes.
- We **never take out any wastes** out of the recycling sites.
- We bury non-useful left materials into the **controlled final landfill** area in our sites, when necessary.



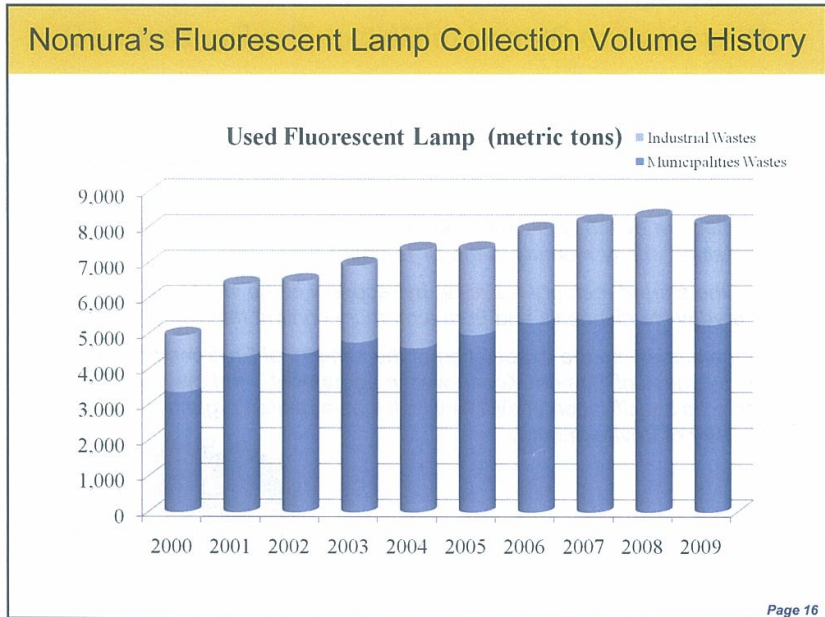
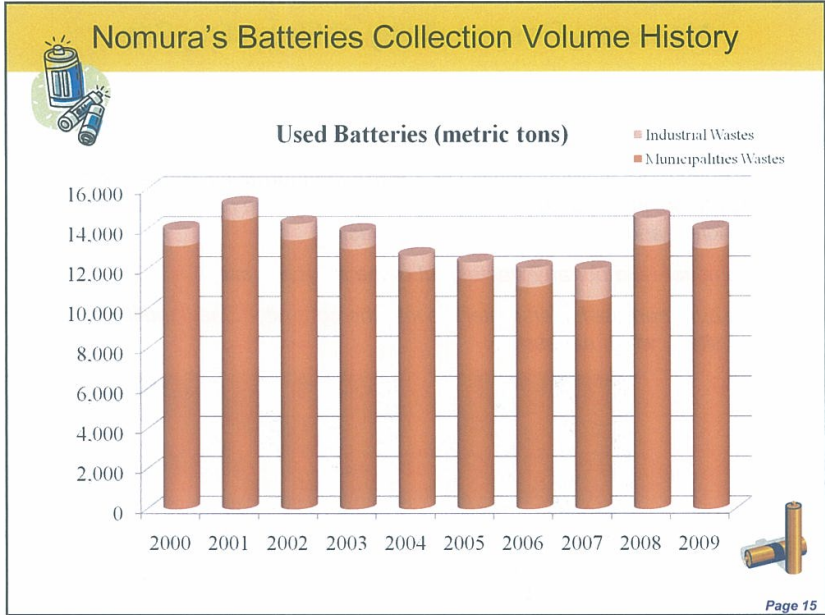
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## Why Nomura Started to Collect The Dry Battery ?

- Used to be a Mercury **Production /Sale** Co.
- Stopped to produce it due to Social atmosphere which **dislikes a toxic substance**
- Pointed out by the **Consumer's Magazine** that Mercury has been contained many mercury in the Dry Battery.
- It is the start of mercury **recycling** by recovery of the waste coming from everyday life disposals and from a mercury content thing.
- At the same time, the expectation of the Ministry of Environment and of the business of Nomura Kosan was in agreement , and they decided to serve as specification of **JWMA** which was a related organization of the Ministry of Environment.

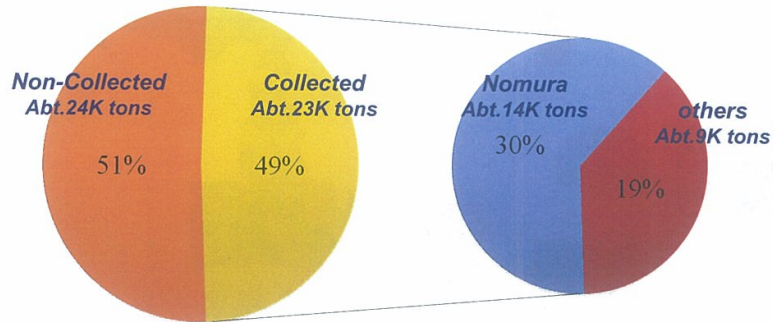


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## Nomura's Treatment Position Batteries as of Y2009



Source: Nomura's Survey

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## Nomura's Battery Collection Schemes

### 1. Industrial Wastes

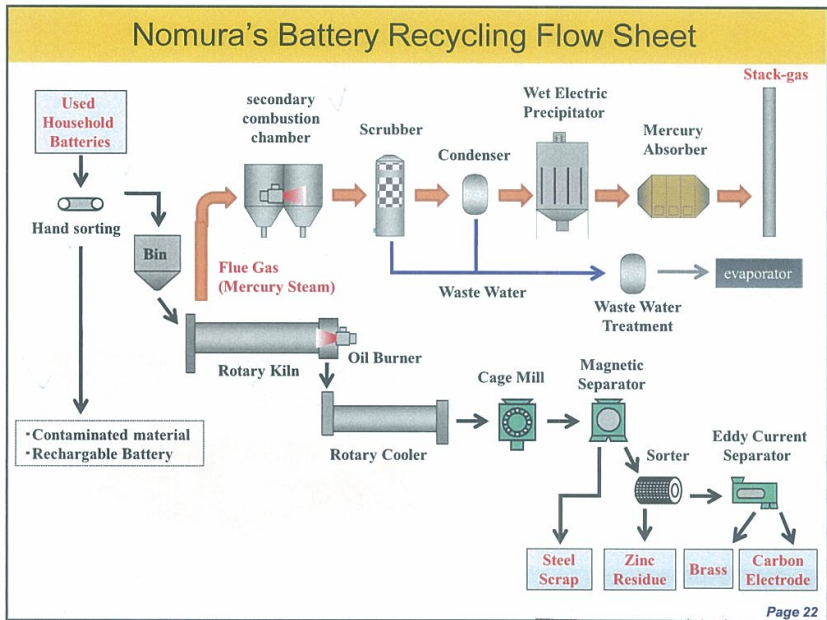
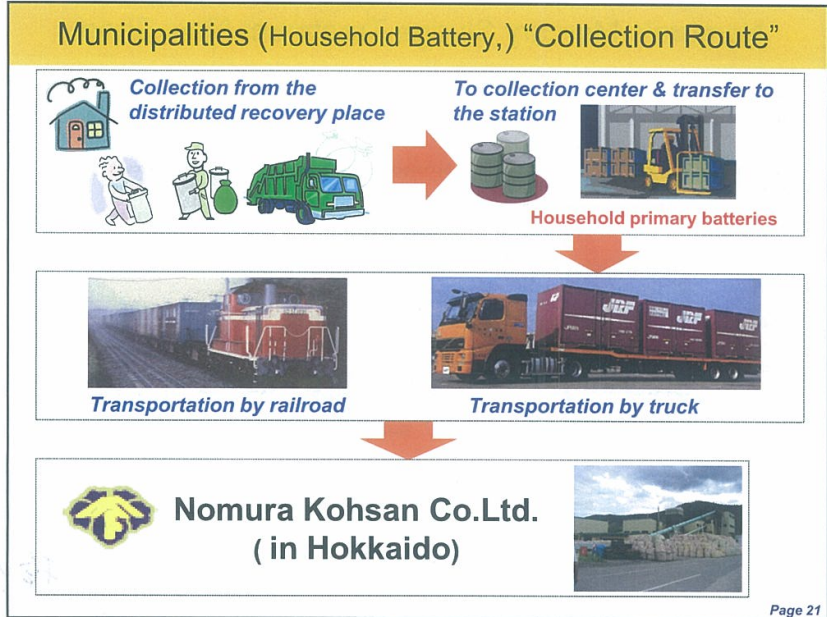
- ① Covers every corners of Japan through our 64 Collection distribution companies as a supporting company of Nomura
- ② Also have Collection Section in our company to make direct business if necessary.

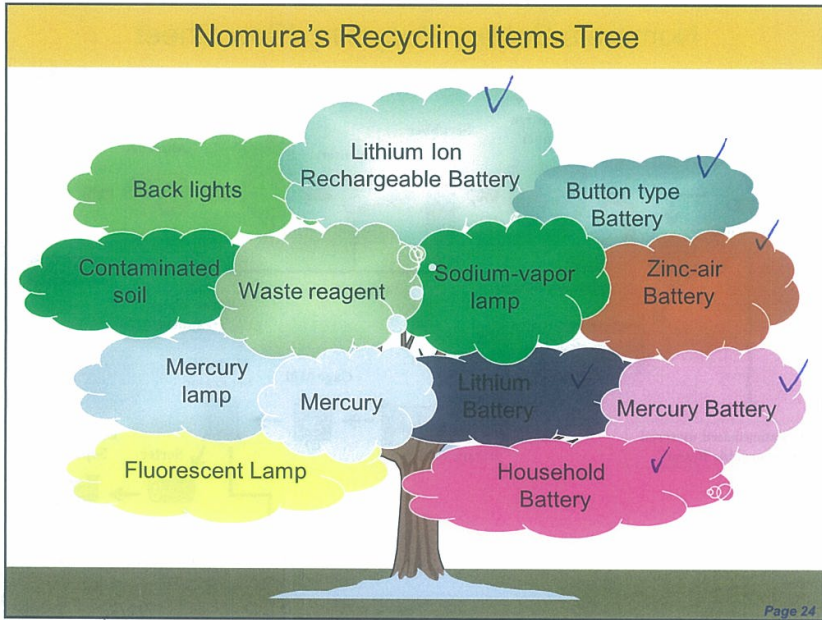
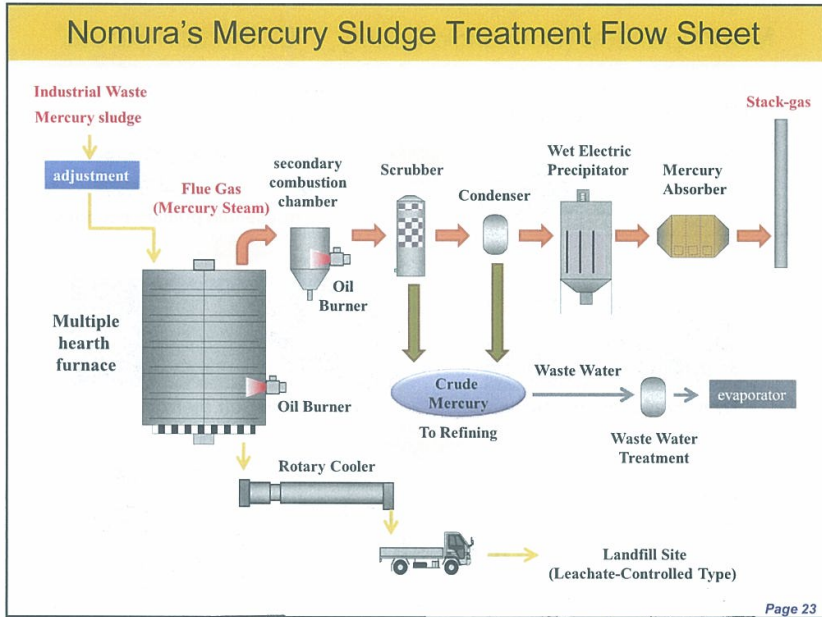
### 2. Municipalities (Household) Wastes

- ① Collect through JWMA network throughout the country of Japan
- ② Also through our Collection Section

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## Today's Summary

- 1) We have **proper technology** to recycle the mercury and are able to collect as much as possible by co-operating with our colleagues.
- 2) Mercury is a very **sufficient & superb** materials when collecting in right way.
- 3) We can support the mercury treatment in **Asian** countries by moving mercury – containing waste to Japan.
- 4) The world material balance has not been cleared yet.  
For example, many Chlor-Alkali mercury-cell plants have been operating in the world and the high mercury **demand** has still been **needed** in each region except Japan.

## Society with an Environmentally-Sound Material Cycle

