Confidential

Efforts Toward Erasing Anxiety over Radiation and Regional Recovery by Alpine

February 19, 2020

Alps Alpine Co., Ltd.

Ver0.9E

Table of Contents

Table of Contents

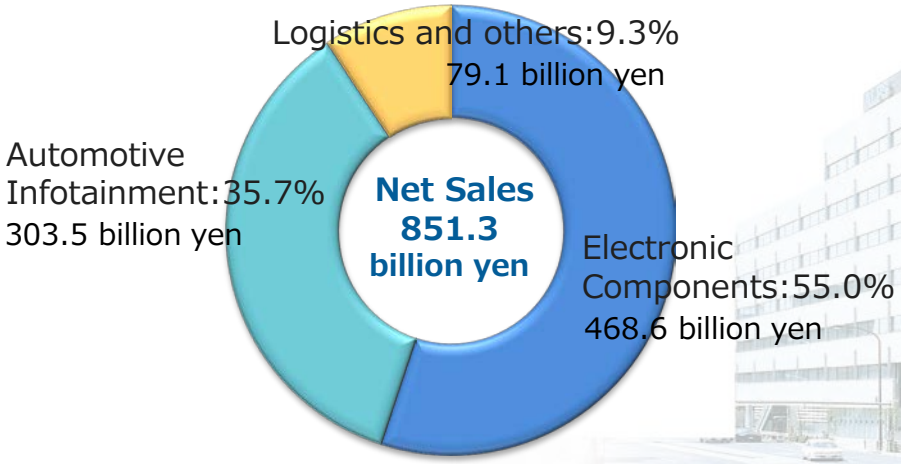
1-1 Corporate Profile

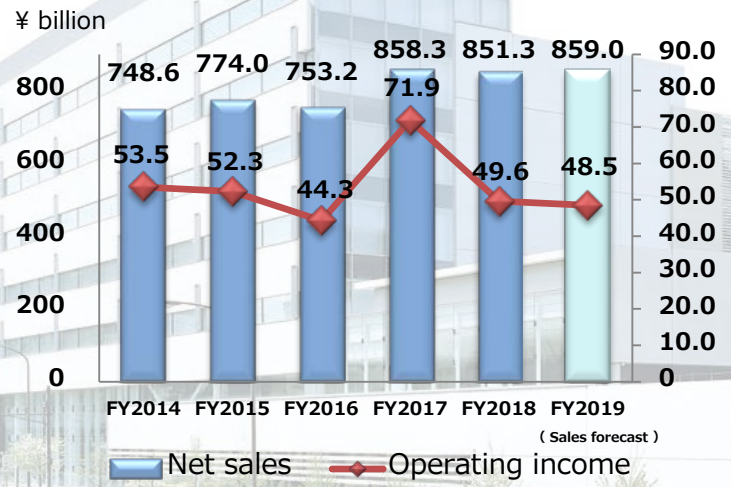
Confidential

Basic Data

Data as of the end of September 2019

Name of company : ALPS ALPINE CO., LTD.
Head office : Outa-ku Tokyo
Representative Director : Toshihiro Kuriyama President & CEO, ALPS-COO
Nobuhiko Komeya Senior Executive Vice President, ALPINE-COO
Established : November 1, 1948
Capital stock : 38.730 billion yen
Company to consolidate : 87
Number of employees : 41,840
Former Alps Electric electronic components segment 21,468
Former Alpine automotive infotainment segment13,192
Net Sales (Consolidated) 851.332 billion yen
Former Alps Electric electronic components segment 468.605 billion yen
Former Alpine automotive infotainment segment 303.593 billion yen





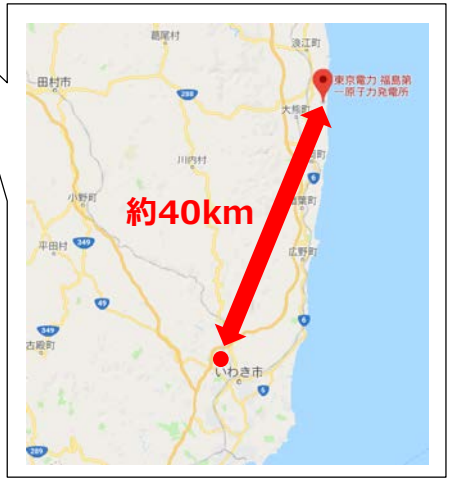
FY2019 Supposed exchange rate ¥110/USD, ¥125/EUR

1-2 Corporate Profile (Iwaki-office, Fukushima)

Confidential

1 Alpine Electronics Inc., currently Alps Alpine Co., Ltd. Iwaki-office, develops, manufactures, and sells audio products for automobiles and information and communication products.

appearance of the office

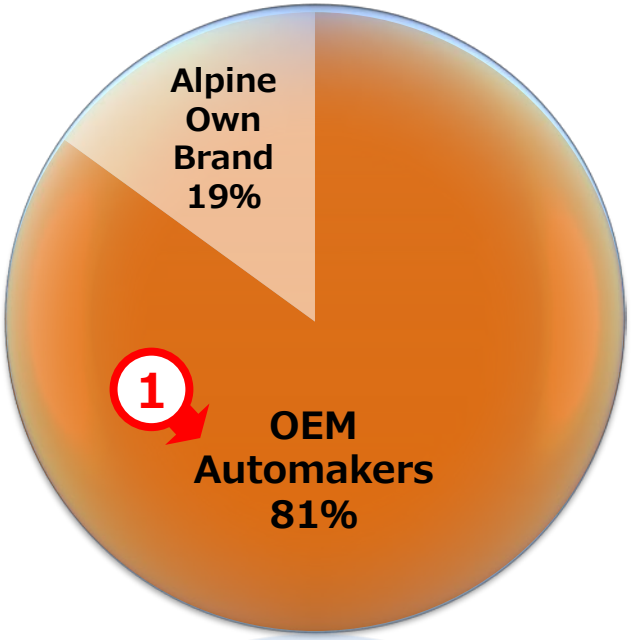


located to approximately 40km in distance in a straight line from Fukushima Daiichi Nuclear Power Plant.

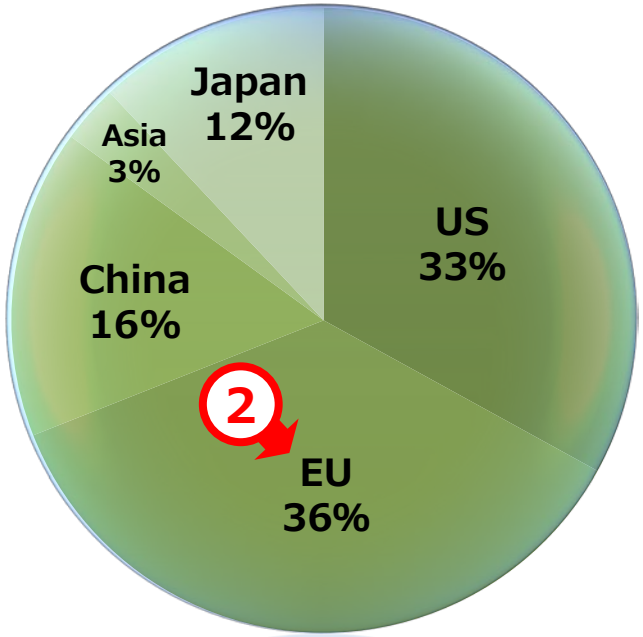
1-3 Corporate Profile : Financial Results

Consolidated Financial Results for the Fiscal Year Ended March 31, 2018

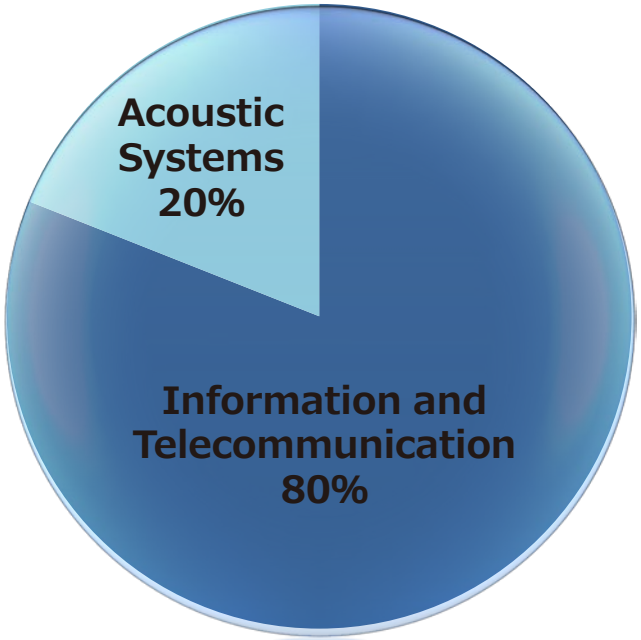
Ratio of Net Sales by Business Segment



Net Sales by Region



Ratio of Net Sales by Product Segment



1-4 Corporate Profile : Products & Customers

Products for After Market

Car Navigation System

Head Unit

Speaker / Amp

Rear Vision Display

Rear Camera

Global OEM Customers (Automakers)

Audi, BMW, Mercedes-Benz, Volkswagen, ŠKODA, SEAT, Jaguar, Land Rover, Volvo, Brilliance Auto, FCA, GM, 北汽集团, 广汽集团, 观致汽车, Maruti Suzuki, Mitsubishi Motors, Honda

Table of Contents

2-1 Increase of Employees who Quit the Company due to Anxiety over Radioactivity from the Nuclear Power Plant

① 11 employees quit the company **due to anxiety over radio activity from the nuclear power plant** in a half-year from April to September 2011.

Comments from employees who quit the company between April and September 2011

Age	Sex	Family Structure	Reason of leaving
35	Male	Wife & 3 children (age of 7, 3, 1)	His wife became ill due to anxiety over the nuclear power plant. He worried about health of his children and decided to move.
38	Male	Wife & 1 child (age of 3)	His wife will give birth in Dec. He decided to move to wife's parent house (Saitama) considering his child(ren).
36	Male	Wife & 2 children (age of 9, 6)	He decided to move to his home town (Fukuoka) due to anxiety over the nuclear power plant.
34	Male	Wife	His wife did not agree with living in Iwaki due to anxiety over radioactivity.
26	Male	Single	He decided to go back to his parent home (Kobe) due to anxiety over the radioactivity from the nuclear power plant.
30	Male	Wife & 1 child (age of 10)	His wife disagree with living in Iwaki due to anxiety over radioactivity.
39	Male	Wife & 1 child (age of 3)	His wife and child moved to her parent house (Chiba) due to anxiety over radioactivity. He realized hardness of single life and decided to get a job in Chiba.
33	Male	Wife & 2 children (age of 8, 5)	His family evacuated to Saitama due to anxiety over radioactivity. Cost of living became doubled and decided to get a job in Saitama.

Survey in November 2011

75 employees answered that **they had problems related to radioactivity from the nuclear power plant**.
12 employees answered that their families voluntarily evacuated due to radioactivity from the nuclear power plant.

② **Lack of persuasive information on safety about radioactivity** seemed to make the employees quite the job

③ **We took security and safety measures** to reduce employees who quit the company due to the anxiety over radioactivity from the nuclear power plant.

Start of activities to erase the anxiety

2-2 Lecture on Influence of Radioactivity

1 ■We gave a lecture **to erase anxiety about life and health of employees and their families** due to Fukushima nuclear accident, **make them acquire accurate knowledge on damage caused by radioactivity** and utilize it for their future life.

Held on : Tuesday, October 11, 2011
Participants : 190 persons
Lecturer : Health risk adviser of radiation in Fukushim
2 **Prof. of Nagasaki Univ. Noboru Takamura**
Contents : Difference between radioactivity and radiation (Becquerel and Sievert)
Half-life (Physical half-life and biological half-life)
External exposure and internal exposure
Radioactive rays and health effect
Radiation exposure, and food and water

Prof. Takamura

■Others
Selection of food which does not cause internal exposure
Mental effect affected by radioactivity
Effective use of radiation meters
Points of decontamination
Somatic effect and important points

2-3 Special Lecture by Nagasaki Univ.

1

■ An employee attended **lectures to acquire accurate knowledge on influence of radioactivity** before **counseling employees** and their families to eliminate anxiety over their life and health affected by radioactivity.

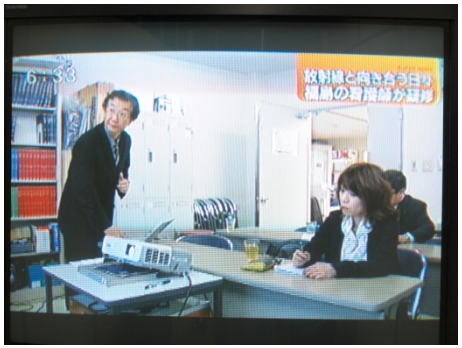
Schedule : November 7 – 10, 2011
Attendee : Yumiko Shiota (**Alpine clinic nurse**)
Contents : 1. Nagasaki Atomic Bomb and rescue,
(Atomic Bomb Disease Institute: Associate Prof. Mine)

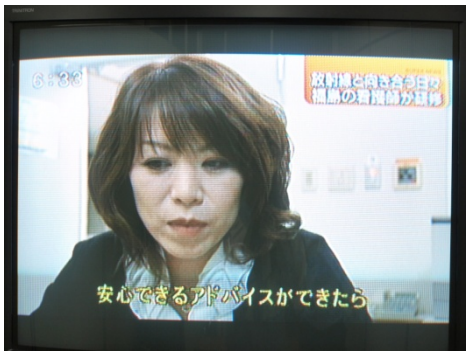
2. Radiation and basics of radiation exposure,
(RI center: Prof. Matsuda)

3. Medical care for radiation exposure,
(Internal medicine no. 2: Lecturer Usami)

4. Radiation exposure and health effect,
(Atomic Bomb Disease Institute: Prof. Takamura)

5. Radiation exposure and mental health,
(Neuropsychiatric: Prof. Ozawa)





KTN super news (Nov. 14 2011 OA)

2-4 Lecture and Private Counselling for Families

1

■ We provided **private counselling** after the lecture and answered various questions such as food and children's health.

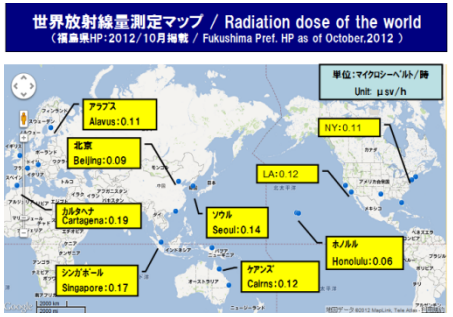
Held on	:Tuesday, February 11, 2012
Participants	:30 persons
Lecturer	:Health risk adviser of radiation in Fukushima **Prof. of Nagasaki Univ. Noboru Takamura**
Contents	:External exposure and internal exposure Radiation and health effect Radiation exposure and food/water Somatic effect and mental influence

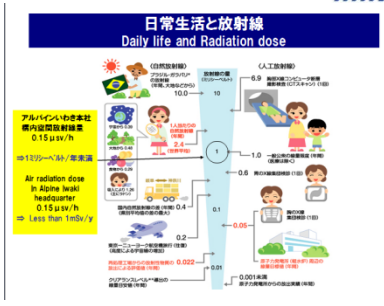
2-5 Installation of a Spatial Radiation Dose Meter

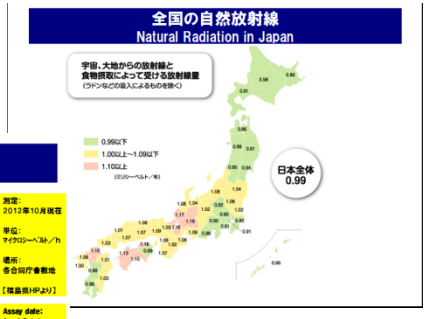
■ We installed a spatial radiation dose meter in July **to emphasize the safety and security to customers and employees**. (From July, 2012)

① "Visualization" of radiation dose

② Reception lobby : Display image (Emphasizing safety to customers)







Display have been finished in Oct., 2016

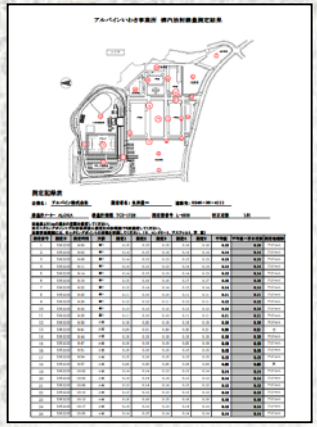
2-6 Measurement of Spatial Radiation Dose and Visualization of the Data

1

■ **All radiation dose data are compiled into database** and made available to employee to centrally manage the information and widely provide materials to erase anxiety.

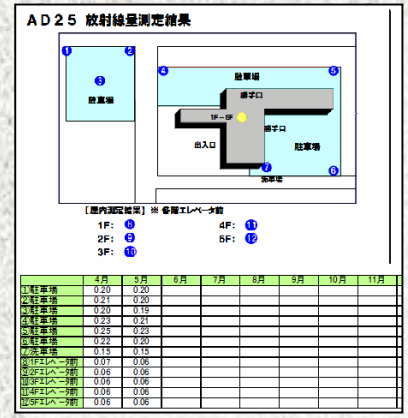
1. Radiation dose measurement in Iwaki-office

1) Cooperating with an NPO and measuring radiation dose monthly at 25 location in Iwaki office (outdoor) ⇒ Providing information for Iwaki City (NPO)
2) Voluntarily measuring radiation dose at 4 internal locations ⇒ Disclosing it on the internal DB



2. Radiation dose measurement at each location

1) Measuring radiation dose inside and outside a dormitory for singles monthly ⇒ **Sharing the data** on the notice board in the dormitory
1) Measuring radiation dose at Yoshima company house monthly



3. Permanent installation of the meter in the yard

A permanent monitoring post installed to make customers visiting IW feel safety
⇒ Visualizing radiation dose in real time.

Solar spatial Radiation dose meter

1st floor of Bldg. 2, display image
(Emphasizing safety to customers)

Publishing on the internal DB

*** Q&A about damage caused by radiation dose and information on municipal services as well.**

2-7 Food Inspection

Confidential

1

■ We have regularly inspected food used in the staff canteen since September 2012. **The inspection results are made available to employees to emphasize safety and security**.

■ We serve dishes cooked using local food.

放射能測定結果報告書

アルパイン食堂　　様

受付日　2018年7月20日

NPO法
いわ
TEL：
FAX：

放射能測定結果を下記の通りご報告いたします。

記

検体名　定食類

測定結果

測定核種		放射能濃度（Bq/k
放射性セシウム	Cs-134	不検出
	Cs-137	不検出
	I-131	不検出
放射性カリウム	K-40	不検出

※）　K-40は、地球の誕生時から地中に含まれている天
元素です。
※）　検出限界値は20Bq/kg以下にて測定しております。

測定機器　ＴＧ150Ｂベクレルモニター
高分解能ゲルマニウム半導体検出器を使用　㈱　テクノエー

特記事項

検体番号　180724-03
報告書作成日　2018年7月24日

放射能測定結果報告書

アルパイン食堂　　様

受付日　2018年7月20日

WAKI KS
NPO法人　いわき環境システム
いわき市平赤井字田中10-7
TEL：0246-35-6242
FAX：0246-23-7868

放射能測定結果を下記の通りご報告いたします。

記

検体名　麺類

測定結果

測定核種		放射能濃度（Bq/kg）
放射性セシウム	Cs-134	不検出
	Cs-137	不検出
	I-131	不検出
放射性カリウム		

※）　K-40は、
元素です。
※）　検出限界値

測定機器　ＴＧ150Ｂベクレ
高分解能ゲルマニ

特記事項

2

Publishing on the internal DB

■APN-IW　食堂提供品（月1回測定：20日）

2018年4月	2018年5月	2018年6月	2018年7月
180423-01_アルパイン食堂結果（定食類）.xlsx 180423-02_アルパイン食堂結果（麺類）.xlsx	20180521_153148_定食類.xls 20180521_163312_麺類.xls	180621-01_アルパイン食堂結果（定食類）.xlsx 180621-02_アルパイン食堂結果（麺類）.xlsx	180724-02_アルパイン食堂結果（定食類）.xlsx 180724-03_アルパイン食堂結果（麺類）.xlsx
2018年10月	2018年11月	2018年12月	2019年1月

2-8 Radiation Monitoring Processes

■Radiation monitoring process certified by TUV Rheinland

Overseas customers drastically decreased after Fukushima No.1 Power Plant Accident (None from Europe: up to Tokyo if any)

Increase in expenses of overseas business trips to make arrangements with customers and concerns about harmful rumors

1

Acquired a certificate of TUV Rheinland (most authoritative third party organization in Germany)

☐We acquired a certificate to provide secure and safe products for customers and assure secure and safe labor environment for the employees through reliable measurement of radiation dose

2

Start of activities to acquire the certificate in February 2012.

1) On-site survey (measurement of radiation dose)
2) Investigation of activities
3) Investigation related to radiation management standards
   - Spatial radiation dose measurement (equipment, procedures, archive)
   - Surface contamination measurement (equipment, procedures, archive)
   - Analytical procedures of radioactive substances
   - Non-conformity criteria, etc.

3

Certificated acquired in October 2012

We display the certificate in the reception lobby so that the customers understand it.

Certification have been expired in Oct., 2016

2-9 Check-ups of Internal Exposure

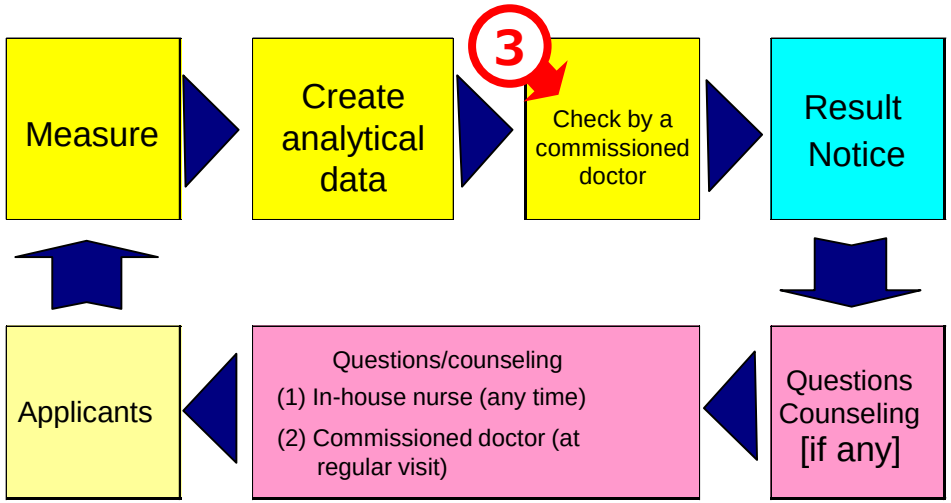
1

■ We purchased a **mobile whole body counter** in October 2012 and started check-ups of internal exposure

Equipment :Chair-type whole body counter (made by Fuji Electric)
Detection limit :Cs134⇒200Bq
Cs137⇒220Bq
(Same value as Iwaki, Fukushima)
Analytical software: MONDAL3 < automatically calculates based on measured value/age
Provided by National Institute for Quantum and Radiological Science and Technology

2-9 Check-ups of Internal Exposure

■ Mechanism to measure internal exposure dose



1

- Measure residual radioactive substances and calculate effective dose.
- For employees and their families of Alpine and Alpine Group

整理番号:　　平成 24年　月　日

検 査 結 果

検査実施機関：

氏　名：　　様

（　、平成　年　月　日生、H23年 3月 12日時点年齢：　歳）

検査日：平成 24年　月　日（検査日時点年齢：　歳）

2

MONDAL3 software used
Same soft as the city and prefecture

全身検査

測定器	測定時間（秒）	核種	測定値（Bq）	預託実効線量 注1,2)（mSv）
立位型 WBC	180	Cs－134	検出されず	1 未満
		Cs－137	検出されず	
備考				

（Cs－134、Cs－137　放射性セシウム）

あなたの体内の放射性物質の測定結果から、1年間日常的に摂取することにより受けると思われる線量は、**約 1 mSv 未満** と推定しました。

注1）成人では50年間、子供では70歳までに体内から受けると思われる内部被ばく線量を表す。
注2）毎日継続して日常的に経口摂取したと仮定して線量を推定。

4

We make private diagnosis and counselling by Nagasaki Univ. Medical Dept., Prof. Takamura available
(Health risk adviser of radiation in Fukushima)

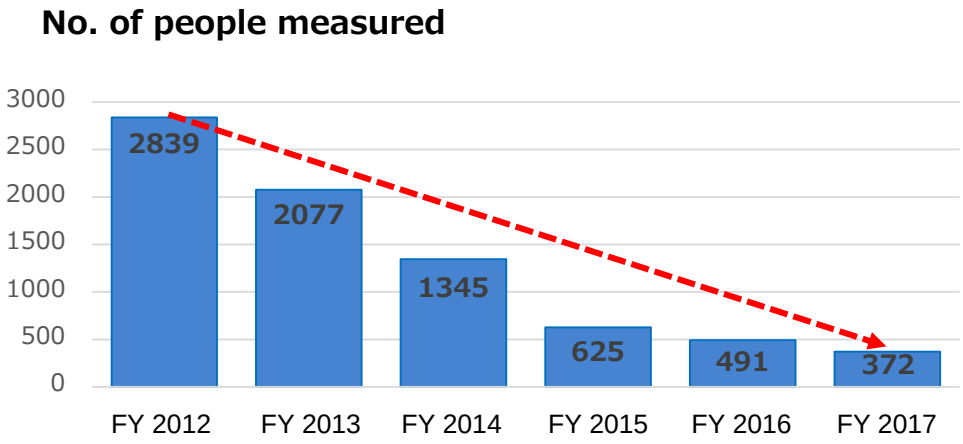
via commission contract

2-9 Check-ups of Internal Exposure

① State of implementation of check-ups for internal exposure
(**Annually done from October 2012**)

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY2017
Measurement period	Oct. 5, 2012 - Feb. 16, 2013	May 1 - Sep. 30, 2013	Oct. 31, 2014 - Jan. 17, 2015	Sep. 24 - Nov. 28, 2015	Nov. 8, - Dec. 17, 2016	Nov. 2019 -Feb. 2, 2018
No. of people measured	2839 1,761 employees 1,078 family members	2,077 1,339 employees 738 family members	1,345 1,000 employees 345 family members	625 419 employees 206 family members	491 389 employees 102 family members	371 300 employees 72 family members

② **The number of people measured is decreasing**

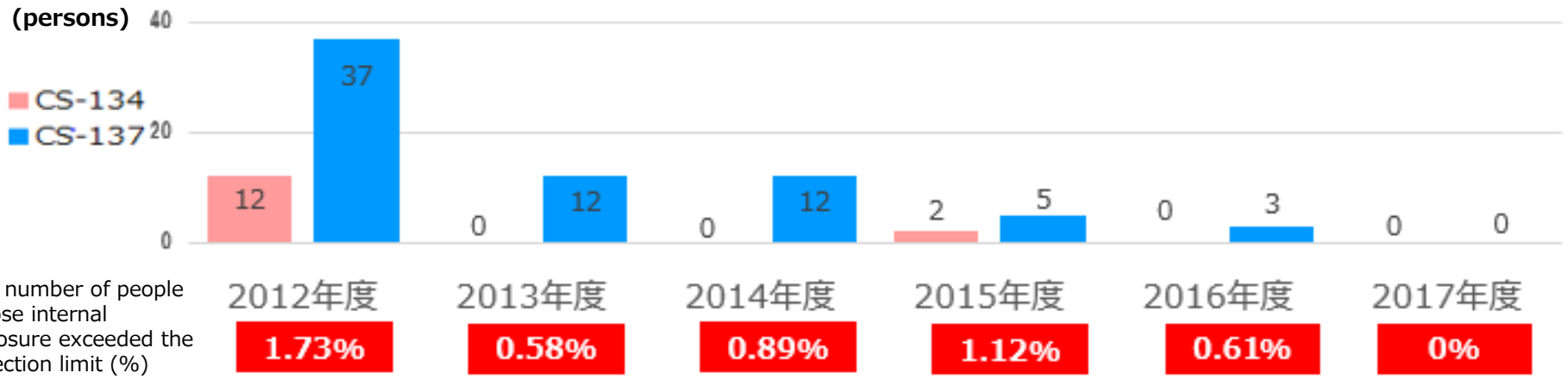


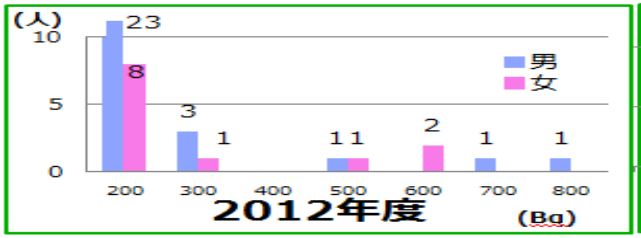
(1) Detailed information on radioactivity was becoming available.
(2) People feel a decrease of influence based on lots of information (lecture, data of radiation dose meter located in the yard, results of food inspection, websites of the prefecture and city).
(3) Employees assume level of influence by taking check-ups as a representative.

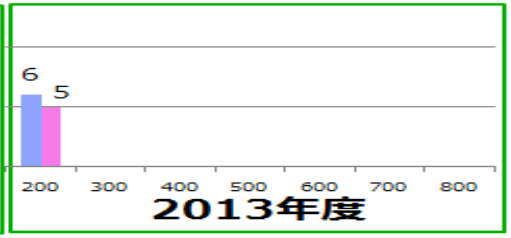
2-9 Check-ups of Internal Exposure

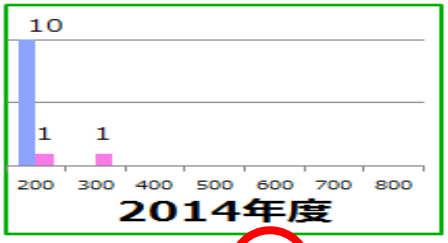
■ We have measured cesium 134/137 in the check-ups for internal exposure. The number of people whose internal exposure exceeded the detection limit and its prevalence are decreasing every year.

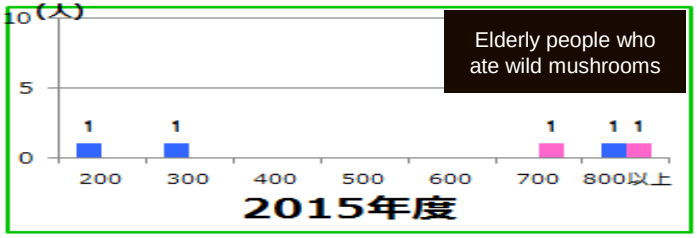
Detection limit Cs134: 200Bq Cs137: 220Bq (Same values are used in both Fukushima and Iwaki









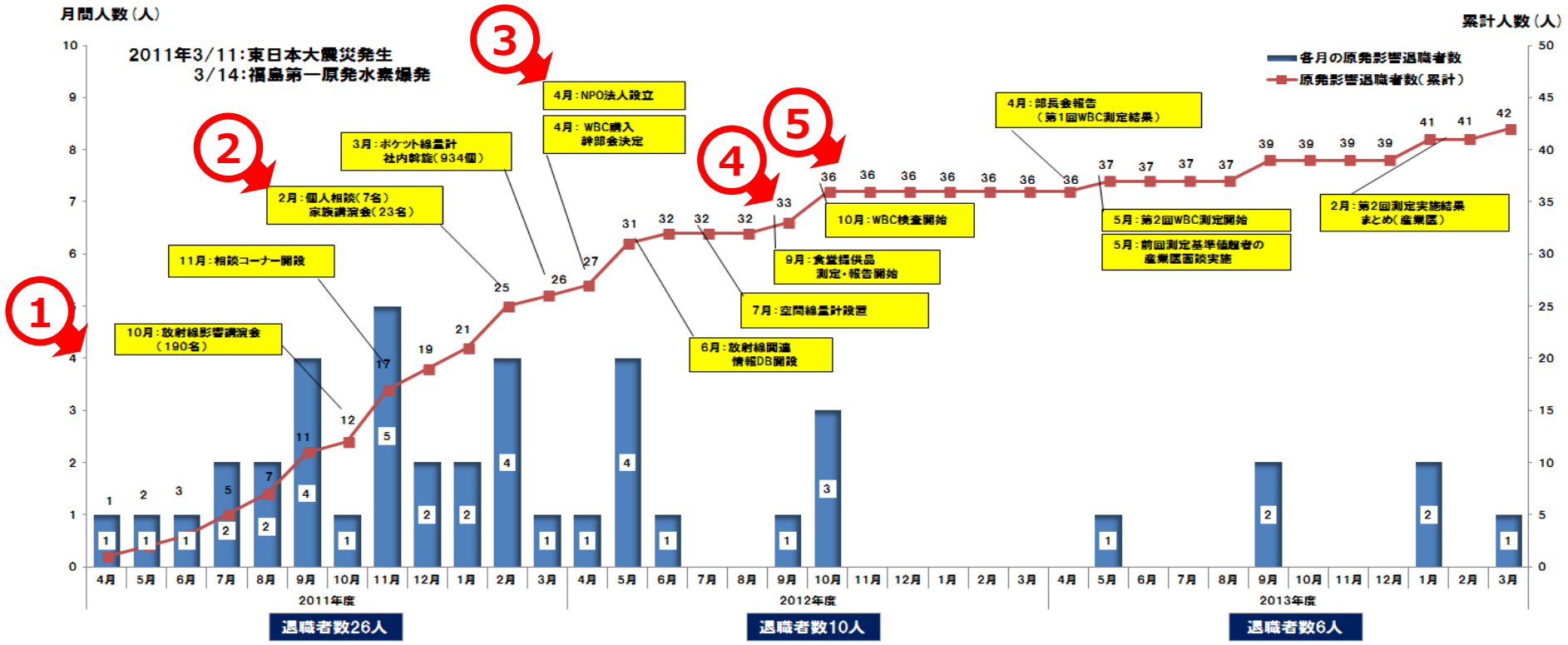


1

No detection FY2017

2-10 Transition of People who Quit the Company

Transition of people who quit the company due to anxiety over radioactivity from the nuclear power plant from April 2011 to March 2014



While many employees were quitting the company due to anxiety over radioactivity from the nuclear power plant, we took various measures to erase the anxiety such as providing lectures and private counselling, establishing an NPO and inspecting food. As a result, the employees gradually stop leaving the company. In addition, we started the check-ups of internal radiation with the whole body counter and visualized the data, which **reduced the anxiety and stopped the increase of people who quit the company**.

6

Table of Contents

3-1-(1) Cooperation with the NPO

■ Cooperation with the NPO, “Iwaki Environmental Systems” (1)

Participating as a representative company in establishing the NPO

1. ➢ **Iwaki Chamber of Commerce and Industry and other 19 organizations started activities of the NPO “Iwaki Environmental Systems” on April 2, 2012 to attempt to assure regional safety, erase harmful rumors and restore the region.**
2. ➢ **This was the first case that major organizations in Iwaki cooperate and make efforts for NPO activities and made a big impact at the** preparation stage of establishment such as long-term interview by newspaper companies and broadcasters.
3. ➢ **The NPO makes efforts toward regional contribution and restoration from a short and long-term viewpoint by cooperating with the government and major companies as well as local government and entities such as dose monitoring in 5800 companies in Iwaki District and training of measurement leaders.**

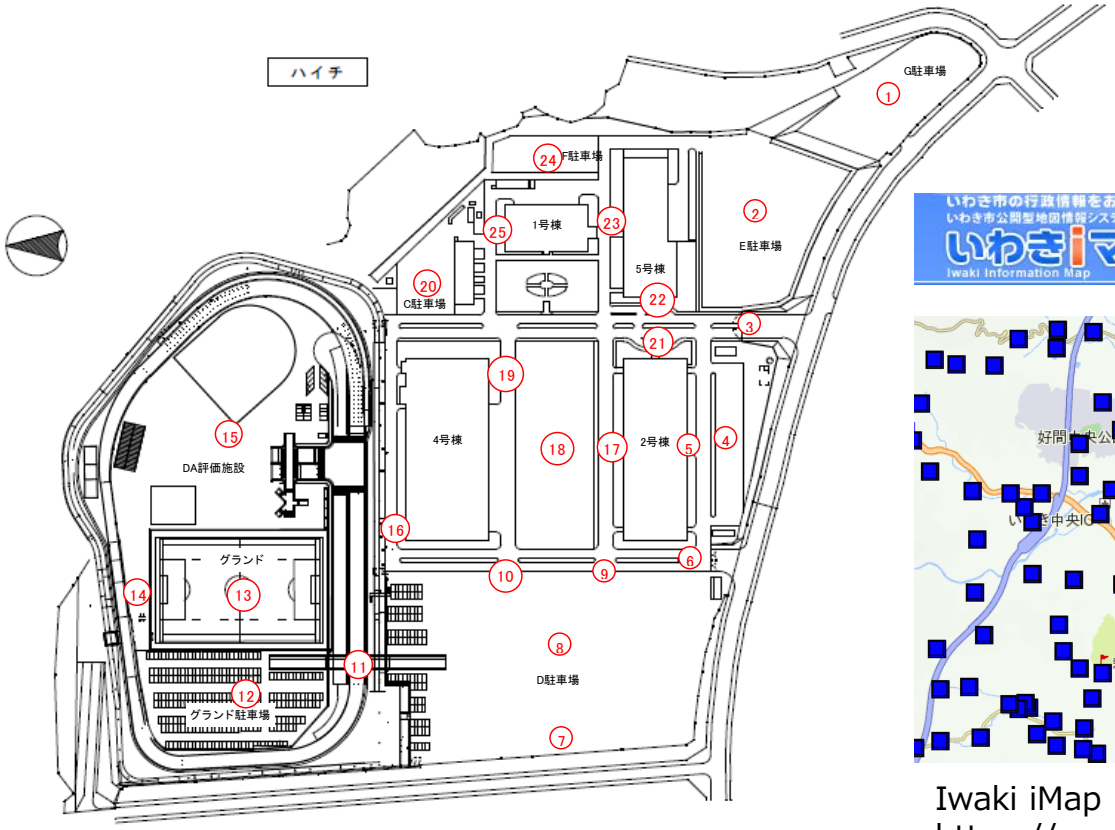
Business contents of the NPO	Detailed contents
1) Radiation dose monitoring	Monitoring in worksites and its support Processed food inspection Inspection of radioactive substances contained in catering for nursery schools Inspection of radioactive substances contained in catering for schools
2) Rental service and management of radiation dose meters	Renting radiation dose meters owned by Iwaki City
3) Public relations concerning radiation	Call center (Inquiries about decontamination of houses, gutters by the road, etc.)
4) Planning and implementation of restoration events	Cooperation with companies and other organizations to contribute to restoration of Iwaki
5) Activities of new business for regional restoration	Activities for regional revitalization business

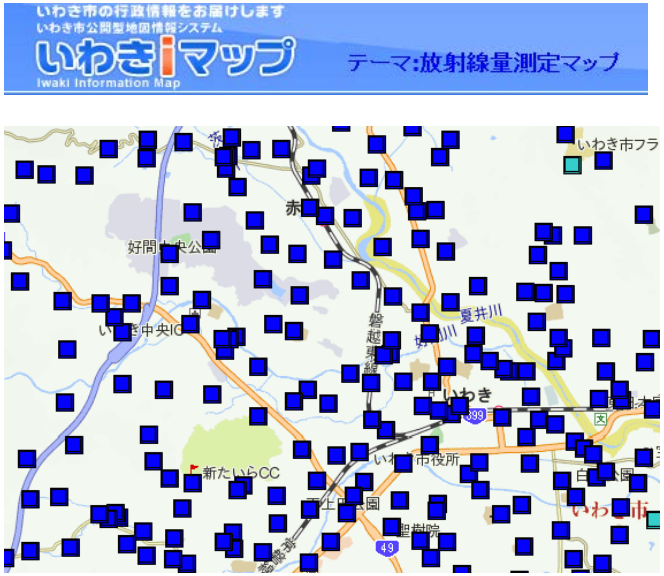
■ Cooperation with the NPO, “Iwaki Environmental Systems” (2)

1

We keep measuring spatial radiation dose in the yard (25 points).
We measure the locations monthly and report the data to the NPO (160 companies in the city cooperate and report information to the NPO).
Iwaki City creates and publishes a spatial radiation dose map in the city regularly based on the information provided.

測定番号	測定値	測定地種類
1	0.14	アスファルト
2	0.11	アスファルト
3	0.13	アスファルト
4	0.11	アスファルト
5	0.11	アスファルト
6	0.14	アスファルト
7	0.11	アスファルト
8	0.09	アスファルト
9	0.12	アスファルト
10	0.11	アスファルト
11	0.08	アスファルト
12	0.16	アスファルト
13	0.19	土
14	0.16	アスファルト
15	0.15	アスファルト
16	0.12	アスファルト
17	0.12	アスファルト
18	0.23	芝
19	0.11	アスファルト
20	0.13	アスファルト
21	0.11	アスファルト
22	0.12	アスファルト
23	0.13	アスファルト
24	0.13	アスファルト
25	0.12	アスファルト





Iwaki iMap
https://www.sonicweb-asp.jp/g-iwaki/

3-2 Summer Festival

■ We held Alpine Summer Festival on August 5, 2011

① **We decided to hold the summer festival in 2011 as well** to revitalize Iwaki, **and planned and had events that many local people can participate in and enjoy**.
(Approx. 7,000 people visited including the employees, their families and local people)

②
1) Hula girl show **with the cooperation of Spa Resort Hawaiians**
2) **Local gourmet service** (we requested restaurants in the area to open stores, 11 restaurants opened their booths in total)
3) **Invitation to town mayors of and local people from Hirono-city and Naraha-city**.

3-3 Challenge School

①

■ **August 2011 and 2012, We held Challenge School Charity in Iwaki.**

We held a charity event produced by a former Formula-1 racing driver, Ukyo Katayama **for school children in the city**.

1) Aug. 4 and 5, 2011 : held at Chuodai-Minami Primary School and Yoshima Daisan Primary School.
2) Aug. 3, 2012 : held at Taira Athletic Park.

~Face a challenge, beat the challenge!~

3-4 Participation in Iwaki Restoration Festival

■ An event of Iwaki city, **"Ganbappe!, Iwaki Restoration Festival"** was held on Saturday, October 1 and Sunday, October 2 in 2011 and **we participated in "Iwaki Odori"**, a dance program in the festival.

①

Venue : 21st century Forest Park
Participants : 60 employees participated as dancers

がんばっぺ！
いわき復興祭

3-5 Cooperation to Iwaki Fire Brigade

■ **Alpine Fire Brigade introduced a fire engine for chemical fire in March 2014.**

① Alpine's disaster control manual specifies **cooperation with local community** and **provision of equipment tools in the worksite for the fire brigades during rescue activities and recovery support in disaster**.

② **Equipment and tools that can be provided during rescue activities in disaster.**
(1) 1 fire engine for chemical fire, (2) 4 operators for the engine, (3) one 2-ton truck, (4) Other stocks…Satellite phones, helmets, blankets, etc.

3-6 Donation of Navigation Systems to Futaba 8 Village Council

■ Nov. 2014, We provided **8 Alpine's car navigation systems** in total when donating compact commercial vehicles for multi-purpose to **Futaba 8 Village Council**.

3-7 Waseda University volunteer activity support

■ Sep. 2015, We held an assembly accompanied with Iwaki Volunteer Work by American Football Club of Waseda Univ.

We Invited 99 American football members from Waseda Univ. and 3 staff members from the volunteer center, 102 volunteers in total, **and explained efforts toward regional recovery and restoration from the earthquake**.
We also had a diner party with them and **local people who supported the volunteer work** at a canteen in the company.

Dishes cooked with local food were immediately consumed.

3-8 Cooperation to Nuclear Safety Research Association (NSRA)

■ Cooperation to NSRA

Date: Thursday, Feb. 4, 2016

Nuclear Safety Research Association
Commissioned by MHLW*1 in FY 2015
Project of expert development to respond to workers suffered by radioactivity during emergency work in the nuclear power plant
"Introductory training (Radiation control course)"

Contents
Operation of a radiation dose meter with a whole body counter and offering of the vehicle for a lecture to view the data.

Attendee : 13 persons
- 2 NSRA staff members
- 2 Japan Atomic Energy Agency members
- 8 trainees (medical staff)

*1 MHLW: Ministry of Health, Labor and Welfare

Summary

■ **What do we leave from the experience of the earthquake disaster?**

① **Definite understanding of the radiation**
→Radiation is invisible (Difficult to cancel the uneasiness)
→Visualization by numbers is only way to feel customer relieved.

② **Continuation of company activity is biggest contribution**
(Desired to restore early and contribute to the area asap)
→Preparation to disaster (BCP, Initial action manual, Water, Gas, etc.)
→We were able to restore our office/plant by support of Iwaki-city in 2 weeks

■ **What we want to convey in future, or outside of stricken area**

We cannot wait for outside support (lose future business!)
→It takes long time if we wait for outside support. (Do revival in ourselves.)
→Cooperation with local administration, company and inhabitants are essential. (Difficult to be settled without cooperation)

③ Inveterate concern from EU car manufacturer (Experience of Chernobyl)
→***We want to convey widely that Fukushima is already alright !***

Thank you for your kind attention.