

# **Financial Summary**

## **FY2013**

**( April 1, 2013 – March 31, 2014 )**

**April 30, 2014**

 **Tohoku Electric Power Co., Inc.**

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# FY2013 Financial Results

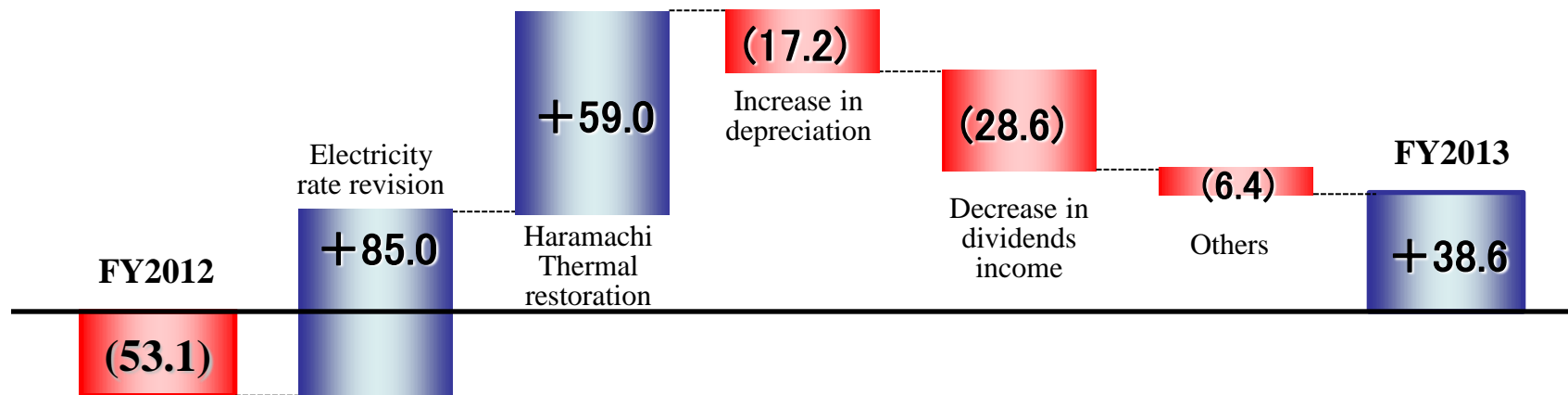
# Summary of Financial Results

(billions of yen)

		FY2013 (A)	FY2012 (B)	Comparison		Consolidated/Non-consolidated of FY2013	
				(A) - (B)	(A) / (B)	Comparison	Ratio
Consolidated	Operating Revenues	2,038.8	1,792.6	246.2	113.7 %	205.6	1.11 times
	Operating Income (Loss)	85.6	( 55.9 )	141.5	—	1.5	1.02 times
	Ordinary Income(Loss)	39.0	( 93.2 )	132.2	—	0.3	1.01 times
	Net Income(Loss)	34.3	( 103.6 )	138.0	—	( 1.7 )	0.95 times
Non-Consolidated	Operating Revenues	1,833.1	1,591.9	241.2	115.2 %		
	Operating Income (Loss)	84.0	( 45.3 )	129.4	—		
	Ordinary Income(Loss)	38.6	( 53.1 )	91.8	—		
	Net Income (Loss)	36.0	( 59.1 )	95.1	—		

## Factors for Change in Non-consolidated Ordinary Income (Loss)

(billions of yen)

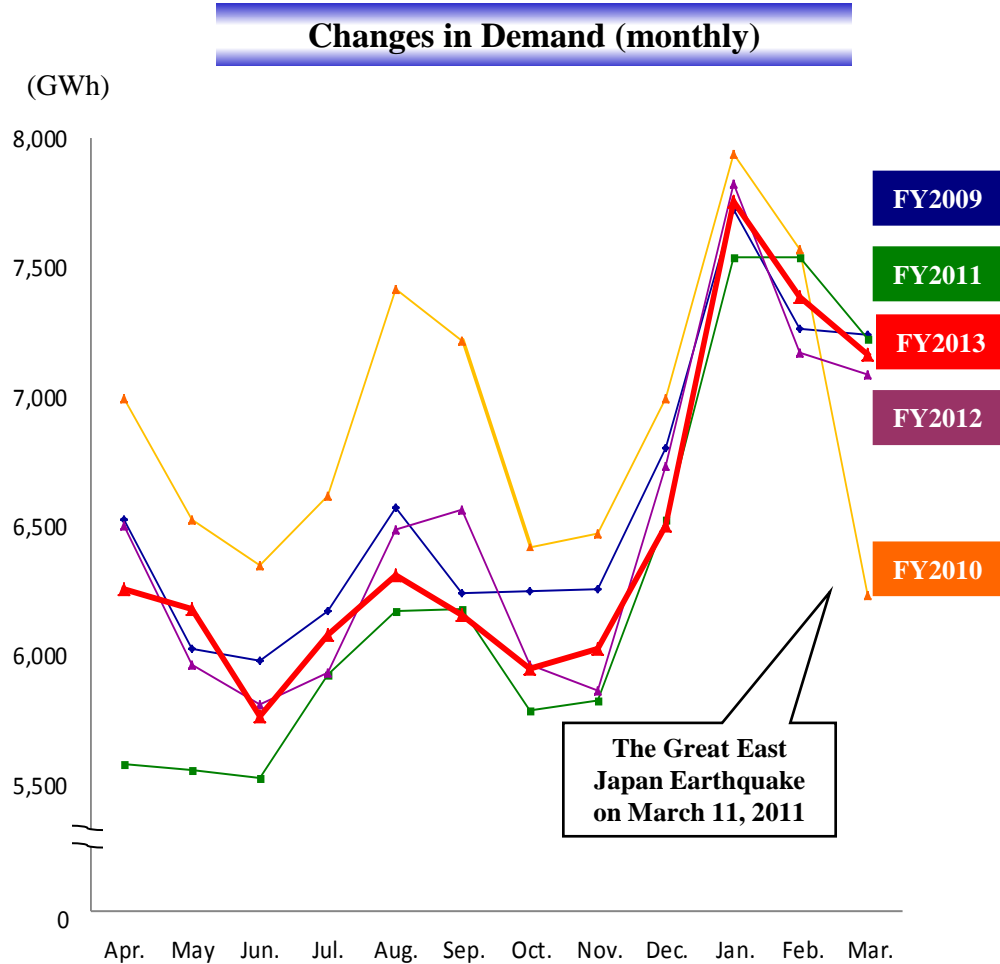


**Electricity Sold** **77,452 GWh**  
**Year-on-Year Compared** **down 381 GWh (- 0.5%)**

Segment		(GWh)			
		FY2013 (A)	FY2012 (B)	Comparison	
(A) - (B)	(A) / (B)				
Regulated	Residential	24,815	25,153	(338)	98.7 %
	Commercial	3,784	4,017	(233)	94.2 %
	Sub-total	28,599	29,170	(571)	98.0 %
Deregulated		48,853	48,663	190	100.4 %
<b>Total</b>		<b>77,452</b>	<b>77,833</b>	<b>(381)</b>	<b>99.5%</b>

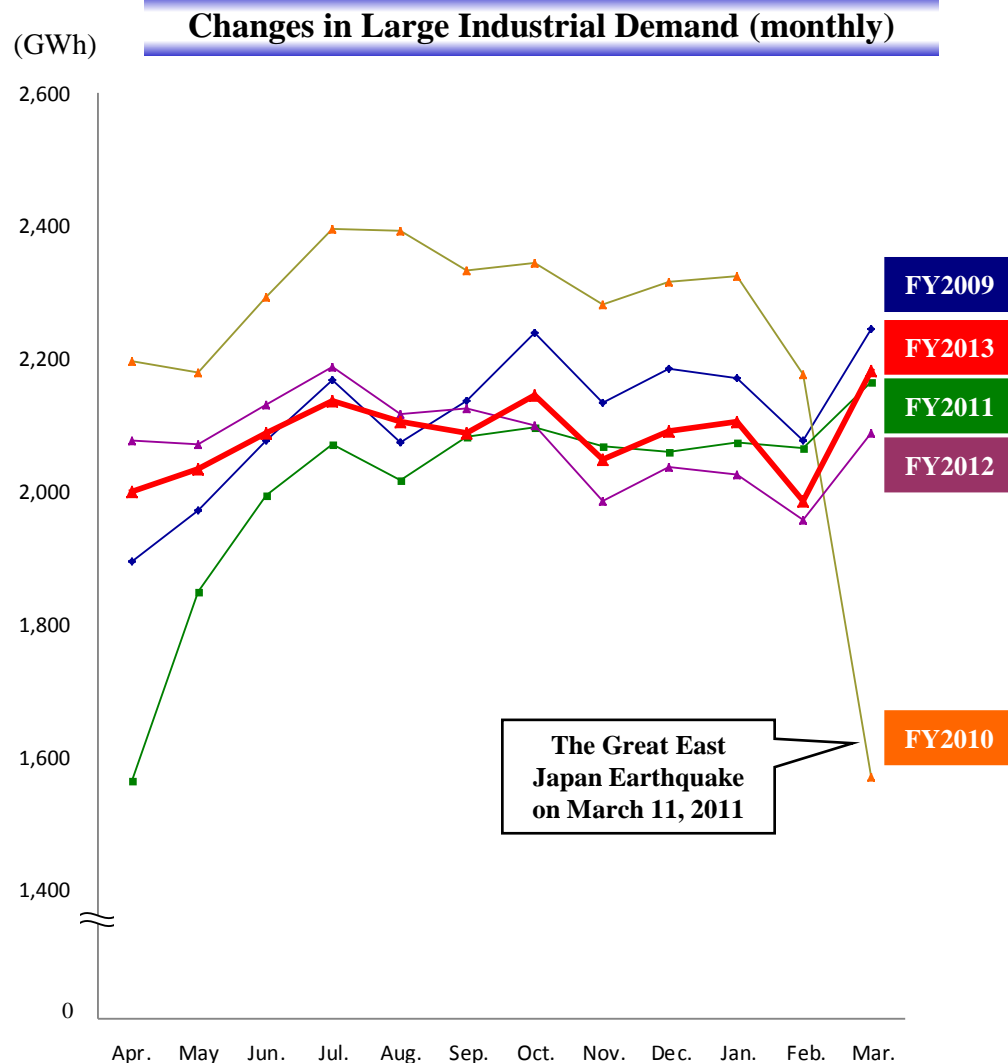
【 Sub Segment 】				
Large Industry	24,988	24,871	117	100.5 %



**Large Industrial Demand  
Year-on-Year Compared**

**24,988 GWh  
up 117 GWh (+ 0.5%)**

	FY2013 (A)	FY2012 (B)	Comparison	
			(A) - (B)	(A) / (B)
Food Products	1,557	1,514	43	102.8 %
Paper/Pulp	787	802	(15)	98.1 %
Chemicals	1,922	1,928	(6)	99.7 %
Ceramics	877	845	32	103.8 %
Steel	3,083	2,943	140	104.7 %
Nonferrous Metals	3,415	3,519	(104)	97.0 %
Machinery and Equipment Manufacturing	7,083	7,170	(87)	98.8 %
Others	6,264	6,150	114	101.9 %
<b>Total</b>	<b>24,988</b>	<b>24,871</b>	<b>117</b>	<b>100.5 %</b>



Sold to large-scale industrial customers in FY2013

(Changes in year-to-year percentage by sectors)

(%)

	1Q	2Q	3Q	4Q	FY 2013
Food Products	3.4	1.4	3.7	3.1	2.8
Paper/Pulp	(1.3)	0.6	(2.3)	(4.8)	(1.9)
Chemicals	(0.3)	(5.4)	(3.5)	7.5	(0.3)
Ceramics	9.0	1.9	4.9	(0.1)	3.8
Steel	5.7	3.7	5.7	3.8	4.7
Nonferrous Metals	(16.0)	(7.4)	5.9	9.3	(3.0)
Machinery and Equipment Manufacturing	(4.5)	(3.1)	1.2	2.0	(1.2)
Others	1.6	0.9	2.9	2.1	1.9
<b>Total</b>	<b>(2.4)</b>	<b>(1.6)</b>	<b>2.6</b>	<b>3.4</b>	<b>0.5</b>

(Reference)

(%)

	Jan.	Feb.	Mar.
	2.9	2.9	3.5
	5.9	(11.7)	(7.9)
	(1.0)	7.2	16.9
	(1.5)	(4.0)	5.0
	12.2	(3.6)	2.9
	8.7	9.0	10.0
	3.1	1.2	1.8
	1.7	0.7	3.8
<b>Total</b>	<b>4.1</b>	<b>1.5</b>	<b>4.6</b>

(GWh)

		FY2013 (A)	FY2012 (B)	Comparison	
				(A) - (B)	(A) / (B)
Electricity Generated and Purchased	Own Generated Power	69,323	59,658	9,665	116.2 %
	Hydro	7,432	5,957	1,475	124.8 %
	Thermal	61,014	52,757	8,257	115.6 %
	Nuclear	—	—	—	—
	Renewable	877	944	( 67 )	93.0 %
	Purchased Power	23,941	26,598	( 2,657 )	90.0 %
	Power Interchanges (Transmitted)	( 15,771 )	( 8,709 )	( 7,062 )	181.1 %
	Power Interchanges (Received)	7,726	7,628	98	101.3 %
	Used at Pumped Storage	( 50 )	( 69 )	19	71.5 %
	Total, Generated and Purchased	85,169	85,106	63	100.1 %



# Major Factors, Sensitivity to Major Factors (Non-consolidated)

<b>Major Factors</b>	FY2013 (A)	FY2012 (B)	Comparison (A) – (B)
Crude Oil CIF Price (\$/bbl.)	110.0	113.9	(3.9)
Exchange Rate (¥/\$)	100	83	17
Hydro Power Flow Rate (%)	105.5	89.4	16.1
Nuclear Power Capacity Factor (%)	—	—	—

(billions of yen)

<b>Sensitivity to Major Factors</b>	FY2013 (A)	FY2012 (B)	Comparison (A) – (B)
Crude Oil CIF Price (per \$1/bbl.)	3.9	3.6	0.3
Exchange Rate (per ¥1/\$)	5.5	6.0	(0.5)
Hydro Power Flow Rate (per 1%)	1.0	0.9	0.1
Nuclear Power Capacity Factor (per 1%)	2.6	2.7	(0.1)

# Comparison Statements of Revenue & Expense (Non-consolidated)

(billions of yen)

		FY2013 (A)	FY2012 (B)	Comparison		Increase/Decrease
				(A) - (B)	(A) / (B)	
Revenues	Residential	600.1	554.5	45.6	108.2%	Rise in electricity rate: 140.5 Surcharge on renewable energy: 14.4 Decrease in electric sales volume: (8.0)
	Commercial	909.0	807.6	101.3	112.6%	
	Sub total	1,509.1	1,362.1	147.0	110.8%	
	Sales of power to other utilities	222.6	167.9	54.7	132.6%	Thermal power interchange: 34.1
	Sales of power to other companies	21.9	5.6	16.3	387.6%	
	Other revenues	86.3	94.4	( 8.1 )	91.4%	Dividends income: (28.6), Grants on the act of renewable energy: 20.8
	[Operating revenues]	[ 1,833.1 ]	[ 1,591.9 ]	[ 2,412 ]	[ 115.2% ]	
Total revenues		1,840.2	1,630.2	209.9	112.9%	
Expenses	Personnel	135.9	131.8	4.0	103.0%	
	Fuel	598.2	555.0	43.2	107.8%	Exchange gain: 98.6, Drop in CIF: (32.2) Increase in the proportion of coal fuel: (23.2)
	Maintenance	118.1	119.1	( 0.9 )	99.2%	
	Depreciation	229.9	212.7	17.2	108.1%	Thermal Power: 21.3
	Power purchased from other utilities	131.5	113.1	18.4	116.3%	
	Power purchased from other companies	271.8	266.2	5.6	102.1%	
	Interest	45.7	40.1	5.5	113.9%	
	Taxes, etc.	83.1	81.1	1.9	102.4%	
	Nuclear power back-end cost	7.7	6.4	1.2	119.8%	
	Other expenses	179.2	157.5	21.7	113.8%	Payment on the act of renewable energy: 14.1 Contribution to the Fund of Nuclear Damage Liability Facilitation: 4.4
	Total expenses	1,801.5	1,683.4	118.1	107.0%	
[Operating income (loss)]		[ 84.0 ]	[ ( 45.3 ) ]	[ 129.4 ]	[ — ]	
Ordinary income(loss)		38.6	( 53.1 )	91.8	—	
Extraordinary gain		24.9	—	24.9	—	Gain on revision of retirement benefit plan: 16.2 Insurance income: 8.7
Extraordinary loss		—	34.4	( 34.4 )	—	Loss on discontinuance of power plant construction: (18.2) Loss on disaster: (16.2)
Net income (loss)		36.0	( 59.1 )	95.1	—	

# Balance Sheets (Non-consolidated)

(billions of yen)

	Mar. 31, 2014 (A)	Mar. 31, 2013 (B)	Comparison (A) - (B)	Increase/Decrease
Total Assets	3,982.7	3,996.5	( 13.8 )	
Fixed Assets	3,433.5	3,529.5	( 95.9 )	Depreciation: (233.0) Capital expenditure: 231.8
Current Assets	549.1	466.9	82.1	Short-term credits to subsidiaries and affiliates: 29.7 Accounts receivable from customers: 22.4 Short-term investments: 21.0
Liabilities	3,526.4	3,577.1	( 50.6 )	Reserve for loss on disaster: (47.7) Accrued retirement benefits: (40.4)
Net Assets	456.2	419.3	36.8	
Interest-Bearing Liabilities	2,719.5	2,631.3	88.1	Loans : 153.2 CP : 29.0 Bonds : (94.1)

(billions of yen)

<b>Statements of Income</b>	FY2013 (A)	FY2012 (B)	Comparison (A) - (B)	Increase/Decrease
Operating Revenues	2,038.8	1,792.6	246.2	Electric power: 239.7, Others: 6.4
Operating Expenses	1,953.2	1,848.5	104.6	Electric power: 106.0, Others: (1.4)
Operating Income (Loss)	85.6	( 55.9 )	141.5	
Ordinary Income (Loss)	39.0	( 93.2 )	132.2	
Extraordinary Gain	24.9	—	24.9	Gain on revision of retirement benefit plan: 16.2 Insurance income: 8.7
Extraordinary Loss	—	38.6	( 38.6 )	Loss on discontinuance of power plant construction: (17.9) Loss on disaster: (16.3), impairment loss on fixed assets(4.3)
Net Income (Loss)	34.3	( 103.6 )	138.0	

(billions of yen)

<b>Balance Sheets</b>	Mar. 31, 2014 (A)	Mar. 31, 2013 (B)	Comparison (A) - (B)	Increase/Decrease
Total Assets	4,243.0	4,284.3	( 41.3 )	
Fixed Assets	3,536.5	3,645.1	( 108.5 )	Depreciation: (248.4) Capital expenditure: 255.8
Current Assets	706.4	639.2	67.2	Short-term investments: 30.6 Trade notes receivable and accounts receivable: 26.1
Liabilities	3,668.4	3,761.6	( 93.2 )	Reserve for loss on disaster: (47.8)
Net Assets	574.5	522.7	51.8	
Interest-Bearing Liabilities	2,763.9	2,714.5	49.3	Loans: 114.4, CP: 29.0, Bonds: (94.1)

(billions of yen)

	FY2013 (A)	FY2012 (B)	Comparison (A) - (B)	Increase/Decrease
Cash Flow from Operating Activities	236.4	46.6	189.7	Income before income taxes and minority interests: 195.9
Cash Flow from Investing Activities	( 247.5 )	( 236.7 )	( 10.8 )	Acquisition of property, plant and equipment: (8.8)
Cash Flow from Financing Activities	45.4	262.6	( 217.2 )	Loans: (177.1) [Proceeds: (470.2), Repayment: 293.1] Bonds : (94.1) [Redemption(84.1), Proceeds: (10.0)] CP: 53.0 [Redemption: 196.0, Proceeds: (143.0)]
Net Cash Flow	34.4	72.8	( 38.3 )	
Free Cash Flow	31.8	( 152.8 )	184.7	

Note; Our definition of the free cash flow =(Cash flow from operating activities) + (Cash flow from investing activities) – (Interest and dividend income) – (Interest expense)

(billions of yen)

	FY2013 (A)	FY2012 (B)	Comparison (A) - (B)
Sales <sup>1)</sup>	2,038.8	1,792.6	246.2
Electric Power	1,818.4	1,578.3	240.1
	1,815.4	1,575.7	239.7
Construction	242.2	233.9	8.2
	129.7	122.1	7.6
Gas	44.2	41.3	2.9
	37.5	34.6	2.8
IT	35.1	35.7	( 0.5 )
	20.1	19.0	1.1
Others	115.8	113.7	2.1
	35.9	41.0	( 5.1 )

	FY2013 (A)	FY2012 (B)	Comparison (A) - (B)
Segment income (loss) [Operating income (loss)]	85.6	( 55.9 )	141.5
Electric Power	85.4	( 45.4 )	130.8
Construction	( 5.5 )	( 8.3 )	2.8
Gas	1.6	1.2	0.3
IT	2.6	0.6	2.0
Others	( 1.5 )	( 5.0 )	3.4

1) Lower is net sales to outside customers.

**【 Major Consolidated Subsidiaries 】** <sup>2)</sup>

(billions of yen)

	FY2013		Year-on-year	
	Sales	Operating income (loss)	Sales	Operating income (loss)
<b>[ Electric Power ]</b>				
Tousei Kougyo Co., Inc.	4.6	2.0	1.8	1.8
Sakata Kyodo Power Co., Ltd.	37.0	(0.0)	(1.4)	(0.0)
<b>[ Construction ]</b>				
Yurtec Corp.	176.0	(2.1)	20.6	2.1
Tohoku Electric Engineering & Construction Co., Inc.	48.2	(2.9)	(12.6)	1.2
<b>[ Gas ]</b>				
Nihonkai LNG Co., Ltd.	16.2	0.4	1.0	(0.0)
<b>[ IT ]</b>				
Tohoku Intelligent Telecommunication Co., Inc.	23.2	3.9	1.8	1.4
Tohoku Information Systems Co., Inc.	12.5	(1.2)	(1.8)	0.7
<b>[ Others ]</b>				
Kitanihon Electric cable Co., Ltd.	23.4	(2.0)	(0.1)	0.3

2) Before elimination of inter-company transaction

## Financial forecast for FY2014 and forecast of dividend

- Due to the increase in revenue from electricity rate revision and fuel cost adjustment charges, operating revenues of consolidated earnings estimates are expected to be approximately ¥2,200.0 billion, a 7.9% increase year-on-year.
- On the other hand, income forecast has yet to be determined at this time, because it is difficult to reasonably assess the estimates of expenses under a situation that it is hard to forecast our supply capacity and resumption of nuclear power station. These estimates will be promptly disclosed as soon as we can reasonably assess the estimates of income.
- And the company decided to pay a 5 yen year-dividend per share in fiscal 2013, but has not yet determined a forecast for interim dividend and year-end dividend for fiscal 2014.

## Financial forecast for fiscal 2014

(billions of yen)

Operating revenues	FY2014 (Forecast) (A)	FY2013 (Actual) (B)	Increase/Decrease (A)-(B)
Consolidated	2,200.0	2,038.8	161.2
Non-consolidated	2,010.0	1,833.1	176.9

## Major factors

	FY2014 (Forecast) (A)	FY2013 (Actual) (B)	Increase/Decrease (A)-(B)
Electric power sold (TWh)	Approx.78.3	77.5	Approx.0.8
Crude oil CIF price (\$/bbl.)	Approx.110	110.0	—
Exchange rate (¥/\$)	Approx.105	100	Approx.5

# Topics



# Tohoku Electric Power Group

## Midterm Management Policy (FY2014–2018)

### Financial target

### To achieve the equity ratio of 15% or more by the end of FY2018

### Vision of business development

- We regard the next five years as “the period of rebuilding our management foundation”. Specifically, we will normalize our management framework and make preparations for future growth.
- We will give top priority to improving the financial condition of the Group through cost structure reform and profit increase by offering new value so that we can enhance our capability to cope with major changes in the business environment and business risks (e.g. reform of the electric power system).
- In a full-scale competitive environment, we aim to be a company group which is chosen by customers and grows with local community.

### Main measures

### To outpace the competition and become a company chosen by customers

- Offering new value to cope with full liberalization of the retail market
- Restarting nuclear power plants and achieving an optimal power generation mix
- Improving financial strength through cost structure reform without sanctuary
- Actively developing business while seeking growth opportunities

### To work on corporate reform

- Securing/training diverse human resources and achieving a vibrant corporate culture
- Building an organization that appropriately deals with environmental changes

### To contribute to reconstruction/development of local communities

- Ensuring safety and a stable supply of electricity
- Operating the business from the viewpoint of contributing to local communities
- Promoting environmental management and ensuring compliance with corporate ethics and law

## ■ Electricity Demand Outlook

- The outlook for electricity demand is envisaged based on the close examination of several factors, including current demand trends, prospect of the economy and the population in Tohoku area, and post-earthquake reconstruction.

	FY2012 (Actual)	FY2013 (Estimated)	FY2014	FY2015	FY2016	FY2023	FY2012~ 2023 Average annual rate of increase
Electricity Sales (TWh)	77.8 [76.6]	77.2 [76.9]	78.3	79.7	80.6	85.4	0.9% [1.0%]
Maximum Demand (GW)	13.23 [12.42]	12.50 [12.53]	12.92	13.17	13.39	14.22	0.7% [1.2%]

(Note 1) The values in parenthesis are after air temperature correction.

(Note 2) Maximum demand represents a three-day average of the maximum power demand at the transmitting end in August.

## ■ Electricity Supply Capacity Outlook

- The outlook for electricity supply capacity remains pending considering the circumstances of the resumption of operations of nuclear reactors.

## ■ Plan for Development of Power Sources

Facilities	Location / Name	Output (MW)	Start of construction	Start of operation
Hydro electric	Tsugaru	8.5	Aug. 2010	May 2016
	Iino	0.23	Apr. 2013	Jun. 2014 <i>Change from Feb.2014</i>
	Dai-ni Yabukami	4.5	Jul. 2013	Mar. 2016
Thermal	Shin-Sendai No.3 series	980	Nov. 2011	Dec. 2015 (Half) <i>Change from Jul.2016</i> Jul. 2016 (Half) <i>Change from Jul.2017</i>
	Hachinohe No.5	274⇒394 Upgrade to combined cycle	Apr. 2012	Aug. 2014
		394⇒416 Fuel shift (Light oil⇒LNG)	Oct. 2013	Jul. 2015
	Noshiro No.3 <small>(Thermal power supply station for a bid in FY2014)</small>	600	FY 2016 <i>Change from FY 2028 or after</i>	FY 2020 <i>Change from FY 2028 or after</i>
	Joetsu No.1 <small>(Thermal power supply station for a bid in FY2014)</small>	Approx.600 <i>Change from 1,440</i>	FY 2019	FY 2023
	Awashima No.7-10 <i>New</i>	Total 0.9	FY 2014 or after	FY 2017-FY2019
Nuclear	Higashidori No.2	1,385	Not yet determined	Not yet determined
Renewable (Solar)	Haramachi Solar	1	Mar. 2014 <i>Change from Oct.2013</i>	Jan. 2015
	Ishinomaki-Hebita Solar <small><i>Change from Ishinomaki solar(tentative name)</i></small>	0.3	Apr. 2015	Mar.2016

### <Plan for Thermal Power Supply by a Bid >

	Power Supply 1 under collection	Power Supply 2 under collection
Scale of collection	600MW	600MW
Start of supplying	Jun. 2020-Jun.2022	Jun. 2023-Jun.2024

## ■ Outlook

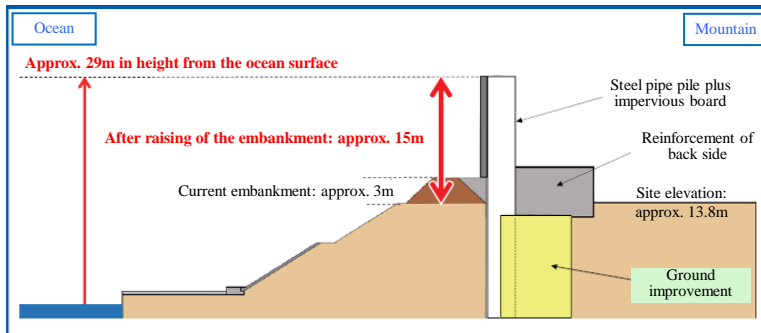
- We continue the construction work on safety measures towards the restart of the station in April 2016 or later.
  - In December, 2013, we submitted the application for examination as to compliance of Unit 2 with new regulatory standards, and Unit 2 is now under examination.
  - As for Unit 3, we will also apply for an examination as to compliance with new regulatory standards as soon as preparations are completed.

## ■ Current situation

- To improve safety at the nuclear power station, construction work on safety measures is underway. Main construction work is as follows:
  - Raising tide embankments (approx. 17m → approx. 29m above the sea level) ⇒ To be completed in March 2016
  - Establishing filtered containment venting system ⇒ To be completed by the end of fiscal 2015
  - Providing an additional margin of earthquake-proof safety ⇒ Adding support for protecting pipe and electric conduit etc. , Checking the necessity for additional measures according to reviewed Ss (from 580 gals to 1,000 gals)
  - Establishing important anti-seismic building ⇒ To be completed by the end of fiscal 2016

## Basic structure of tide embankment

- Structure: steel pipe pile, vertical wall (approx. 680m) and wall of cement improved soil (approx. 120m)
  - Height: approx. 15m (O.P. plus approx. 29m)
  - Length: approx. 800m
- Note: O.P. means Onagawa construction base level (T. P. minus 0.74m)



## ● Enhanced training

Enhanced operation training using a simulator in case of lack of all AC power supply



■ **Outlook**

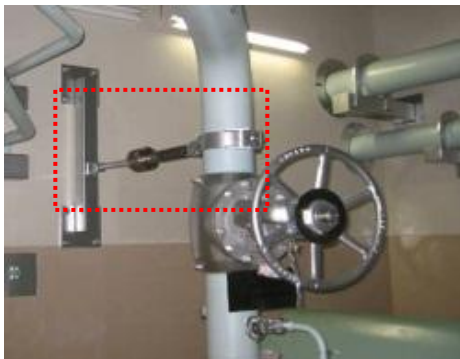
- We continue the preparation for application for an examination as to compliance with new regulatory standards and the construction work on safety measures towards the restart of the station in July 2015.
- We will apply for an examination as to compliance with new regulatory standards as soon as preparations are completed.

■ **Current situation**

- In January, 2014, we submitted the report according to the results of an additional geological survey to Nuclear Regulation Authority. The report shows that the faults within the premises are not faults that are likely to become active in the future.
- Based on new findings from 3.11 quake and 4.7 aftershock, we decided to review the design basis ground motion (Ss) from 450 gals to around 600 gals, and are examining the details.
- To improve safety at the nuclear power station, construction work on safety measures is underway. Main construction work is as follows:
  - Establishing filtered containment venting system ⇒ To be completed in March 2015
  - Providing an additional margin of earthquake-proof safety ⇒ According to reviewed Ss, adding support and strengthening pipes of which we decided to improve safety for quake
  - Establishing important anti-seismic building ⇒ To be completed in March 2016

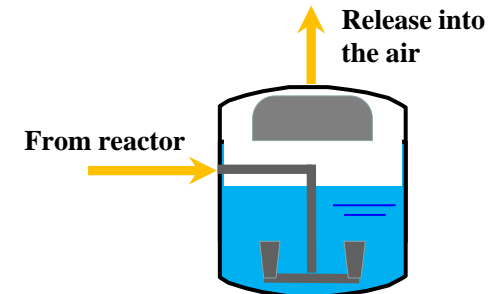
● **Example of earthquake-proof measures**

Adding support and strengthening pipes



● **Filtered containment venting system**

Curbing radiological release to one-thousandth or less of direct release, in case of severe accident





## ■ Facts to date concerning the faults under the Higashidori Nuclear Power Plant

- Since applying for permission to install a nuclear reactor (1970s to 1998), detailed geological research on the faults under the plant has been conducted and a huge amount of data has been accumulated.
- Following the safety review (1996 to 1998), the Government's assessment determined that the faults were "inactive."
- Also in the seismic back-check (2006 to 2012), nothing was pointed out to change the assessment result of "inactive."

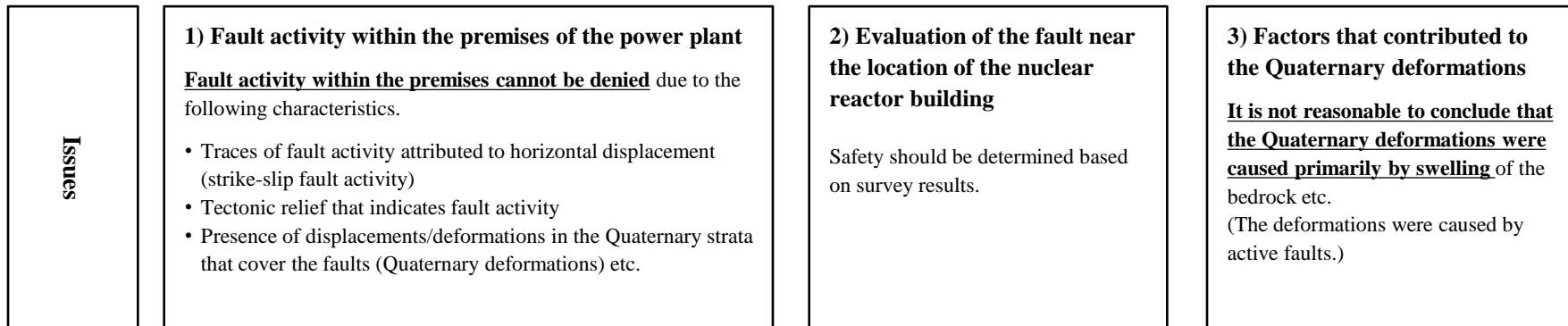
In the meeting of experts of the Nuclear Regulatory Authority, it was pointed out that "it cannot be denied that the faults under the plant might be active."

- In July 2012, we started additional geological research to assess whether the faults under the plant were active and submitted a new assessment report in January 2014, which determined that the faults would not become active in the future.  
(See the following pages for the research results.)
- We have also received reports supporting our assessment result from several external experts, including geological experts; these reports are attached to our own report.
- In the discussions on the activeness since the meeting of experts in February 2014, we received opinions from some of the experts partially supporting our views.

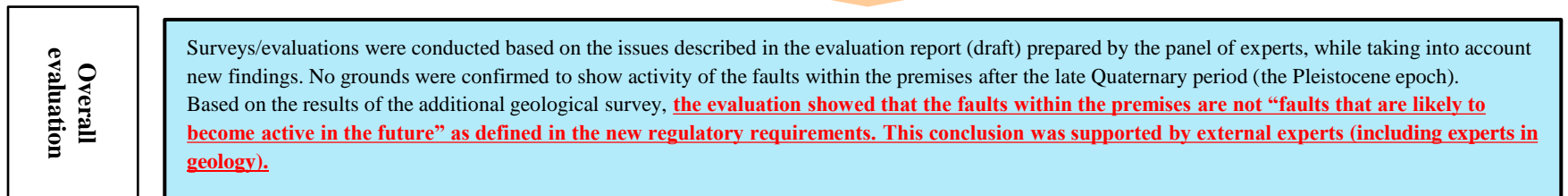
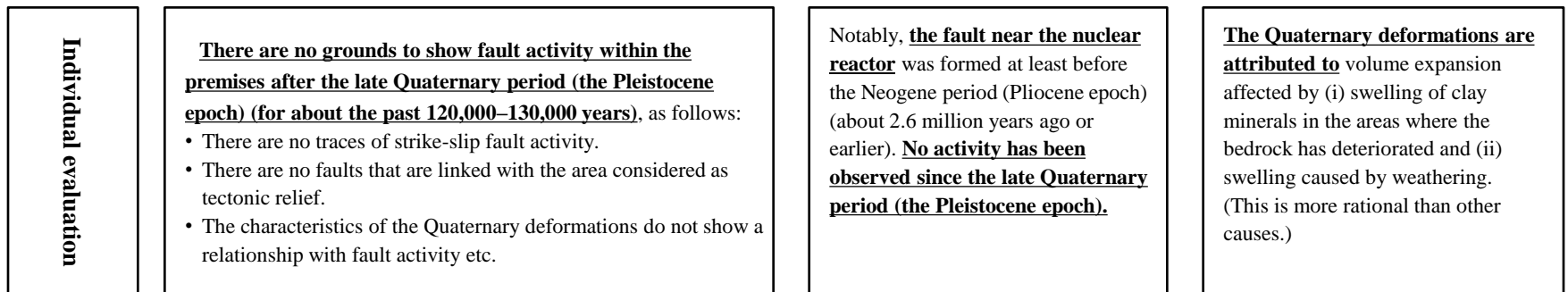
## ■ Future direction

- Since each point at issue concerning the assessment of the faults includes highly specialized matters, we hope that future meetings will hear and discuss the opinions of external experts who have submitted reports giving their views on our research report.

◆ Overview of the evaluation report (draft) prepared by the panel of experts

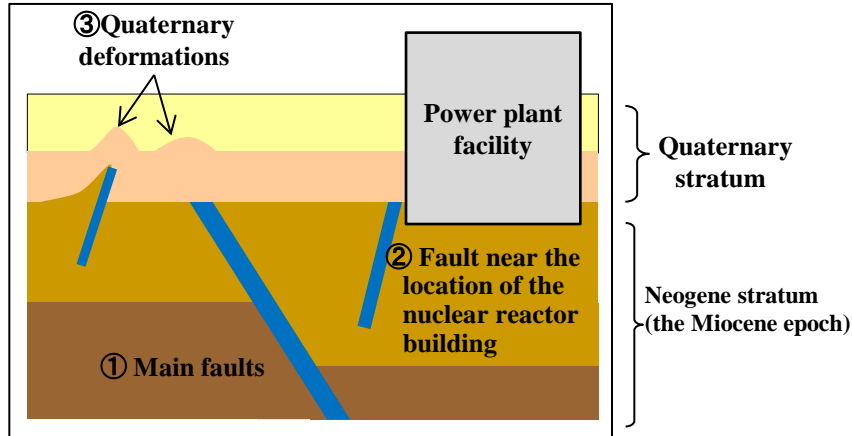


◆ In-house evaluation (including opinions from external experts)

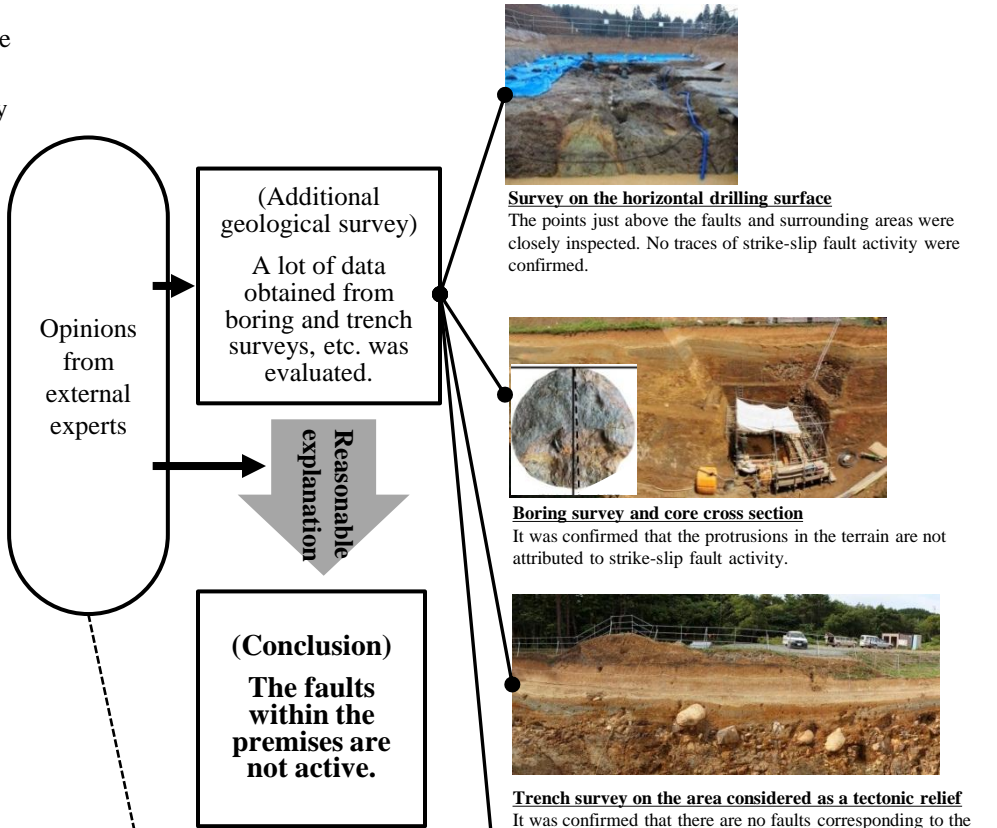


## Faults and Quaternary deformations

Some of faults within the premises of the Higashidori nuclear power plant are characterized by displacements/deformations in the Quaternary stratum (Quaternary deformations) that cover the faults. A review of the fault activity was carried out. In the safety screening that was conducted when we applied for permission to construct the nuclear reactor, the Japanese government's evaluation was that the faults are not active.



## Process of an additional geological survey and evaluation



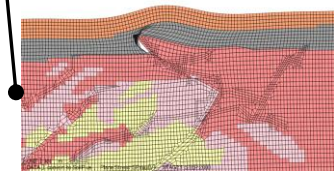
**Survey on the horizontal drilling surface**  
The points just above the faults and surrounding areas were closely inspected. No traces of strike-slip fault activity were confirmed.



**Boring survey and core cross section**  
It was confirmed that the protrusions in the terrain are not attributed to strike-slip fault activity.



**Trench survey on the area considered as a tectonic relief**  
It was confirmed that there are no faults corresponding to the terrain.



**Numerical analysis of Quaternary deformation**  
The Quaternary deformations (attributed to the volume expansion in the areas where the bedrock has deteriorated) were reproduced in simulation.

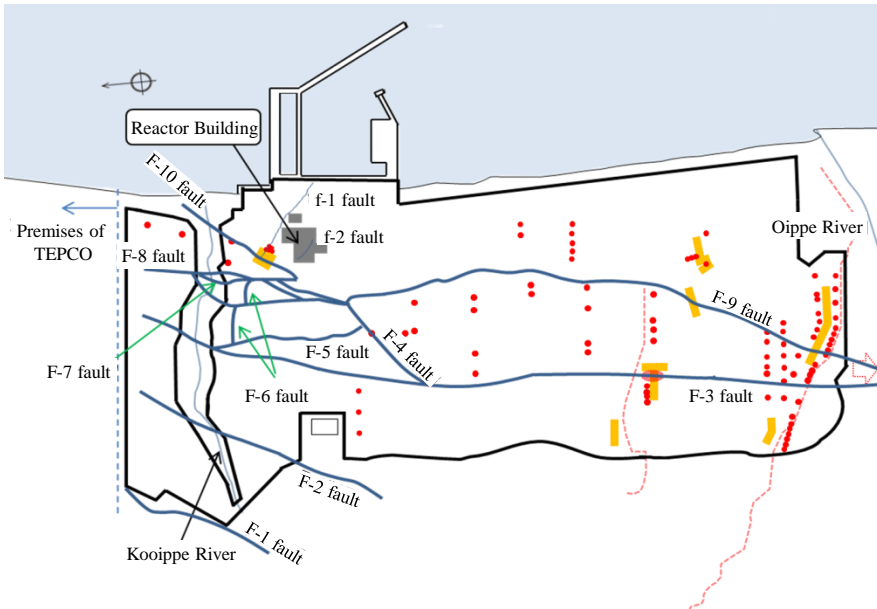
External experts (e.g. geology and topography) from whom a written opinion regarding the results of the additional geological survey was obtained

- CHIGIRA, Masahiro (Professor, Kyoto University)
- KANAORI, Yuji (Professor, Yamaguchi University)
- OKUMURA, Koji (Professor, Hiroshima University)
- TOKUYAMA, Akira (former president of Fuji Tokoha University; Professor Emeritus, Hyogo University of Teacher Education)
- TOODA, Shinji (Professor, Tohoku University)
- YAMAZAKI, Haruo (Professor, Tokyo Metropolitan University)
- YANAGIDA, Makoto (Lecturer, Komazawa University; Director, Hanshin Consultants, Co., Ltd.)

(listed in alphabetical order)



Location of faults within the premises and additional survey



**【Legend】**

- Boring survey
- Trench survey
- ⊙ Horizontal excavated survey
- - - Geophysical exploration
- Geological ground survey

Typical geological survey method

Trench and boring surveys etc., are conducted to investigate the underground geological features and faults.

In the case of building a nuclear power plant, boring surveys cover up to hundreds of meters in depth, while trench surveys cover up to 100 m or more in length and 10 m or more in depth.

< Trench surveys >

The topsoil and bedrock are excavated to directly observe geological features and faults.

Survey points within the premises of the Higashidori nuclear power plant

70 in total  
(including 9 points subject to the additional geological survey)



< Boring surveys >

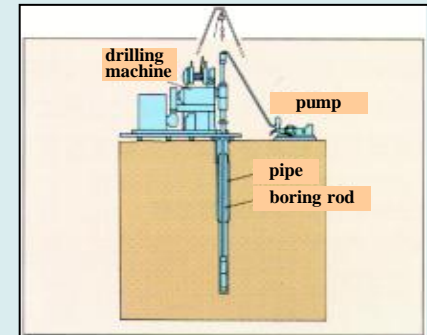
Underground rocks etc. are continuously taken out as cylindrical cores for observation and analysis.

Survey length within the premises of the Higashidori nuclear power plant

About 53,000 m in total length  
(including 13,000 m subject to the additional geological survey)



Example of core sample  
Diameter: about 7-9 cm  
Length: cut into 1 m pieces



(Note)

This presentation solely constitutes reference material for the purpose of providing the readers with relevant information to evaluate our company.

The information contains forward-looking statements based on assumptions and projections about the future with regard to our company. As such, the readers are kindly asked to refrain from making judgment by depending solely on this information.

The forward-looking statements inherently involve a degree of risks and uncertainties. Consequently, these risks and uncertainties could cause the actual results and performance to differ from the assumed or projected status of the company.

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