

# Overview of Damage Situation and METI Measures

as of March 16 at 12:00 a.m.

## I. Overview of Damage Situation

### 1. Other lifelines

#### >Oil refineries

- Operation has been suspended at six oil refineries: JX Sendai, JX Kashima, Cosmo Chiba, Kyokutou, TonenGeneral Kawasaki, and JX Negishi.

#### > Oil and LP gas reserve storage facilities

- Hokkaido Joint Oil Stockpiling base and Tomakomai base: No anomalies have been found.

- Mutsu Ogawara base and Akita base: A power outage continues but no anomalies have been found.

- Kuji base: Although there have been news reports that an oil tank was washed away at the stockpiling base, METI has confirmed that this was a bottom water drain tank and not an oil tank (oil tanks are buried underground and undamaged).

- Kamisu base: Power has resumed. No anomalies have been found.

#### >LP gas wholesale facilities

##### <Primary bases: 27>

- Kashima LPG Joint Stockpiling Base (Cosmo Oil, Iwatani Corporation, Showa Shell): Shipment has resumed

- Sendai gas terminal (ENEOS GLOBE and Astomos Energy): A fire has been reported near the low-temperature LPG tank (tank truck loading area) in the western district of the Sendai Refinery. Details are under investigation.

- Kashima import base (Japan Gas Energy): Shipment by sea is impossible due to damage to the pier. Inspection is ongoing for ground shipping.

- Other 25 bases: No anomalies have been found.

##### <Secondary bases: 22>

- Hachinohe base (Astomos Energy): Shipment is suspended.

- Ichikawa base (Astomos Energy): Shipment of propane gas has resumed.

Shipment of Butane is impossible. (Shipment is to be planned from the alternative place)

- Iwate oil terminal (ENEOS GLOBE): No one has been hurt. Since entry is restricted in

the facility, inspection has not been implemented.

- Shiogama LPG terminal (ENEOS GLOBE): No one has been hurt. Since entry is restricted in the facility, inspection has not been implemented.

- Onahama LPG terminal (ENEOS GLOBE): No one has been hurt. Since entry is restricted in the facility, inspection has not been implemented.

- Other 17 bases: No anomalies have been found.

- \* “Investigation has not been implemented”: Prospect of resumption is uncertain,

- \* “Shipment is suspended”: Shipment is withheld and supply is unavailable.

> Oil distribution facilities

- Hokkaido Petroleum Industry Association: Despite a report on a tsunami in Tokachi, the sales structure is unaffected.

- Corporation Hokkaido Prefecture LP Gas Society:

At the Hakodate and Kushiro LPG bases, operation has been suspended due to an evacuation order for staff.

At the Tomakomai and Muroran LPG bases, operation has been suspended due to staff evacuation.

The supply availability at the Hakodate and Kushiro LPG bases is impossible to confirm because staff has been evacuated and the area is off limits.

The Tomakomai and Ishikari LPG bases are in operation and ready for supply.

> Upstream oil development companies

<INPEX>

- At Chiba Kogyosho, power has resumed. Minor damage was found in the water piping and its repair is now underway.

- At Akita Kogyosho, power has resumed.

- Monitors show no anomalies in the pipelines. Line patrol continues.

<JAPEX>

- Damage to pipelines, valve stations and other facilities in and around Sendai is under investigation. Supply to Sendai City Gas and Sennan-Gas has been suspended.

- A power outage still continues at and around Funakawa port, the crude oil shipping center in the Akita region.

- In Hokkaido, crude oil shipping facilities have completely restored operation. With LNG liquefaction facilities restarting operation, steady progress has been made for recovery.

> Refineries and other facilities

- Hachinohe refinery (Mitsui Mining & Smelting – lead and zinc): Related facilities were partially damaged. Operation has been suspended.
- Onahama refinery (Mitsubishi Materials – copper): Related facilities were partially damaged. Although power for maintenance has been restored, operation is still suspended.
- Onahama refinery (Toho Zinc – zinc): Related facilities were partially damaged. Although power has resumed, operation is still suspended.
- Hosokura refinery (Mitsubishi Materials – copper): Related facilities were partially cracked. Although power for maintenance has been restored, operation is still suspended.
- Kosaka refinery (Dowa – copper and lead): No major damage has been found. Although power for maintenance has been restored, operation is still suspended.
- Akita refinery (Dowa – zinc): No major damage has been found. Although power for maintenance has been restored, operation is still suspended.
- Hitachi refinery (JX Nippon Mining & Metals – copper): Minor cracking was found in related facilities. Although power for maintenance has been restored, operation is still suspended.
- Oya district, Utsunomiya City (old quarry for underground mining): Two cave-ins were confirmed at the side of a city road and beside a house. There were no casualties. The area has been closed to vehicles. Damage to a shed and an automobile caused by these cave-ins was confirmed. Safety of all the companies engaged in underground mining in the district has been confirmed. No anomalies were found in old cave-ins.

2. Manufacturing industry (production status by the company)

>Status of production by the individual manufacturer

Factory operations have been suspended one after another in the disaster-stricken area. While some companies have resumed operations, others are still under inspection or restoration of the facilities. There still remain many companies with no prospect of resuming.

(1) Steel Industry

>Nippon Steel Corporation

- Kamaishi Works: Production has been suspended. The premises are partially under water with roads made impassable. Production resumption is nowhere in sight due to

damaged port facilities, thus alternative measures are being discussed. A possibility of alternate production and shipment at other steel plants and/or a group company is being considered.

- Kimitsu Works: Three units are at work. As for operation of the production line, rolling has started with due consideration about saving electricity.
- Muroran Works: No serious damage was found on the facilities. Blast furnaces are at work with shipments resumed as well.
- Other steel plants: Shipments have resumed since tsunami warnings were lifted.

>JFE Steel Corporation

- East Japan Works (Keihin area, Chiba area): The suspended blast furnaces resumed operation. They are now working at minimum operation for safety purposes.

>Sumitomo Metal Industries

- Kashima Steel Works: All production lines have been suspended. There is damage to facilities including the quay, coke holders and blast furnaces. The group is making its utmost efforts toward early restoration

>Electric steel

- Electric steel companies in Sendai, Hachinohe, and Ishinomaki areas have been suspended due to submergence.

(2) Chemical plants

>Idemitsu Kosan Co., Ltd.

- Chiba Plant: Its naphtha cracker is working. Operation in some facilities has been suspended.

>Mitsubishi Chemical Corporation

- Kashima Plant: Its naphtha cracker has been suspended. Facilities are currently under inspection.

>JX Nippon Oil & Energy Corporation

- Kawasaki Plant: Its naphtha cracker has been suspended. Facilities are currently being inspected.

>Mitsui Chemicals, Inc.

- Ichihara Works: Its naphtha cracker is at work. Operations in some facilities have been suspended but are now being prepared for restart.

>Sumitomo Chemical Co., Ltd.

- Chiba Works: Its naphtha cracker is at work. Operations in some facilities have been suspended but are now being prepared for restart. suspend

>Tonen Chemical Corp.

- Kawasaki Plant: Its naphtha cracker is at work.
- >Maruzen Petrochemical Co., Ltd.
- Chiba Plant: Its naphtha cracker has been suspended.
- >Keiyo Ethylene Co., Ltd.
- Chiba Plant: Its naphtha cracker is at work.

### (3) Auto industry

>Nissan Motor Co., Ltd.: Production will be suspended in its Tochigi Plant and Iwaki Plant until Friday March 18<sup>th</sup> and in Oppama Plant, Kyushu Plant, Nissan Shatai, and Yokohama Plant until Wednesday March 16<sup>th</sup>.

>Honda Motor Co., Ltd.: As of Monday March 14<sup>th</sup>, production has been suspended in the Saitama Factory, Tochigi Factory, Hamamatsu Factory and Suzuka Factory. All production sites including the above factories and Kumamoto Factory will suspend production from Tuesday March 15<sup>th</sup> to Sunday the 20<sup>th</sup>. Employees shall not report for work at any office in the Tochigi area which has suffered serious damage including Tochigi Factory, Honda R&D Co., Ltd. (Tochigi), and Honda Engineering Co., Ltd. from Monday March 14<sup>th</sup> to Sunday the 20<sup>th</sup> during which restoration will be underway.

>Toyota Motor Corporation: Operation will be suspended at all Toyota factories (including body manufacturers) until Wednesday March 16<sup>th</sup>.

### (4) Machinery

>Hitachi, Ltd.: Factory buildings and production facilities in Hitachi area have suffered damage. Investigation is underway for more details.

>Hitachi Construction Machinery Co., Ltd.: Buildings and production facilities, especially the production base in Ibaraki prefecture, have suffered damage. Investigation is underway for the details of damage.

>Komatsu Ltd.: Ibaraki Plant and Oyama Plant have suffered damage especially to their facilities. Currently, facility inspection and maintenance work is underway at both plants. Concern may remain high even after production is resumed because serious damage has been done to the Hitachinaka Port, Ibaraki Prefecture.

### (5) Paper industry

>Nippon Paper Group, Inc.

- Ishinomaki Mill: Operation has been suspended. Water immersion has prevented site inspection of damage. Details will be investigated later.
- Iwanuma Mill: Operation has been suspended. The ceilings and side walls partially

caved in a building housing machinery. Inspection is underway for details of other facilities.

- Nakoso Mill: Operation has been suspended. Inspection is underway for details.

>Mitsubishi Paper Mills Limited

- Hachinohe Mill: Operation has been suspended because of water immersion. Currently inspection is underway for damage to the facilities.
- Shirakawa Site: Operation has been suspended. Currently inspection is underway for damage to the facilities.
- Kitakami Hitec Paper Corp.: Operation has been suspended. Currently inspection is underway for damage to the facilities.

>Oji Paper Co., Ltd.

- Oji Paperboard's Nikko Mill: Operation has been suspended. Currently facility inspection is underway.
- Oji Chiyoda Container (Sendai factory): Operation has been suspended. It is unknown at this point when operation will be resumed..
- Oji Chiyoda Container (Fukushima factory): Operation has been suspended. It is expected to resume in a day or two.

>Daio Paper Corporation

- Iwaki Daio Paper Corporation: Operation has been suspended. It is expected to resume in a few days.

>Rengo Co., Ltd.

- Sendai Plant: Operation has been suspended due to tsunami damage.
- Fukushima Yabuki Plant: Buildings and facilities have suffered damage. Restoration work is underway to resume operation.

(6) Nonferrous

(Electrical wire)

- Hitachi Cable's six plants in Hitachi-shi, Ibaraki (Minato Plant, Electrical Wire Plant, Hitaka Plant, Toyoura Plant, Takasago Plant, Tsuchiura Plant) have suspended operation. No significant damage has been found in the exterior of these plants, but there is no supply of electricity, gas, and water. Inspection of equipment and machinery has been underway for restoration. Minato Plant (Hitachi-shi, Ibaraki) was flooded by the tsunami, and it is currently being inspected in detail.
- At SWCC Showa's Sendai office (Miyagi), equipment has been broken.

(Aluminum)

- Furukawa-Sky: Nikko plant (Tochigi), Oyama plant (Tochigi), and Fukaya plant (Saitama) suspended operation on March 11 (Fri.) for equipment inspection, but they resumed operation on March 12.
- Sumitomo Light Metal: A production base in Nagoya continues to operate..
- Showa Denko: At Oyama plant (Tochigi), glass broke and operation has been suspended. Kitakata office resumed operation on March 12 after equipment inspection.

#### (Silicon Wafer)

- Shirakawa plant of Shin-Etsu Handotai, a subsidiary of Shin-Etsu Chemical, has suspended operation. Three workers were slightly injured. It will decide whether or not to resume operation after equipment inspection.

#### (Other)

- The head office and production facilities of Pacific Metals (manufacturer of ferronickel, a material used in stainless steel and special steel) in Hachinohe head office was flooded by a tsunami. The company produces approximately 40,000 tons of ferronickel annually (reference: the total output of ferronickel in Japan is 68,000 tons in 2007), and there is a concern about the impact on the iron and steel (stainless steel) industry.

#### (7) Aerospace

- There is no prospect of an equipment inspection at Jamco's maintenance factory in Sendai (aircraft accessories) and therefore of resuming operation. It has been working to collect information about damage, but it still cannot conduct an on-site investigation because roads are blocked.
- IHI's Soma plant (Fukushima, engine components) is working to collect information about damage, but it is expected to take about a week to discover the whole situation. There are no prospects for resumption of operation.

#### (8) Electronics

- Mitsubishi Electric: Three plants including one in Koriyama have suspended operation. Other plants are operating.
- NEC: Telecommunication equipment plant in Kitakami-shi, Iwate and an electric parts plant in Miyagi have been suspended production. NEC Personal Products' Yonezawa office resumed operation from March 14.

- Sony: Eight plants including the one in Tagajo-shi, Miyagi have suspended operation.
- Toshiba: Production has been suspended at a semiconductor plant in Kitakami-shi, Iwate, and electric component plants in Kimitsu-shi and Mobarashi in Chiba.
- Fujitsu: Buildings and production facilities at six plants including those in Shibata-gun, Miyagi were damaged.
- Sharp: A TV assembly plant in Yaita, Tochigi has suspended operation, but it resumed regular production from March 15.
- Hitachi: Buildings and production facilities at six locations in Ibaraki and other prefectures were damaged and operations have been suspended.
- Panasonic: Production has been suspended in the Sendai plant and Fukushima plant.
- Alps Electric: It has experienced some troubles in infrastructure, buildings, and equipment and machinery. Seven plants including the one in Osaki-shi, Miyagi have suspended operations and recovery efforts have been made.

## II. Measures that have been taken by METI

March 11

- A disaster headquarters was established within the Nuclear and Industrial Safety Agency (2:46 p.m.)
- Senior Vice Minister of Economy, Trade and Industry Ikeda left by Ministry of Defense helicopter for the local nuclear disaster headquarters close to Fukushima Daiichi Nuclear Power Station. (9:41 p.m.)
- Distribution
  - METI has asked 10 retail organizations including convenience stores and supermarkets to focus on securing and smoothly offering daily necessities for victims and informing member companies to avoid confusion such as opportunistic price rises.
- Small and medium sized enterprises
  1. METI has asked public financial institutions to take good care of year-end inquiries from small- and medium-sized companies on Saturdays and Sundays when possible, fully taking into account the damage at each branch.
  2. It asked chambers of commerce and other small- and medium-sized company groups as well as public financial institutions to support the following when possible depending on local situations:
    - Establishing special point of contact to accept inquiries regarding the seismic



- disaster
  - Applying disaster restoration loans
  - Providing support including relaxation of conditions regarding repayment of existing debts
- 3. It asked the Organization for Small & Medium Enterprises and Regional Innovation, Japan, to apply disaster loans, extend due dates of payments of mutual aid premiums and repayments of temporary loans, and accelerate payment of mutual aid money with regard to the Small Enterprise Mutual Relief system.
- 4. It asked the Organization for Small & Medium Enterprises and Regional Innovation, Japan to extend the due dates of payments of mutual aid premiums and repayments of mutual aid loans and accelerate payment of mutual aid money with regard to the Mutual Relief System for the Prevention of Bankruptcies of Small and Medium-sized Enterprises.
- 5. It asked cooperative business associations and fire mutual aid cooperatives to accelerate payment of mutual aid money and extend due dates of mutual aid premiums with regard to the mutual aid programs that they have.
- Relief supplies
  - Responding to the request from the Official Residence, METI requested industry groups and companies to procure supplies that METI delivers, and distribution to affected areas has started. It has been earnestly working on distributing supplies in cooperation with MLIT and Self-Defense Force.
- Industrial water
  - METI has just instructed 28 industrial water suppliers within the jurisdiction of Tohoku Bureau of Economy, Trade and Industry and Kanto Bureau of Economy, Trade and Industry as well as the Japan Water Agency, an Incorporated Administrative Agency, to work hard to secure safety and security. (It hasn't been able to reach some suppliers.)

#### March 12

- Senior Vice Minister of Economy, Trade and Industry Ikeda arrived at the local headquarters (Environmental Radioactivity Monitoring Center of Fukushima). (00:00)
- A second METI disaster headquarters meeting was held. (10:30 p.m.)
- Power-saving measures
  - Because shortages of power supply are expected to occur depending on the

situation of power stations, a Minister's statement to ask for reductions in power consumption whenever possible was issued. METI also asked the business community, through industry groups, to minimize power consumption.

- METI approved Chubu, Tokyo, and Tohoku Electric Power Companies to take special measures such as extending payments of electricity charges for affected customers in municipalities where the Disaster Relief Act has been applied.
- Procurement of emergency supplies
  - METI has asked relevant organizations including the National Police Agency to ensure the smooth distribution of supplies. Vice Minister of Economy, Trade and Industry Nakayama asked Chairman of the National Public Safety Commission Nakano to take special care to provide police permission of passage. In the evening, the disaster headquarters clarified and simplified the procedures to issue and confirm seals to avoid that traffic restrictions hinder delivery of emergency supplies.
- Small and medium sized enterprises
  - The Cabinet decided on March 12 to designate the seismic disaster as a heavy disaster. For affected small- and medium-sized businesses nationwide, credit guarantee associations will apply disaster-related guarantees, and the Japan Finance Corporation, Shoko Chukin, and other organizations will lower interest rates for disaster recovery loans.

#### March 13

- Procurement of emergency supplies
  - Daily supplies requested from local authorities through the disaster headquarters have been gradually secured in cooperation with industries under the jurisdiction. Over 40 items including power generators and temporary lavatories have been secured. For the supply of petroleum products to affected areas, METI asked for the cooperation of the petroleum industry, including primary distributors and sellers of oil and has been distributing fuel to hospitals, telecommunication facilities, local fire stations, etc. Distribution companies are also responding to requests from the national and local governments.
- Power-saving measures
  - At the METI building, all staff has been informed of the need to save power, and measures such as turning off half the lights in hallways during the day and whole lights at elevator halls have been taken.

- The Director-General of Agency for Natural Resources and Energy sent a request to relevant director-generals of other ministries and agencies to take the same measures at their buildings.

March 14

- Small and medium sized companies
  1. On March 12, in response to the designation of the earthquake and tsunami as a serious disaster, disaster-related guarantees for affected small- and medium-sized companies (100% guarantee, up to 80 million yen without collateral, 200 million yen in general) were introduced.
  2. The Japan Finance Corporation, Shoko Chukin, and other financial institutions started disaster recovery loans and lowered the interest rate by 0.9% as a special measure.
  3. The Japan Finance Corporation, Shoko Chukin, and other financial institutions took measures to grant grace retroactively to due dates even when a payment of existing debts is delayed because of the seismic disaster and an application for extension is made late.
  4. Credit guarantee associations took measures to simplify screening documents and extend due dates even when an application is made after a due date.
- Grace period for credit cards and lease equipment
  - METI asked the Japan Consumer Credit Association to ensure that members flexibly and appropriately respond to the situation. This may include raising of the upper limit of credit cards as needed for affected people to purchase daily supplies as well as change of payment conditions for affected people. It also asked the Japan Leasing Association to respond flexibly and appropriately to the situation. This may include a change of payment conditions, considering the usable period of equipment leased to local small- and medium-sized companies.
- Request for the smooth supply of commodity goods
  - It asked manufacturers and distributors through industry groups to establish a system for production of daily goods and smooth supply.
- Industrial water
  - It instructed industrial water suppliers within the jurisdiction of the Kanto Bureau of Economy, Trade and Industry to offer information to customer companies as appropriate when disruption of water supply and other influence on supply occur, considering the influence of TEPCO's scheduled blackouts on industrial water

supply.

March 15

- Industrial water
  - It instructed industrial water suppliers (excluding some disaster water suppliers) within the jurisdiction of the Tohoku Bureau of Economy, Trade and Industry to offer information to customer companies as appropriate when disruptions of water supply and offer influence on supplies occur, considering the influence of scheduled blackouts of Tohoku Electric Power Co., Inc. ¥
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- Approval of Special Measures on Gas Disaster
  - It approved applications from gas utilities to take special measures such as extending payments of gas charges for affected customers in municipalities where the Disaster Relief Act has been applied.
- Release on the website “Request in regard to the purchase of daily commodities”
  - In the normal situation, each company has enough supply capacity to meet demand, however recently, extreme purchases of food and daily merchandise have caused a temporary shortage of commodities at retailers mainly in the metropolitan areas. Therefore, we would appreciate people’s cooperation to please refrain from purchasing non-urgent goods unnecessarily.
- Request for cooperation in saving energy to Japanese industries
  - To respond the considerable electricity supply shortage in the jurisdiction TEPCO and Tohoku EPCO, METI requested industries within this jurisdiction for cooperation in saving energy.

March 16

- Small Medium Enterprises
  - METI enhanced public relations services by utilizing its network of SME’s related organizations in order to provide speedy and appropriate information on SME-related measures regarding the disaster by the government and governmental organizations with the relevant SMEs.