Outlook for Japan Titanium Industry 2011

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Shozo Nishizawa
Chairman of the Japan Titanium Society
1. Summary of Japan Earthquake & Tsunami

2. Effects on Japan Titanium Industry

3. Outlook for Japan Titanium Industry 2011
Acknowledgement

- We deeply appreciate support from the over 140 countries and titanium concerned friends and companies.

- We are facing unprecedented difficulties since the earthquake & tsunami which occurred on March 11th.

- We are working resolutely toward recovery.
Japan Earthquake & Tsunami

- Earthquake Epicenter
  - March 11\(^{th}\), 2011
  - Magnitude 9.0

- Fault Rupture
  - 500km x 200km

- Huge Tsunami Hit Region
  - Highest Tsunami 38 Meters (125ft.)
    (Waters raged inland to mountains)

- Fukushima Nuclear Power Plant
  - Height of Tsunami about 15 Meters (50ft.)
Japan Earthquake & Tsunami

- Number of deaths 15,800
- Number of missing 4,100
Japan Earthquake & Tsunami

- Houses & Buildings swept away or damaged: 330,000
- Estimated financial loss: B$200~B$300
• Operation of power plants near the earthquake epicenter were shutdown.

• As a result, 20～25% of the electricity generation capacity was lost (East Japan).
Power shortages destabilized operations at many production plants.

- Electronic Parts
- Iron and Steel
- Nonferrous Metals
- Automobiles
- Chemical Engineering
- Foods
Japan Earthquake & Tsunami

Tsunami is coming to Fukushima Nuclear Power Plant.
Tsunami is hitting Fukushima Nuclear Power Plant.
Traffic and logistics network were seriously damaged.
Thank you for your heartfelt support.

“友” (TOMODACHI) MEANS “FRIEND”
# Japan Earthquake & Tsunami

## Infrastructure Restoration

<table>
<thead>
<tr>
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<th>Restoration Date</th>
<th>Unserviced Term</th>
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</thead>
<tbody>
<tr>
<td><strong>Electricity</strong></td>
<td>• 20–25% was lost right after the earthquake</td>
<td>Partial Restriction</td>
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<td>• Gradual increase in hydroelectric and thermal power generation</td>
<td>July – September</td>
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<td><strong>Sendai Airport</strong></td>
<td>April 13th (Partially Reopened)</td>
<td>33 Days</td>
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<td>July 25th (Fully Reopened)</td>
<td>136 Days</td>
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<td><strong>Highway</strong></td>
<td>March 24th</td>
<td>13 Days</td>
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<tr>
<td><strong>Railway (Shinkansen)</strong></td>
<td>April 29th (Back to Normal Service)</td>
<td>49 Days</td>
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Effects on Japan Titanium Industry

- Sponge Producer
- Mill Producer
- Fukushima Nuclear Power Plant

Tsunami-Affected Region
Working on boosting production capacity of Titanium Sponge Products

Actual Production & Capacity

- 2009
- 2010
- 2011/4
- 2011/7
- 2011/10
- 2012/1
- 2012/4
Demand–supply gap transition of high grade Ti Feedstock

Emergence of demand–supply gap

Increasing of gap to be concerned
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Rising price of Titanium Sponge Feedstock

Feedstock Price ( ‘03=100 )

Graph showing the rising price of Titanium Sponge Feedstock from 2003 to 2012.
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Mill Products / Actual shipment of 2008 - 2010 and 2011 forecast

Shipments of Mill products

Forecast +30 ~ 40%
Factors in increase

Plate Heat Exchangers
Topics: Japan Aeroforge Ltd.

- Joint Venture to mainly manufacture aircraft forgings
  - has been jointly established by:
    - Hitachi metals, Ltd.
    - Kobe Steel, Ltd.
    - IHI Corporation
    - Kawasaki Heavy Industries, Ltd.

- 50,000 metric ton forging press
  - Titanium, nickel and high alloy products for aircraft and power plant
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Topics: Boeing 787  First Regular Flight on November 1st
Conclusion

<Titanium Industry>

- Titanium Sponge
  - Working to boost production capacity as scheduled
- Mill Products
  - Increasing production trend likely to continue
- Almost no impact of the earthquake on the titanium industry

We will continue to make every effort to ensure stable supply of products to our customers.