Takaoka Plant

Introduction to Takaoka Plant

[Establishment]
1956


Aerial view of the Takaoka Plant

[Main functions and products]
Manufacture of hydrogenated nitrile rubber and electronic materials
The Takaoka Plant has developed as a mass production site for polyvinyl chloride. After withdrawal from the vinyl chloride business, hydrogenated nitrile rubber and electronic materials have been the main products.

[Status in recent years]
In recent years, a Precision Optics Laboratory and Medical Research Institute have been added to the plant, and it has become a research and development-type plant focused on Zeon's cutting-edge technology.

Plant Policy (from Plant Manager)

In order for the Takaoka Plant to become a production base responsible for Zeon's future new business, "realizing the visualization of stability, safety and technology, building a free production system that is aware of costs, and being reborn as a research and development-type plant that is resilient to change" have been raised in the Enterprise Blueprint. The following activities will be carried out in fiscal 2016 with the policy of "Thoroughly tackling production innovation, and changing into a stable and safe plant."


Takaoka Plant Manager
Makoto Watanabe

1. Achieve zero safety, environmental and safety failure indicators!
2. Realize zero process failures and loads by advancing production and process innovations.
3. Promote the development of new product manufacturing technologies by uniting the operating divisions.
4. Each member of staff to improve health indicators while aiming for zero waste.

Safety initiatives

[Policy]
1. We will pursue zero occurrence of safety accidents and abnormalities.
2. We will tackle safety management activities, recognizing the characteristics of the plant.
3. We will comply with safety laws, agreements and Zeon's own rules and regulations.
4. We will perform continuous improvements.

Efforts to reduce environmental impact

[Policy]

We will work while considering the impacts on the environment from the development to the production stage.
We will aim to be a more energy-saving plant through energy-saving efforts by all employees.

[Concrete efforts]

1. Reducing toxic chemical emissions

As part of the initiative to achieve zero emissions, the plant has newly installed equipment to collect organic solvents used in the manufacturing process and plans to reduce the amount used in stages going forward.

2. Reducing industrial waste

We continue to send zero industrial waste to landfill.
We plan to study methods for 100% recycling in conjunction with the new equipment operation, and to continue zero waste sent to landfill.

3. Reducing air and water pollution

From December 2013, the plant has switched from heavy fuel oil A to LNG*, and is proceeding to drastically reduce CO_2.

* LNG
Liquefied Natural Gas Has the advantage of lower CO_2 emissions than oil when combusted.

4. Saving resources and energy

We are making efforts to save energy, and started operation of energy-saving high efficiency boilers in December 2013.
We also avoid electricity use at peak times, and level our electricity use.

5. Environmental Data

Takaoka Plant		FY2011	FY2012	FY2013	FY2014	FY2015
Substances subject to PRTR law	Consumption (tons)	223	125	16	21	17
	Amount emitted (tons)	0.2	0.1	0.0	0.0	0.0
Industrial waste	Amount generated (before volume reduction) (tons)	4,730	4,882	12,494	8,794	7,309
	Amount generated (after volume reduction) (tons)	529	535	1,056	437	363
	Amount sent to landfill (tons)	0	3	0.0	0.0	0.0
Atmospheric emissions	CO_2 emissions (tons)	20,132	23,329	22,546	20,825	20,964
	SOx emissions (tons)	6.8	9.5	3.2	0.0	0.0
	NOx emissions (tons)	15	19	13	2	2.5
	Soot emissions (tons)	0.7	0.0	0.0	0.0	0.0
	Leakage of CFCs (tons of CO_2)	—	—	—	—	47.6
Water resources (Industrial water + Ground water + Waterworks) consumption (1,000 m^3)		3,808	4,052	3,732	3,848	3,804
Waste water	Total waste water discharge (1,000 m^3)	3,398	4,408	4,890	3,322	3,213
	COD emissions (tons)	13.0	14.3	18.9	12.7	12.6
	Total phosphorus discharge (tons)	0.7	0.5	0.8	0.3	0.3

	Total nitrogen discharge (tons)	16	19	20	14	14
Energy	Total consumption (crude oil equivalent, kL)	8,994	8,868	8,986	8,290	9,380
	Unit consumption index (1990 = 100)	96%	103%	104%	92%	102%
Production of PDR equivalent (tons)		4,866	4,295	4,433	4,617	4,617

Quality assurance efforts

[Policy]

We aim for 100% realization of yield rate*

* Yield rate

The percentage of products rolling off the production line that pass quality inspections. A 100% yield rate means that no defective products were produced

[Concrete efforts]

We gain understanding (visualize) the root causes of quality abnormalities based on science and implement measures.

Relationship with Employees

[Policy]

At the Takaoka Plant, we carry out human resource development with the aim to “Bring out, develop and utilize the ability of every employee.”

[Concrete efforts]

With education as a pillar, we have systematized the “Takaoka Plant education system chart” that covers basic education, environmental safety education, professional education, and quality management education, and implement education accordingly. From the first to third year after joining the company, employees are regularly sent to the “Monozukuri Training Center” at our Mizushima Plant and carry out “Development of operators who can follow and improve rules.”

In addition, in terms of the operational knowledge required for operation and management of the plant, we implement operation skills education mainly through on-the-job training and chemical engineering education (CAI utilization) for practical education and principles of emergency treatment training and abnormality hypothesis training.

Living together with the local community

[Concrete efforts]

1. Contributing to the community through volunteer work

・Beautification activities for the plant surrounding area

・Himi Coastal Cleanup

・Fushikikokubu Coastal Cleanup

Himi Coastal Cleanup

2. Interaction with the local community

・Held Zeon Takaoka Group Summer Festival

・Participated in “Futagami Manshou Kai” industry-academia-government association

・Participated in Takaoka “Takaoka Manyo Festival”

Employees recited Manyoshu (8th century anthology of Japanese poetry) at “Manyoshu all 20 volumes recital”