Worksites

R&D Center

Introduction to the R&D Center

The R&D Center is our largest operating division requiring over 400 researchers, and is responsible for Zeon Corporation's research and development. In addition to having our R&D Center located alongside our Kawasaki Plant, which has 10 research laboratories (comprised into 10 buildings numbering 1 to 10), we are developing at our Takaoka Plant (Precision Optics and Medical Laboratories), Tokuyama Plant (Toner Laboratory), Mizushima Plant (Chemical Products Laboratory), and in also proximity to our production plants. Under the cooperation of our operating divisions, besides developing new products and carrying out improvements to existing products in response to customer demand, we are also pushing



Aerial view of the R&D Center

ahead with our search for new materials (new materials R&D), developing and utilizing new analyses and simulation techniques (Foundation Technology Laboratory), and improving our production processes and new facilities development (Production Technology Laboratory). In April 2015, in gearing up towards starting standard production of single wall carbon nanotubes (SWCNTs) in fiscal 2015, we inaugurated our CNT Laboratory for the purpose of developing low-cost production of SWCNTs and application technologies. The center carries out development of materials that support Zeon Group business, primarily synthetic rubber, through to development of processing technologies. R&D activities are pursued in line with a basic philosophy of contributing to society through the ongoing creation of world-leading products that "do not imitate and cannot be imitated" using unique, innovative, and environmentally friendly technologies.

Through the development of such diverse materials and parts that make life more convenient, as well as the creation and delivery to a wide range of customers of new products that contribute to conservation of energy and the natural environment, the R&D Center wants to ensure that Zeon Corporation remains a company that is "friendly to the environment and needed by society."

The center also engages in activities as a member of the local community. This involves the continuation of zero emissions efforts through thorough sorting of waste generated by R&D activities, Ecocap (plastic bottle cap collection) activities, street-cleaning activities conducted together with neighboring corporations, and ongoing internships.

In addition to efforts in Japan, the center plans to aggressively advance R&D activities conducted together with research laboratories and technological support service locations in North America, China and Europe, as well as joint research with overseas universities and corporations. We will continue R&D activity to deliver to customers around the world new products that benefit the global environment and human prosperity.

CSR Efforts at the R&D Center

In accordance with the Zeon CSR Policy, all researchers have CSR awareness as they carry out research. In terms of compliance, related laws are strictly observed in all research activities, and the company aims for a highly stimulated and safe research environment that is free from accidents. Before the R&D Center embarks on a new research project, research and administrative departments come together to conduct new experiment safety examinations in which they discuss the research unit's proposal and confirm legal compliance matters and safety considerations, such as chemical substance safety and exposure protection for researchers, as well as ensure proper allocation of resources. Zeon Corporation will proceed with R&D activities under a system that ensures ongoing provision of quality products offering a high degree of safety and that customers can trust.

Environmental and Safety Activities

In fiscal 2014, in the same way as last year, we returned to the basics of our safety activities by emphasizing that all staff should greet each other. The safety policy from the beginning was "Greetings and the 3S as routine and practice that of "atarimae". Greetings create communication and put safety first!" Without communication, a risk that has been noticed may be neglected and go unaddressed. In terms of safety exercises, plant managers began each week of the year with a "greetings exercise", which showed employees the importance of greetings. We also implemented risk prediction activities that emphasized noticing dangers, and greetings exercises, which are the starting point for dealing with and communicating those dangers. These activities were successful, and we were able to achieve 10 million hours without accident or incident (zero lost-time accidents), and an accident-free year (zero lost-time accidents, zero non-lost-time accidents, and zero A or B rank safety incidents or environment incidents). The center also continued to keep landfill disposal at zero throughout the year by thoroughly sorting and recycling waste generated by research activities.

In fiscal 2015, we will strive to attain accident- and incident-free operations based on the teaching that "Safety does not exist. Danger is a constant presence." In addition, waste recycling will continue in order to keep landfill disposal at zero.

Quality Assurance Initiatives

The R&D Center aims to create products based on unique, innovative technologies that "do not imitate and cannot be imitated" in conformance with the Zeon R&D Policy. We intend to realize this aim by raising our manufacturing capabilities while monitoring a variety of aspects including intellectual property, safety, product quality, costs, and productivity in all development stages.

VOICE Zeon Creates the Future

As we are required to develop new products that match developments in a rapidly changing world, we will undertake the following.

- 1. Researchers shall gather their own information from around the world in order to develop products that anticipate changing trends.
- We will advance appropriate product creation by preparing quality function deployment (QFD) matrices that visualize establishment of design and production quality for each product development process.
- Eliminating the need for "redoing" will be vital for speeding up product development. We will make efforts to establish mass production technologies for ensuring smooth transition from research to actual production.

I believe these initiatives will allow us to develop products that satisfy the customer.

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Yoshiyuki Mitsuhira Director & Senior Corporate Officer Division Manager -Research & Development Center

Living Together with the Local Community

In July 2014, we entered an agreement with Kawasaki City for the use of tsunami evacuation centers when tsunami warnings are issued. This collaboration initiative means that office facilities will be used as temporary tsunami evacuation centers by those who have to evacuate to higher ground when a tsunami warning is issued. In order to identify the corresponding facilities, a sign provided by Kawasaki City is placed at tsunami evacuation centers.



Tsunami Evacuation Center (No. 8)