

State of Achievement of 3rd Environmental Objectives and Targets

In 2007, Tamron worked on achieving the 3rd environmental objectives and targets. As a result of company-wide participation, the work sites achieved most of the objectives for 2007.

Degree of Achievement of Environmental Objectives and Targets for 2007

In 2007, the Omiya head office commenced work on the first year of the 3rd environmental objectives and targets, while the three factories in Aomori and Tamron Optical (Foshan) (TOF) worked on their respective environmental objectives. The Omiya head office almost achieved its objectives and targets. In particular, the volume of industrial waste declined by 31.7% and 36.7% at the Aomori factories and TOF in case of general waste, well over targets for 2007. Also, in terms of DfE designs, engineers steadily worked on achieving

targets for longer use, lighter weight and more compactness. However, we were unable to meet the standard (BOD value) for the quality of waste water as we had planned in our work for preventing environmental contamination, which was due to delay in the progress of our project to enhance LCA ⁽¹⁾ as planned in our work to promote DfE. As for the problem of the overrun of the BOD standard, countermeasures were taken to increase the frequency for cleaning water-purifier tanks. As a result, the value has been kept below the standard in and after March.

Environmental Objectives/Targets for 2007 (Head Office), Achievement Ratios and Targets/Objectives for 2008 and 2009 (Group)

The achievement ratios of environmental objectives and targets for 2007 as well as objectives and targets to be applied uniformly to Tamron as a group are shown in the table below. To ensure better understanding of the objectives and targets for 2008 and beyond, the xxxachievement ratios of our environmental objectives of reducing waste and promoting recycling by our head office and three factories in Aomori are shown in columns for 2007 together with overall evaluation results.

Environmental Objectives	Environmental Targets, State of Accomplishment		
	State of Accomplishment	Self-rating	
1 Integrating environmental management and quality management systems into one system, integrating ISO systems of the Omiya head office and 3 factories in Aomori into one system	(1)Preparations for integrating environmental objectives of the Omiya head office, 3 factories in Aomori and TOF, (2)Preparations for integrating environmental management and quality management systems into one system	(1)Established objectives to be commonly applied in 2008, (2)Prepared an integration management manual for integrating management systems to start operating them from January 2008	A
2 Reducing waste, promoting recycling (1) Achieving zero emissions target * *Definition of zero emissions: The volume of waste eventually sent to simple reclamation disposition becomes 2% or less of the total volume of industrial waste (i.e., recycling ratio of 98% or more)	Target - Simple reclamation ratio ⁽³⁾ of 5% or less on industrial waste (i.e., recycling ratio of 95% or more)	(Omiya head office) Simple reclamation ratio: 1.9% (Recycling ratio: 98.1%)	A
(2) Reducing industrial waste volume in basic unit * *Basic unit: industrial waste volume/sales Industrial waste from 3D Techno Center is to be managed based on its total waste volume in 2007 and not included in the group target management figure (to be included from 2008).	Target - Reducing industrial waste volume ⁽⁴⁾ by 2% in basic unit, compared to 2006 (waste from 3D Techno Center to be managed on actual volume)	(Omiya head office) Reduced by 31.7%	A
(3) Promoting recycling of general waste	Target - Promoting recycling of general waste (efforts to understand status quo and promote sorted emissions)	As a result of eco patrolling ⁽⁶⁾ , awareness of sorted emissions was enhanced	A
(4) Reducing general waste ⁽⁵⁾	Target - Reducing general waste volume by 10%, compared to 2006	(Omiya head office) Reduced by 36.7%	A
3 Promoting measures to reduce CO ₂ emissions *Basic unit: CO ₂ emissions/sales	Target - Establishing methods for calculating CO ₂ emissions volume	Established methods for calculating CO ₂ emissions volume	A
4 Promoting DfE - positive sales promotion for products developed in DfE (Designs for Environment) (1) Each implementation item is to be assessed on the basis of cross-comparison with other products in product development and design stages. (2) Target achievement ratios in each year are to be determined by compiling assessment results at development and design stages (*Achievement ratios for items with specific target figures are to be assessed by comparing with other products in similar specifications.)	(1) Promoting resource-saving designs as planned (i) For longer service life: review of product reliability test contents, (ii) For lighter weight: 2% reduction (target), (iii) For more compactness: 2% reduction (target), (iv) For easier disassembling: 2% work (2) Eliminating harmful substances in product: zero nonconformity incidence (target)	(1) (i) Test contents reviewed, introducing new reliability test methods is under study, (ii) Product weight: reduced by 11.6%, (iii) Product cubage: reduced by 15.7%, (iv) Work man-hours improved by 3.7%, (v) LCA being implemented (2 models) (vi) Recycled materials introduction test was done. (2) Nonconformity incidence: zero	B
5 Proper management of chemical substances (PRTR applicable substances) * *Basic unit: Volume of chemical substances used/sales	Establishing methods to grasping the volume of chemical substances used	Established methods	A
6 Preventing environmental contamination	(1) Suppressing contamination on groundwater outside PRB ⁽⁷⁾ to a level better than meeting the environmental standard (2) Zero environmental contamination accident	Improved to a level better than meeting the standard value at groundwater contamination measuring points outside PRB. Quality of miscellaneous water (BOD value): BOD value did not meet the standard value in the single month of February. No other environmental contamination.	B

A: Satisfactory B:Partly Unsatisfactory

LCA (Life Cycle Assessment) work was performed in 2007 and is continued in 2008. Also, the three factories in Aomori and TOF in China set objectives for pursuing seven environmental policies of compliance with environmental laws and regulations, protecting resources, preventing environmental contamination, promoting activities for conserving the environment, managing green procurement, promoting education on the environment, and disclosing environment-related information. We worked on the policies and established objectives and targets.

Tasks for 2008

In recent years, the tendency to shift production of mass-production items to our factory in Foshan has become more conspicuous. Our company has decided to integrate environmental objectives and targets of the Omiya head office, three factories in Aomori and TOF in China from

2008 so that Tamron may work on the same objectives and targets as a group. While the three factories in Aomori attained the target for reducing general waste, the volumes of industrial waste from the Hirosaki and Namioka factories have been increasing. Also, at TOF in China, the structure to determine the volumes of industrial waste has not been sufficiently established. Therefore, building a structure capable of keeping track of the volumes of waste generated is necessary. The Omiya head office must employ stronger countermeasures for reducing waste in 2008 and beyond since the scope of waste management is expected to be enlarged to include our 3D Techno Center ⁽²⁾.

⁽¹⁾LCA (Life Cycle Assessment): A method to assess environmental impact by evaluating all stages from raw materials procurement, manufacturing, transportation and use to disposition.

⁽²⁾Our 3D Techno Center established in August 2005 is a factory for manufacturing metal molds with three-dimensional fabrication equipment. While managed separately so far, it is planned to be included in our CSR report from 2009 since the factory is expected to start full operations in three shifts from 2008.

Environmental Objectives for 2008	Environmental Objectives for 2009
Integrating environmental objectives of the Omiya head office, three factories in Aomori and TOF as well as Tamron's environmental management and quality management systems	Integrating ISO systems of the Omiya head office and three factories in Aomori
Confining the simple reclamation ratio of industrial waste to 4% or less (i.e., recycling ratio of 96% or more)	Confining the simple reclamation ratio of industrial waste to 2% or less (i.e., recycling ratio of 96% or more)
Reducing industrial waste emissions by 3% compared to 2006 in specific productivity units (target management by including 3D Techno Center)	Reducing industrial waste emissions by 5% compared to 2006 in specific productivity units (target management by including 3D Techno Center)
Enhancing recycling ratio of general waste (statue quo analysis and promotion of sorted disposition)	Enhancing recycling ratio of general waste (statue quo analysis and promotion of sorted disposition)
Reducing general waste emissions by 15% compared to 2006	Reducing general waste emissions by 20% compared to 2006
Reducing CO ₂ emissions by 3% compared to 2007	Reducing CO ₂ emissions by 6% compared to 2007
(1) Introducing resource-saving designs as planned: (a) Setting targets for longer serviceability and follow-up studies, (b) For lighter weight (2% reduction in product weight), (c) For more compactness (2% reduction), (d) For easier disassembling (2% reduction), (e) Better methods for utilizing LCA, (f) Use of recycled materials in products (2) Complete elimination of harmful substances from products (zero incidence)	(1) Introducing resource-saving designs as planned: (a) 100% pass ratio of inspection for longer serviceability (b) For lighter weight (2% reduction in product weight), (c) For more compactness (2% reduction), (d) For easier disassembling (2% reduction), (e) Better methods for utilizing LCA, (f) Use of recycled materials in products (2) Complete elimination of harmful substances from products (zero incidence)
Reducing ratio of chemical substances used in products by 0.5% per specific productivity unit, compared to 2007	Reducing ratio of chemical substances used in products by 1% per specific productivity unit, compared to 2007
(1) Suppressing contamination of groundwater outside PRB to a level better than an established environmental standard, (2) No environmental contamination accidents	(1) Suppressing contamination of groundwater outside PRB to a level better than an established environmental standard, (2) No environmental contamination accidents

⁽³⁾Industrial waste from the Omiya head office and Tokyo sales office. Simple reclamation ratios (recycling ratios) are calculated based on amounts of all waste excluding valuable resources, and the scope includes the Omiya head office, 3D Techno Center and Tokyo office.

⁽⁴⁾Based on the volume of waste from the Omiya head office and Tokyo office. The volume of industrial waste does not include metal and wood scraps.

⁽⁵⁾General waste excluding recyclable waste

⁽⁶⁾Structure to evaluate if instructions for sorting waste materials as well as setting air-conditioner temperatures within the prescribed range are being complied with (evaluation through bimonthly investigation by representatives of respective departments)

⁽⁷⁾PRB: permeability decontamination bath. For further details, see page 21.