# RC Activity Results for FY2022 and Plan for FY2023

☆☆☆：Achieved、☆☆：Mostly achieved、☆：Further efforts required

| | RC Medium-term Plan 2023 (2021-2023) (♦Grow UP 2023 KPI; Other: RC target) | FY2022 RC Activity Plan | FY2022 RC Activity Results | Self-assessment | FY2023 RC Activity Plan |
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| Occupational Health and Safety<br><br>Process Safety and Accident Prevention | Occupational Health and Safety<br>Aim to eliminate occupational injuries at the worksites of MGC and its partner companies. Visualize the factors that directly and indirectly affect occupational safety through various evaluation methods and build foundations for improvement.<br><br>Quantitative occupational health and safety targets until 2023<br>♦Serious occupational injuries[*1]: 0<br>Lost time injuries and non-lost time injuries requiring three or more doctor visits at MGC: 0<br>Cooperating company frequency rate: 0.3 or lower; Severity rate: 0.003 or lower<br><br>Process Safety and Accident Prevention<br>Aim to eliminate accidents in the workplace. Visualize the factors that directly and indirectly affect process safety and accident prevention through various evaluation methods and build foundations for improvement.<br><br>Quantitative process safety and accident prevention targets until 2023<br>♦Serious accidents[*2]: 0<br>ICCA annual score: 0 (for both MGC and cooperating companies) | To achieve occupational health and safety and process safety and accident prevention targets, implement effective measures according to issues at each business site with the aims of safe work and stable operations, taking the following into consideration.<br><br>(1) Self-initiated safety activities<br>(2) Prevention of similar occupational injuries and human error<br>(3) Support for reducing occupational injuries at partner companies<br>(4) Voluntary safety measures<br>(5) Improvement measures using the MGC Group Process Safety and Disaster Prevention Guidelines and evaluation tools such as MOSMS diagnoses<br>(6) Achieve MGC smart factories and introduce new technologies.<br>(7) Identify sources of safety and accident hazards and take measures to ensure safety (including natural disasters).<br>(8) Education and training | (1) Self-initiated safety activities<br>・Conducted day-to-day safety activities unique to each business site including 5S, near-miss incident identification activities, KY, workplace safety meetings, monthly campaigns with different themes, training on past examples using KY handbooks, distribution of environmental preservation news, personal safety declarations, safety dialogues, and safety speeches.<br>・Undertook worksite-led safety initiatives by encouraging TPM activities and confirmed the status of safety patrol implementation.<br>・Held LINK Leaders Conferences in production, engineering, research, and loading and unloading departments to share information on safety management procedures, research on accident case studies, and best practices and promoted safety activities.<br>(2) Prevention of similar occupational injuries and human error<br>・Conducted a campaign to address occupational injuries that occur frequently such as falling down, falling from a height, and falling down stairs and worked to prevent reoccurrence.<br>・Reviewed maps of sites with a risk of falling down, falling from a height, and falling down stairs, etc., posted signs, and implemented other safety measures.<br>・Used improvement presentation meetings, training courses taught by outside instructors, readings on past examples of human error and work procedure manuals, and measures to instill the pointing-and-calling occupational safety method to prevent human error.<br>(3) Support for reducing occupational injuries at partner companies<br>・Held accident-prevention and other conferences at partner companies, shared accident case studies and other safety information, provided safety management methods and systems, and worked with partner companies to create safe workplaces.<br>・Made company training facilities including safety dojos and process dojos available to train the employees of on-site partner companies. Started VR safety training for cooperating construction companies.<br>・Used information on near-miss incidents and improvement proposals from partner companies to improve work environments. | ☆☆ | Implement effective measures according to issues at each business site with the aims of safe work and stable operations.<br><br>(1) Self-initiated safety activities<br>(2) Prevention of similar occupational injuries and human error<br>(3) Support for reducing occupational injuries at partner companies<br>(4) Voluntary safety measures<br>(5) Improvement measures using the MGC Group Process Safety and Disaster Prevention Guidelines and evaluation tools such as MOSMS diagnoses<br>(6) Achieve MGC smart factories and introduce new technologies.<br>(7) Identify sources of safety and accident hazards and take measures to ensure safety (including natural disasters).<br>(8) Education and training |

| | | | | (4) Voluntary safety measures | | |
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| | | | | ・Reconfirmed fire and leak countermeasures based on past examples, implemented measures to prevent gradual fading of memories of practices, and prevented reoccurrence. | | |

(4) Voluntary safety measures
  ・Reconfirmed fire and leak countermeasures based on past examples, implemented measures to prevent gradual fading of memories of practices, and prevented reoccurrence.
  ・Held LINK Leaders Conferences in production, engineering, research, and loading and unloading departments to share information among business sites on safety management procedures, research on accident case studies, and best practices and promoted safety activities.
  ・Systematically implemented external corrosion management to prevent leaks and reoccurrence of problems.
(5) Improvement measures using the MGC Group Process Safety and Disaster Prevention Guidelines and evaluation tools such as MOSMS diagnoses
  ・Used the MGC Group Process Safety and Disaster Prevention Guidelines to conduct RC audits and internal audits.
  ・Held accident cause analysis meetings and introduced a spare parts management systems after MOSMS diagnoses and also continued improvement measures.
(6) Achieved MGC smart factories and introduced new technologies.
  ・Verified DX technologies that have been introduced including facility management systems for creating smart factories and implemented measures concerning plant safety management systems using the IoT including drones and an online abnormality predictive system.
(7) Identified sources of safety and accident hazards and took measures to ensure safety (including natural disasters).
  ・Conducted HAZOP training as a part of in-house training including training by outside instructors and process dojos.
  ・When conducting HAZOPs, managed process according to the number of nodes and promoted systematic implementation of HAZOPs.
  ・Obtained the latest hazard maps and reviewed accident prevention rules.
  ・Prepared timelines corresponding to ongoing disasters such as wind and flood damage.
(8) Education and training
  ・Conducted training using in-house training facilities including maintenance dojos and process dojos and conducted hands-on training in the Keiyo Coastal Industrial Complex Human Resource Development Course, Sanyo Human Resource Development Course, and other courses.
  ・Conducted safety training that integrates VR experiences with real-world experiences.
  ・Introduced e-learning and used online seminars to continue training during the COVID-19 pandemic.
  ・Conducted disaster preparedness drills in anticipation of a fire and evacuation drills in anticipation of an earthquake and tsunami.

Results compared to quantitative targets through 2023
  ・Grow UP 2023 KPI
    Serious occupational injuries: 1
    Serious accidents: 0
  ・Quantitative targets of the RC Medium-term Plan 2023

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| | | | MGC   Lost time injuries and non-lost time injuries requiring three or more doctor visits: 3<br>Cooperating companies<br>    Frequency rate: 0.49<br>    Severity rate: 0.044<br>ICCA score: 8 in one year (MGC: 7; cooperating companies: 1) | | |

| Environmental Conservation | Aim to protect the natural environment and contribute to communities through business activities. From those results, improve MGC's reputation in society.<br><br>Qualitative and quantitative environmental conservation targets until 2023*<br><br>(1) ♦Reduce greenhouse gas (GHG) emissions* by 28% compared to fiscal 2013<br>  ♦Reduce GHG emissions intensity* by 19.9% compared to fiscal 2013<br>  ① Continuously reduce emissions by 4,000 t-CO2e/year<br>  ② Completely eliminate heavy oil used for in-house power generation and in boilers, etc. (Mizushima Plant, Yokkaichi Plant)<br>  ③ Reduce the GHG emissions coefficient for purchased electric power (0.45; Mizushima Plant)<br>  ♦④ Introduce 10% renewable energy to purchased electric power (all business sites)<br>(2) Zero emissions of waste<br>  ♦*Waste zero emissions rate*3: 0.3% or less<br>(3) Reduce releases of chemical substances subject to the Pollutant Release and Transfer Register system* by 10% compared to 2020<br>(4) Water resource conservation<br>  *Water reuse rate: 95% or higher Identify water risk (domestic manufacturing sites)<br>(5) Biodiversity conservation<br>  *"Bookcase for Biodiversity" donation program: Total of 10 instances<br>  *Establishment of "actual sites" of biodiversity: 1 installation | (1) Improve GHG emissions intensity and reduce emissions.<br>(2) Reduce the final disposal of waste by encouraging recycling of waste, efficiently using waste as a resource, and taking other measures.<br>(3) Promote reductions in chemical substances subject to the Pollutant Release and Transfer Register system.<br>(4) Promote efficient use of water resources.<br>(5) Promote identification of water risks at each business site.<br>(6) Undertake biodiversity conservation.<br>(7) Promote eco-friendly products.<br>(8) Continuously improve environmental management system (EMS) . | GHG emissions reduction<br>**・Replaced lights with LEDs, replaced air conditioning equipment, pumps, and other equipment with high-efficiency units, reviewed operational conditions of manufacturing equipment and took other measures, performed proper management of insulation and steam traps, and implemented ongoing measures to reduce GHG emissions.**<br>・Introduced renewable energy and purchased non-fossil fuel certificates.<br>Waste reduction<br>・Made efforts to reduce waste by reducing the amount of dried sludge generated and selling sludge as fertilizer, implementing comprehensive sorting and recovery of waste material, distilling and recycling waste, selling resin used in prototype production, selling metal recovered from catalysts, and converting waste to fuel.<br>Water resource conservation<br>・Made efforts to efficiently use water resources by stable operations and reuse of water.<br>・Surveyed water usage and disclosed the results on the Company website.<br>・Investigated examples of water-related risks and opportunities and reflected the results in CDP water security questionnaires.<br>Biodiversity conservation<br>・Conducted a land survey and surveyed wildlife for the construction of a biotope.<br>・Participated in regional activities including coastal preservation and black pine tree planting.<br>・Conducted clean-up activities in the vicinity of plants.<br>Air and water<br>・Reduced emissions of atmospheric pollutants using scrubber equipment.<br>・Analyzed waste gas from waste treatment facilities and publicly released the results.<br>・Analyzed waste water and performed appropriate management of wastewater treatment facilities.<br>Noise, vibration, and odors<br>・Implemented patrols to confirm that there was no occurrence of noise, vibration, odors, and so on.<br>・Conducted RC audits to confirm that there are no problems with environmental management systems.<br>PRTR<br>・Curtailed releases of chemical substances subject to the Pollutant Release and Transfer Register (PRTR) system by improving scrubbers and other facilities, replacing substances not subject to PRTR, and taking other measures.<br>・Surveyed releases of chemical substances subject to the PRTR Act and publicly released the results on the Company website.<br><br>Results compared to quantitative targets through 2023<br>・Grow UP 2023 KPI<br>  Reduced greenhouse gas (GHG) emissions by 34% | ☆☆ | Implement various measures to achieve the following environmental preservation targets relating to the Grow UP 2023 KPI and RC Medium-term Plan 2023.<br><br>(1) Measures to address global environmental issues<br>  GHG emissions reduction (including introduction of electric power with a low GHG emissions coefficient and renewable energy)<br>  Waste reduction<br>  Water resource conservation<br>  Biodiversity conservation<br><br>(2) Measures to address local environmental issues<br>  Continuous improvement of factors that have an impact on the environment (air, water, noise, vibration, odors, PRTR, etc.) |

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| | | | Reduced GHG emissions intensity by 8.6% <br> Renewable energy introduction rate for purchased electric power: 19% <br> Waste zero emissions rate: 0.25% <br> ・ Quantitative targets of the RC Medium-term Plan 2023 <br> Increased releases of chemical substances subject to the PRTR Act by 22% compared to 2020 <br> Water reuse rate: 93.7% <br> "Bookcase for Biodiversity" donation program: Total of 6 instances <br> Establishment of "actual sites" of biodiversity: 0 installations | | |

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| Chemical and Product Safety | Clarify the properties and handling methods of chemicals and products to protect the safety and health of all handlers and the environment.<br><br>Quantitative chemical and product safety targets until 2023**<br>(1) Conduct phased safety evaluations in product development (ongoing)<br>　**Review new product launches and market development: 100% (percentage of products)<br>(2) Promote risk assessment and risk management of handled products (ongoing)<br>　**Product safety training: 100% (percentage of members of the MGC Group Environment and Safety Council)<br>(3) Ensure that applications and registrations are carried out in accordance with the chemical substance management laws and regulations of each country<br>　**Chemical substance registrations under the systems for management of chemical substances in each country: 100% (percentage of products)<br>(4) Operation and deployment of automated SDS production system<br>　**Preparation and delivery of safety information (SDS): 100% (percentage of products) | To achieve chemical and product safety targets, perform voluntary chemical management while responding appropriately to international management mechanisms.<br><br>(1) Evaluate the safety of developed substances and products through various investigations.<br>(2) Respond appropriately to amendments of laws applicable to handled products.<br>(3) Conduct safety training on handled chemical substances.<br>(4) Gather information on the chemical substance management laws and regulations of each country and perform procedures under registration systems.<br>(5) Use SDS production systems adapted to the laws and regulations of Japan and other countries and properly deliver SDS to customers. | (1) Evaluated the safety of developed substances and products through various investigations.<br>・Conducted safety testing of developed substances and safety evaluations in product launches and market development.<br>・Conducted new small production volume registrations under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and the Industrial Safety and Health Act.<br>(2) Responded appropriately to amendments of laws applicable to handled products.<br>・Gathered information on amendments to Industrial Safety and Health Act applicable to handled products and distributed it to business sites and Group companies.<br>(3) Conducted safety training on handled chemical substances.<br>・Conducted training for new employees, sales personnel, and personnel who handle chemical substances at business sites.<br>(4) Gathered information on the chemical substance management laws and regulations of each country and performed procedures under registration systems.<br>・Conducted chemical substance safety testing and took other measures for chemical substance registration in Europe, the U.K., South Korea, and Turkey and registered chemical substances.<br>・Held meetings to share information on overseas laws and regulations and conducted e-learning.<br>(5) Used SDS production systems adapted to the laws and regulations of Japan and other countries and properly delivered SDS to customers.<br>・Used an automated SDS production system to prepare SDS for MGC and affiliated companies. Responded to amendment of the Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement and made preparations for responses to the amended Industrial Safety and Health Act.<br><br>Results compared to quantitative targets through 2023<br>・Quantitative targets of the RC Medium-term Plan 2023<br>　Review new product launches and market development: 100% (percentage of products)<br>　Product safety training: 100% (percentage of members of the MGC Group Environment and Safety Council)<br>　Chemical substance registrations under the systems for management of chemical substances in each country: 100% (percentage of products)<br>　Preparation and delivery of safety information (SDS): 100% (percentage of products) | ☆☆☆ | To achieve chemical and product safety targets, perform voluntary chemical management while responding appropriately to international management mechanisms.<br><br>(1) Evaluate the safety of developed substances and products through various investigations.<br>(2) Respond appropriately to amendments of laws applicable to handled products (particularly the major amendments of the Industrial Safety and Health Act).<br>(3) Conduct safety training on handled chemical substances.<br>(4) Gather information on the chemical substance management laws and regulations of each country and perform procedures under registration systems.<br>(5) Use SDS production systems adapted to the laws and regulations of Japan and other countries and properly deliver SDS to customers. |

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| Safe Transport and Storage of Chemicals | Aim to develop an improved reputation among stakeholders and build trust. | To achieve logistics safety targets, take the following items into consideration and establish safety management systems without omissions.<br><br>(1) Analysis of logistics accidents, occupational injuries, etc.<br>(2) Occupational safety and accident prevention during loading and unloading<br>(3) Reinforcement of dialogue with Group logistics companies through audits and questionnaires<br>(4) Increasing the rate of security agreement conclusion | (1) Analysis of logistics accidents, occupational injuries, etc.<br>・Gathered and analyzed information on problems and distributed the results.<br>・Business sites provided information to on-site partner companies through meetings of a transportation company working group and took measures to prevent reoccurrence of logistics problems.<br>(2) Occupational safety and accident prevention during loading and unloading<br>・Launched loading and unloading LINK, exchanged information within loading and unloading work, and took measures to eliminate occupational injuries and accidents.<br>(3) Reinforcement of dialogue with Group logistics companies through audits and questionnaires<br>・Conducted logistics audits. Business departments and subcommittee meeting with five logistics service providers established the Logistics Quality Enhancement Committee and encouraged information exchanges.<br>(4) Increasing the rate of security agreement conclusion<br>・Centrally managed the status of security agreement conclusion using logistics systems and encouraged conclusion of agreements. | ☆☆☆ | To eliminate logistics accidents and problems, take the following items into consideration and establish safety management systems without omissions.<br><br>(1) Analysis of logistics accidents, occupational injuries, etc. and distribution of analysis results<br>(2) Occupational safety and accident prevention during loading and unloading<br>(3) Reinforcement of dialogue with Group logistics companies through audits, various committees, etc.<br>(4) Measures to increase the rate of security agreement conclusion such as investigation of tools |
| Stakeholder Relations | Aim to promote environmental and safety activities across the entire MGC Group. Reinforce communications within the Group and promote security, process safety and disaster prevention, and environmental management. | To achieve targets for dialogue with society, implement the following items.<br><br>(1) Expand and improve integrated reports, business site environmental and safety reports, and website.<br>(2) Expand opportunities for dialogue including RC regional dialogues and tours.<br>(3) Undergo external evaluations. | (1) Expanded and improved integrated reports, business site environmental and safety reports, and website.<br>・Reviewed and enhanced the content of the MGC Report 2022, Sustainability Data Book 2022, and Company website.<br>・Prepared business site environmental and safety reports and released them on the Company website.<br>(2) Expanded opportunities for dialogue including RC regional dialogues and tours.<br>・There were plans to increase opportunities for dialogue by conducting RC regional dialogue meetings and plant tours and participating in regional events, but these events could not be held due to the COVID-19 pandemic, and meetings were either conducted on paper or postponed and only activities such as clean-ups in the vicinity of business sites were conducted.<br>(3) Underwent external evaluations.<br>・Underwent external ISO 14001 evaluation, third-party GHG verification, and risk surveys by insurance companies. | ☆☆☆ | To achieve targets for dialogue with society, implement the following items.<br><br>(1) Expand and improve integrated reports, business site environmental and safety reports, and website.<br>(2) Expand opportunities for dialogue with stakeholders.<br>(3) Actively undergo external evaluations and make improvements. |

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| Responsible Care Initiatives and Management | Aim to promote environmental and safety activities across the entire MGC Group. Reinforce communications within the Group and promote security, process safety and disaster prevention, and environmental management. | Conduct environmental, safety, and disaster preparedness measures with a sense of unity by sharing information on MGC Group accidents and injuries and through the MGC Group Environment and Safety Council and MGC Group environmental and safety audits. | Analysis and use of information on MGC Group accidents and injuries<br>・Shared accident and injury information collected from Group companies with Group companies and reported the information at MGC Group Presidents meetings.<br>Improvement of MGC Group safety results<br>・Used the MGC Group Process Safety and Disaster Prevention Guidelines during audits of MGC Group companies to conduct assessments and encourage improvements.<br>Implementation of MGC Group Environment and Safety Council meetings, audits, liaison committees of relevant personnel, etc.<br>・Held MGC Group Environment and Safety Council meetings, conducted Group company observations and audits, exchanged information at liaison meetings of relevant personnel, and supported Group companies. | ☆☆☆ | Conduct environmental, safety, and disaster preparedness measures with a sense of unity by sharing information on MGC Group accidents and injuries and through MGC Group Environment and Safety Council activities. |
| | Make continuous improvements to responsible care management systems. | Continuously improve RC management systems through environment and safety meetings, Environment and Safety Office Managers Meetings, RC audits, and other means and develop human resources through RC activities. | Reinforcement of collaboration with individual departments in RC activities<br>・Exchanged information and presented information on best practices at Environment and Safety Office Managers Meetings, Production Technology Department meetings, and LINK Leaders Conferences. | | Use various audits, meetings, and so on as opportunities for improvement in order to continuously enhance RC management systems and also develop human resources through RC activities. |

*1 Disability eligible for, or possibly eligible for disability compensation involving lost work accidents, fatal accidents and accidents resulting in permanent inability to work, and those involving four or more lost work days

*2 Accidents and major workplace accidents which threaten third parties, including localized environmental pollution and accidents affecting local residents

*3 Final disposal of waste/waste generated