

## Sustainable Society and Corporation

Not long ago, I read an article by Dominique Conseil, CEO of the Aveda Group – a world famous cosmetics manufacturer of beauty products using natural materials. He emphasized that if companies around the world change their management systems, they could establish a sustainable society. We used to expect that a powerful political leader would change society, therefore his words came as a shock. His words implied that the role of entrepreneurs is more important for the sustainable development and protection of the earth's natural resources than any other field in society, and that they have the ability to achieve their goals.

Today, we can no longer ignore the importance of environmental protection. Any product or development without consideration of the environment will find it difficult to attract a large market. Companies are not exempt from this paradigm. Many leading companies are aware of the importance of being "green" in the 21st century, and they are adjusting their corporate missions accordingly. It was only several years ago that companies believed that their benefits were in inverse proportion to their responsibilities to the environment. However, they have come to realize the synergy effect between profits and environmental protection, and they have strategically promoted this effect. More companies realize now that their investment in environmental protection via improvements in their environment-friendly image, is not an additional expense but a must for further growth. We can easily find examples of domestic and multi-national companies making an effort to protect the environment. The Aveda Group, as mentioned above, is a successful example of a company's commitment to environmental protection.

Companies know well that they have to establish a new paradigm and leadership for their sustainable development. To do this, resource application must be guaranteed. Companies cannot grow without long-term standpoints and countermeasures for raw materials. In other words, they realize that the core of this new paradigm for sustainable development is 'environmental protection'. This will result in transparent management, which in turn will lead to growth for companies and a sustainable society. For example, the chemical industry has been a major catalyst in the improvement of the quality of life in many countries. I am pleased to see that the chemical world is now concentrating its energy on creating a sustainable society.

The Korea Responsible Care Council's activities will provide a model case for domestic industries and lay a foundation for a sustainable society in Korea. I know that the KRCC and its members fully understand the two concepts of sustainable development and sustainable society, and put them into practice. I hope that their efforts will bring these goals to fruition.

We are borrowing the environment from the future generation. Companies use the natural environment the most, therefore they should be held accountable for its protection. Without such efforts, it is impossible to build a sustainable society. Change begins with the business world. We promise that we will do our best to realize this goal.

The Korea Responsible Care Council is preparing for the 8th APRCC in Seoul in 2003 for the development of Responsible Care and information exchange. Here is an article by Dr. Chris Van Lint from the AICM about how the APRCC was formed and the purpose of the Seoul Conference.

## Expecting APRCC's Success in Seoul Conference

The very first APRCC was held in Hong Kong in May 1995 and was organised by the Association of International Chemical Manufacturers (AICM). AICM was accepted by ICCA as a Responsible Care practitioner one year earlier, which resulted in AICM having a representative on the RCLG.

Because APRCC was initiated by AICM, it is understandable, that this Association has a keen interest in the activities of other Associations in the region, who wish to stage an APRCC and is always willing to assist them in their efforts to ensure a high quality event is realised.

Although it was never intended to hold the APRCC on an annual basis, history reveals that this is in fact what happened. Following the inaugural APRCC in Hong Kong, the next events were held as follows:

• September 1996	Beijing	Hosted by AICM
• May 1997	Tokyo	Hosted by JRCC <sup>1)</sup>
• May 1998	Taiwan	Hosted by TRCA <sup>2)</sup>
• November 1999	Shanghai	Hosted by AICM
• November 2000	Singapore	Hosted by SCIC <sup>3)</sup>
• October 2001	Indonesia (Bali)	Hosted by KNRCI <sup>4)</sup>

The next APRCC will be proudly hosted in Seoul, Korea by KRCC, the Korea Responsible Care Council. The conference is slated to take place in 2003.

The organisers of successive APRCC have always been very conscious of the fact that each new conference should expand on previous experiences and that lessons learned should be applied. This not only applies to the organisational part of the conference, but even more importantly to the programme content. In the early days of APRCC, the programmes presented have been built around statements of objectives, such as those given at the first conference in Hong Kong, which included:

1) Japan Responsible Care Council,  
 2) Taiwan Responsible Care Association,  
 3) Singapore Chemical Industry Council,  
 4) Komite Nasional Responsible Care Indonesia,

- Emphasise the value of Responsible Care in Asia/Pacific
- Share Asia/Pacific and Global Responsible Care learning experiences
- Provide information and tools for application and implementation of Responsible Care,

Since these early conferences, APRCC has evolved into a high quality event and specific themes have been applied to more recent conferences. At the last conference in Bali, "Responsible Care for the 21st Century—increasing Stakeholder participation" was chosen as the theme.

At the conference in Taipei and subsequent ones, a segment was introduced, which allowed representatives from Associations throughout the Asia/Pacific region to get together, following the closing of the official part of the conference and allow them to discuss topics of common interest. These get-togethers have proved to be both very popular and useful and more recently they did in fact become a kind of "mini RCLG" conference, with many RCLG members attending. During these conferences, representatives of Associations in the region have a chance to exchange experiences, create networks and find ways and means of pooling resources, to avoid "re-inventing the wheel". Such meetings have also included critical and open discussions on the successes and shortcomings of the APRCC just concluded, in order to ensure that future APRCC will more effectively address the needs and expectations of participants. It was at such a session in Bali last year, that a recommendation was made that the next conference should even more intensively address the urgent need of Responsible Care practitioners, not only to communicate with all stakeholders, but also to solicit their participation in the APRCC. The meeting concluded, that this was particularly true for our relationship with the media and NGOs

The International Responsible Care Community looks forward to an invigorating APRCC in Seoul next year, when it is expected that the conference will have fresh new look. This should be the occasion on which we take a careful look at ourselves and assess how our performance is judged by those who are not intimately involved in the chemical industry, but who nevertheless are stakeholders.



# Product Liability Act and Product Stewardship

The Korea Responsible Care Council practices four codes, Employee Health & Safety, Process Safety, Pollution Prevention, and Emergency Response. Based on this, it is time to review the extension of our activities. In particular, the code of Product Stewardship associated with the enforcement of the Product Liability Act on July 1 will be able to provide a practical framework for the chemical industry to establish a sustainable and systematic counter measure. Here is a summary of the code of Product Stewardship as promoted by the American Chemistry Council.

Responsible Care specifies that the manufacturer makes an effort to minimize possible dangers in the process, ranging from production to delivery, use, and the disposal of a chemical product. It should let customers know of its dangers, and provide them with appropriate information. In addition, Responsible Care protects environment, safety, and human health within the entire life cycle of chemical goods via each code including management practices such as Process Safety, Employee Health & Safety, Pollution Prevention and Emergency Response, Distribution, Community Awareness and the Product Stewardship. In particular, the code of Product Stewardship guarantees the product itself, and is closely related to the Product Liability Act. The practical instructions in this code for the sustainable improvement of product safety are as follows.

1. LEADERSHIP	Demonstrates senior management leadership through written policy, active participation and communication.
2. ACCOUNTABILITY and PERFORMANCE MEASUREMENT	Establishes goals and responsibilities for implementing product stewardship throughout the organization. Measures performance against these goals.
3. RESOURCES	Commits resources necessary to implement and maintain product stewardship practices.
4. HEALTH, SAFETY and ENVIRONMENTAL INFORMATION	Establishes and maintains information on health, safety, and environmental hazards and reasonably foreseeable exposures from new and existing products.
5. PRODUCT RISK CHARACTERIZATION	Characterizes new and existing products with respect to their risk using information about health, safety, and environmental hazards and reasonably foreseeable exposures. Establishes a system that initiates re-evaluation.
6. RISK-MANAGEMENT SYSTEM	Establishes a system to identify, document, and implement health, safety and environmental risk-management actions appropriate to the product risk.
7. PRODUCT and PROCESS DESIGN and IMPROVEMENT	Establishes and maintains a system that makes health, safety and environmental impacts including the use of energy and natural resources key considerations in designing, developing and improving products and processes.

<b>8. EMPLOYEE EDUCATION and PRODUCT USE FEEDBACK</b>	Educates and trains employees, based on job function, on the proper handling, recycling, use, and disposal of products and known product uses. Implements a system that encourages employees to feed back information on new uses, identified misuses or adverse effects for use in product risk characterization.
<b>9. CONTRACT MANUFACTURERS</b>	Selects contract manufacturers who employ appropriate practices for health, safety and environmental protection for the operations under contract, or works with contract manufacturers to help them implement such practices. Provides information and guidance appropriate to the product and process risk to foster proper handling, use, recycling and disposal. Periodically reviews performance of contract manufacturers.
<b>10. SUPPLIERS</b>	Requires suppliers to provide appropriate health, safety and environmental information and guidance on their products. Factors adherence to sound health, safety, and environmental principles, such as those contained in Responsible Care into procurement decisions.
<b>11. DISTRIBUTORS</b>	Provides health, safety and environmental information to distributors. Commensurate with product risk, selects, works with and periodically reviews distributors to foster proper use, handling, recycling, disposal and transmittal of appropriate information to downstream users. When a company identifies improper practices involving a product, it will work with the distributor to improve those practices. If, in the company's independent judgment, improvement is not evident, then the company should take further measures—up to and including termination of the business relationship. This Management Practice should be implemented in conjunction with the Distribution Code of Management Practices.
<b>12. CUSTOMERS AND OTHER DIRECT PRODUCT RECEIVERS</b>	Provides health, safety and environmental information to direct product receivers. Commensurate with product risk, works with them to foster proper use, handling, recycling, disposal, and transmittal of appropriate information to downstream users. When a company identifies improper practices involving a product, it will work with the product receiver to improve those practices. If, in the company's independent judgment, improvement is not evident, then the company should take further measures—up to and including termination of product sale.

The code of Product Stewardship describes common countermeasures for the Product Liability Act. In other words, it includes safety-oriented systems, sustainable accumulation and documentation of information, management of subcontractors and distributors, joint countermeasures of industries, efforts to improve corporate image, etc.

## The Drawing-up and Management of Policies

Clause 1 of the Product Stewardship requires that the company must draw up a safety management policy of products and secure the CEO's leadership. This means that it is most important to secure product safety, clarify protection of the users, and execute them centering around the CEO in management policy ranging from the planning and designing of a product to manufacturing and distribution. Clause 1 also indicates that the comprehensive safety countermeasure has to be

promoted by all divisions' within the company. Clauses 2 and 3 clearly state that the entire company has to secure human resources required to organize and execute product safety measures. These Clauses are important factors in satisfying the purpose of the Product Liability Act that protect consumers, and contribute to the sound development of the national economy.

## ● Accumulation of Information and Management System–Building

The Product Liability Act regulates reparation liabilities for damage caused by safety violations such as common defects in design, manufacturing, and mark. The manufacturer cannot be exempt from the responsibility for damage in the following cases; when product design does not meet the regulations and standards for safety; when a product is inferior in safety to other companies; and when the company does not prepare for obvious accidents. In the manufacturing process, the manufacturer has to check and remove all factors which can possibly damage the safety of products such as the inferiority of components or materials; deterioration of facility's functions and problematic working conditions. The code of Product Stewardship regulates that the manufacturer must build a regular reevaluation system to continuously collect information on possible accidents and dangers, and closely examine product defaults as well as create a danger control system to document and execute activities needed for each stage in the manufacturing process. In addition, the code indicates that when designing and improving products and processes, the manufacturer has to carefully consider effects on environment, safety, and health. In particular, the efficient management of documents is a must to cope with consumers' claims caused by inferior products.

## ● Delivery, Education, and Training of Information in Use

When a product has a danger which cannot be removed, the manufacturer has to provide warning labels and an explanation to prevent damage caused by defects in accordance with the Product Liability Act. The code of Product Stewardship regulates that the manufacturer must deliver enough information on how to use the product for the user, recycling, and disposal of products as well as educate and train all workers according to each worker's function. Furthermore, the code indicates that workers have to clarify dangers by discussing and cooperating with each other on scenarios of product misuse. The code recommends that the manufacturer stop selling the product to a user when the user does not exercise appropriate use.

## ● Selection and Management of Contractors

The manufacturer needs to cooperate with all subcontractors such as providers of raw materials and components, and distributors to prevent accidents in accordance with the Product Liability Act. In addition, the manufacturer has to always check that subcontractors properly execute all requirements. The 'manufacturer' includes those who can be understood as a manufacturer on a label as well as those who manufacture, process, and import products. Each company has to have a sense of responsibility to thoroughly guarantee all products they are related to. According to the Product Stewardship, appropriate selection and management of contractors is needed to clearly indicate whom the responsibility belongs to when an accident happens. In terms of prevention, it is necessary to secure product safety through strict management of contractors.

The Product Liability Act which was enforced on July 1 indicates that the manufacturer has to compensate the victim for damages in accordance with the principle of strict liability. The manufacturer who is responsible for the product has to provide consumers with answers – answers to questions about the manufacturer's application of "state-of-the-art" safety technologies. The true purpose of the Product Liability Act is to 'soundly develop the national economy and protect the well-being of its people'. Based on the Responsible Care ethic, manufacturers involved in the chemical industry must continuously put it into practice. The Code of Product Stewardship management practices and 'Responsible Care' activities also require that manufacturers make a concerted effort to protect the health, safety, and environment. Therefore, it is time to actively review the extension of the code of Product Stewardship management practices.

## Briefing Session on GHS

■ The Korea Responsible Care Council held a briefing session on GHS (Globally Harmonized System) in a conference room at the Korea Petrochemical Industry Association on May 3. The session was sponsored by the Bayer Korea Academy Forum under the auspices of the regulatory committee and the international relations committee. The GHS concerns the common standards on the classification methods of chemicals, mixtures, and products, and the degrees of danger. APEC had recently planned to introduce it. It has been 10 years since it was discussed by the UN, and over 95% of it has already been established. Approximately 20 experts in the field participated in this session and Dr. Chris Van Lint from Bayer was invited as a guest speaker. He gave a presentation about what GHS was. A senior researcher Yim Cheol-hong from the Korea Occupational Safety and Health Agency and Jeong Jong-koo (the executive vice president of Dongbu Hannong Chemical Co., Ltd.), chairman of the international relations committee from the KRCC were invited as panelists and exchanged opinions. Participants agreed that companies needed to collect opinions about the GHS, decide on priority order, and find countermeasures along with the government.

### ■ What Is the GHS?

Based on the Programme Area B, "Harmonization of classification and labelling of chemicals", in chapter 19 of Agenda 21 under a mutual agreement at the Rio Conference held in 1992, the GHS has been promoted by the cooperation of the UNCETDG, the OECD, and other international organizations.

Each nation and region had different methods in evaluating the degree of danger, classification, and labeling of chemicals. As a result, they could not properly control toxic chemicals which resulted in extra unnecessary expenses. The GHS is to classify toxic chemicals and regulate the degree of danger under a global agreement. In terms of the degree of danger, detailed execution plans for the harmony of labeling and the drawing up and training of SDS(Safety Data Sheet) have been prepared. The plans will be adopted at the United Nations Economic and Social Council (UNECOSOC) in December of this year.

The 1st meeting of the APEC Chemical Dialogue was held in Merida, Mexico on May 22-23. The Participants agreed that they would begin the GHS right after its adoption by the UN and that the members would voluntarily execute it until 2006. The matter of additional expenses for new classification and the labeling of toxic chemicals when executing the GHS were raised in the conference. They also agreed that they would discuss these issues at the Chemical Dialogue Steering Group meeting scheduled to be held in Acapulco, Mexico in August of this year.

## Outreach Programs



■ Dongbu Hannong Chemical, Rohm & Haas Korea, Bayer Korea and Samsung Petrochemical performed an outreach activity for 50 elementary students at Seoul Foreign School in the morning of May 3. This program was planned to raise the awareness of the chemical industry and educate children on the importance of environment, safety, and health. Interesting lectures and various chemical experiments aroused their interest. The children were surprised that their shoes

and many other things were chemical products. They wore safety clothing and participated in experiments. The program helped them understand chemistry. The participating member companies donated insect-eating plants, safety clothing, and souvenirs, and the children loved them.

## The International Relations Committee Meeting

■ The international relations committee (co-chairmen Jeong Jong-koo and Kim Bum) of the KRCC hosted a meeting for the preparation of the 2003 Asia Pacific Responsible Care Conference and the 2002 Responsible Care Leadership Group meeting on June 18. The international relations committee has run the Task Force Team for the 2003 APRCC since the first meeting on March 26 of this year. Details surrounding the preparations for the 2003 APRCC such as event schedule, conference themes, and budget were discussed at the meeting. The committee will report to the board of directors and strive to make APRCC the center of Responsible Care activities of the Asian Pacific area via the mutual agreement with Responsible Care organizations of each nation including the Association of International Chemical Manufacturers.

## ICCA RCLG 2002 Meeting in Johannesburg

■ The annual meeting of the Responsible Care Leadership Group(RCLG) under the International Council of Chemical Associations will be held in Johannesburg on 20-23 August, on the theme of "Advancing Responsible Care Principles and Practices". Jeong Jong-koo, the chairman of the international relations committee, Lim Chang-hee, a member of the regulatory committee, and Kim Young-chan, Secretary General will attend the meeting as representatives from KRCC.



## Samsung Petrochemical Held a RC Kick-off Meeting

■ On May 17, Samsung Petrochemical hosted a RC kick-off meeting in a big lecture hall of the Ulsan Plant where approximately 100 employers and employees including vice president Choi Keum-sung participated. The event began with Lee Chang-keun's (the environment safety team) report on the Responsible Care proceedings. Vice president Choi Keum-sung emphasized that Samsung Petrochemical has been internationally recognized in productivity and management. He asked all employers and employees to voluntarily participate in the Responsible Care activities so that Samsung Petrochemical could become the leading company in the field of environment and safety as well. Director Kim Bum from Bayer Korea introduced a case of US Steel Corporation which emphasized the benefits of safety efforts. He emphasized that the RC action would result in similar benefits.

## Korea Kumho Petrochemical Held a Kick-off Ceremony for the RC Promotion

■ On May 28, Korea Kumho Petrochemical held a kick-off ceremony for the RC promotion in the educational hall of the Ulsan Plant where about 80 employers and employees and subcontractors participated. This event was held to promote and raise awareness of Responsible Care. Vice president Lyoo Myung-ryul asked all employers and employees to actively participate in the Responsible Care activities in his opening address. General manager Bae Ki-yool of the environment and safety team presented the current status of RC promotion and future RC plans. Director Kim Bum from Bayer Korea stressed that Korea Kumho Petrochemical's management philosophy, 'Environment is preferred to business', coincided with the concept of Responsible Care and that Responsible Care would result in a better quality of life.

A questionnaire was carried out to see how much the participants in the education program knew about Responsible Care. The questions were as follows; knowledge about RC, directions for practical RC, and methods for efficient RC promotion, etc. According to the survey results, 58% of the participants knew what RC is, 42% did not know. To a question about the internal RC education program of their companies, 93% answered that it helped them to understand RC and that it was interesting. To a question about RC promotion, 75% gave an answer that it was a must for the growth of their companies. 9% thought that RC was unnecessary because of the existing systems concerning environment and safety, while 3% thought that it was hard to put it into practice. The survey results were generally positive about RC as follows; When all employers and employees continuously participate in RC education programs, it will be successful to improve understanding of RC and put it into practice.

With the advent of several systems concerning environment, safety, and health issues, more companies are interested in the integrated management system. Here is the case of Dow Chemical and Henkel which completed an integrated management system through Responsible Care and successfully put it into practice.

# Dow Chemical Company

## Korea, congratulations on your success in the World Cup!

To get to the semifinals took a lot of teamwork, dedication, commitment, planning and last, but not means least, passion. A successful Responsible Care program requires no less. If we all take what you have learned from doing so well in this competition and apply it to the implementation of Responsible Care, I am sure we can make great progress around the world.

The Chemical industry contributes products and services that significantly enable the quality of life that we all enjoy. Improvements in pharmaceuticals, food, construction, transportation, electronics, etc. would not be possible without the products of chemistry. We should all be very proud of our contributions to society, but we must also continually improve our environment, health, and safety (EH&S) performance as individual companies and as an industry. I personally believe that Responsible Care is one of the strongest global initiatives in the chemical industry that we can all align with, and continue to get better at as an industry. I would like to share some of our best practices at The Dow Chemical Company and hope that you will be able to use some of the things we have learned to further improve EH&S performance in your individual company.

At Dow, we have fully integrated Responsible Care into our culture and management system in order to drive EH&S performance improvement. How did we arrive at this point? From Dows top leadership to employees on the front line, we have infused our organization with a passion for Responsible Care. Weve established ambitious EH&S goals for the year 2005 in all measurable EH&S areas. We have empowered our employees to take responsibility for their role in helping us meet these goals and we have embedded Responsible Care in our management system.

## ● Establishing a Responsible Care Culture at Dow

From my perspective the most important element in successfully establishing a Responsible Care culture is that it starts at the highest organizational levels. Dows CEO and Corporate Operating Board have sent a clear message that Responsible Care is one of our companys top priorities. This message became a specific mandate in the form of the EH&S 2005 Goals. These goals keep our businesses and employees focused on the bottom line of Responsible Care continuously improving EH&S performance.

Responsible Care/EH&S play a prominent role in regular global broadcasts by Dows president and CEO Mike Parker to all employees. EH&S performance is also included in individual Dow businesses global broadcasts, as well as being part of business, site and functional leaders regular meetings. Surveys show that Dow employees are very proud of Dows commitment to Responsible Care and our level of EH&S performance.

## ● Empowering Employees

At Dow, employee involvement and empowerment are fundamental to how we are organized and conduct business. Empowered teams exist at all levels in the organization, addressing everything from day-to-day operations in businesses and functions to helping to ensure the alignment of EH&S and business strategies. One of the most important empowered teams is the local EH&S team. These teams are composed of operating and maintenance technicians, technical, and management employees. It is not uncommon for a plant operating technician to be the team leader because of his or her hands-on involvement with daily activities. Empowered teams are essential to Dows success in environment, health and safety by initiating local actions and leading the implementation of business and company initiatives at their sites.

Equally important to empowered teams are empowered individuals. In Dows environment, health and safety culture, the individual has the authority and the responsibility to intervene to ensure the safety and health of themselves and their fellow employees and the local community. This is most dramatically evident in the safe operation of our processes, where an individual with hands on the controls can decide to shut down a plant if they have a significant safety concern.

## ● The Importance of Effective Knowledge Management

EH&S is everyones business at Dow. Knowledge empowers employees and teams to raise the level of their EH&S performance. Therefore, it is critical to make information about EH&S available to all employees in an easy-to-use fashion. To achieve this goal, Dow has assembled teams to manage the knowledge associated with EH&S requirements. They develop and leverage the standards and associated mechanisms for compliance protocols, procedures, checklists, tools, work processes, model practices, training material, etc. and post this information on Dows Intranet. Through the Intranet, every Dow employee has access to health and safety policies and EH&S subject matter experts. For example, an operating technician with a safety concern can access information posted on the Intranet, as well as interact with a safety specialist thousands of miles away to address a safety issue.

## ● Extending the Reach of Responsible Care

Just as Dow has established a single expectation for health and safety for Dow employees, we have established those same expectations for all people working at our sites. As part of Responsible Care, Dow prequalifies all contractors including maintenance, construction and service. A contractor who has been prequalified, is then allowed to bid for work at Dow and enter the selection process. In North America and Europe, working both independently and with the other chemical companies, we have established programs to improve the safety performance of our carriers. We are now in the process of extending these programs to Latin America and the Pacific. Dow is also continuing to explore better ways to help our customers use our products more safely.

## ● Employee Recognition Supports a Responsible Care Culture

One mark of the significance of Responsible Care within Dow is the prestigious Responsible Care Award given once every two years. The award process is highly competitive. In 2002, for example, 170 Dow teams throughout the world were nominated for the award for outstanding work in waste reduction, incident reduction, community outreach and other elements of Responsible Care. The awards selection committee has recently completed their work, and 12 global award winners were selected. In keeping with the stature of this award, members of Dows Corporate Operating Board led the final selection process for the Responsible Care Award winners.

Of the 12 global awards, two are from the Pacific area and an additional three Pacific projects were recognized for honorable mention. They were:

- **Liquid Epoxy Resin Plant Waste Brine Recycling Activities** (Award Winner–Kinu Ura, Japan). This project eliminated a labor-intensive salt handling operation and the waste salt paper bags the process generated. It also reduced industrial water usage at the Kinu Ura plant and enhanced Dows reputation as an environmentally friendly company.
- **OPTIMAL Project** (Award Winner–Kerteh, Malaysia). The OPTIMAL Group of Companies– affiliates of The Dow Chemical Company and Petronas, the national oil company of Malaysia–built a grass roots facility in Malaysia. At its peak, construction involved four main contractors, 200 sub-contractors and 8,700 workers. Among the workers, 18 different languages were spoken. Despite these challenges, more than 22.7 million safe man-hours were worked in a row without a lost time accident, which set a new Malaysian record.
- **Establishment of Recycling System for Scrapped STYROFOAM<sup>1)</sup> Brand Foam Insulation** (Honorable Mention; Dow Kakoh Kabushikigaisha Region, Japan) This project developed a country-wide recycle system for the foam scrap that customers had previously incinerated or buried in landfills.
- **Map Ta Phut Community Relation Project** (Honorable Mention–Map Ta Phut, Thailand) Through this project, more than 50 Dow employees have volunteered their time in rural Thailand to improve the infrastructure of schools. More than 1,000 students in five communities have benefited from their efforts.
- **New Plymouth Tradewaste Reduction** (Honorable Mention–New Plymouth, New Zealand) Over a two-year period, the project team reduced by 50 percent specific constituents in a tradewaste stream discharged to a publicly owned wastewater treatment works.

The award accomplishes a number of objectives. First, it raises awareness of Responsible Care throughout Dow. Second, best practices from the award winning projects are shared throughout the Dow world. In addition, award winners designate an external EH&S non-profit organization to receive a US \$5,000 donation, which further strengthens Dows ties with the community, and heightens the publics awareness of Responsible Care and Dows commitment to its principles. Responsible Care Award Winners will be honored in September 2002 at a recognition event held at Dow corporate headquarters in Midland, Michigan. Dows President and CEO Mike Parker, as well as members of the Corporate Operating Board, play an integral role in honoring the award winners. The message to Dows employees at every level is that Responsible Care is a top-level priority at Dow.

1) Trademark of The Dow Chemical Company.

## ● EH&S 2005 Goals

The true measure of the effectiveness of Responsible Care within a company is EH&S performance improvement. It is the bottom-line of Responsible Care. Dow established ambitious EH&S/Responsible Care 2005 Goals in 1995 probably the one single action which has contributed most to Dows success in improving health and safety performance in recent years. The company recognized that economic growth, environment/safety and social issues are inter-dependent, therefore requiring a more comprehensive, far reaching set of goals covering all EH&S emphasis areas. The EH&S 2005 Goals are global, and we believe they are the most comprehensive in the industry.

During a period of significant economic downturn, change, growth and globalization within Dow, the EH&S 2005 Goals have played a significant role in keeping our businesses and employees focused on continued EH&S performance improvement. Dows businesses have accepted ownership of these goals, with the need to achieve the 2005 goals being a key driver in the integration of EH&S priorities into all Dow global business strategies. This integration demonstrates an unprecedented commitment to improve EH&S performance. Dow reports performance progress quarterly to employees and key external stakeholders, including the media, communities, governments, environmentalists, shareholders and analysts. Results are posted quarterly at [www.dow.com](http://www.dow.com).

## ● Enhancing the Responsible Care Bottom Line Through Six Sigma

The EH&S 2005 Goals are ambitious. For example, our 2005 Injury/Illness Goal is just 0.24 incidents per 100 people or essentially zero cases for any department of fewer than 400 people. This goal includes both Dow employees and contractors. Therefore, Dow has taken an aggressive approach in applying Six Sigma to achieve the goals. Six Sigma is a rigorous methodology that uses data-driven decision making to eliminate defects in processes, products and services. Six Sigma fosters a mindset of striving for perfection and an intolerance for variation.

Dows application of Six Sigma in EH&S demonstrates a significant commitment of resources to improve EH&S performance. Six Sigma projects address a wide range of issues, from reducing emissions and loss of primary containment incidents to improving ergonomics at a work site. To define the value of the 2005 goals and provide input data for Six Sigma project economics, Dow developed cost metrics for various EH&S aspects (e.g. emissions, injuries, spills). The cost metrics have proved very valuable in driving EH&S performance improvement and making the right long-term project decisions based on all economic factors.

## ● Integration into Dows Management System

Dows code of conduct, policies and culture establishes an expectation that an equal level of EH&S protection must be achieved at all Dow locations, no matter where they are in the world. To achieve these expectations, Dow utilizes an EH&S Management System called ODMS or Operating Discipline Management System. ODMS is an integrated management system, which allows the EH&S function to focus its own resources and efforts on those parts of the management system where EH&S-specific activities and information are needed. For example, there is no need to create a training system unique to EH&S because EH&S is able to use Dows training system, with content supplied by EH&S experts. For a global company such as ours, this integration and leveraging of Dows management system facilitates compliance with internal and external EH&S requirements.

To summarize the benefits, an integrated management system results in:

- Less effort and cost to implement and maintain compared to establishing independent management systems.
- The ability to integrate management of EH&S work processes into business and functional work processes, where appropriate. This capability improves ownership, accountability and compliance throughout Dow.
- Increased ability to share and benefit from best practices throughout Dow.
- Fewer unplanned events or defects (i.e. Non-conformances).
- Redirection of assets to other priority areas.
- Consistency in the way information is presented to Dow employees.
- Enhanced EH&S performance in newly acquired companies.
- Achievement of EH&S performance goals.

## The Evolving Nature of Responsible Care

It is important to recognize that Responsible Care will continue to evolve. New goals may need to be incorporated as the chemical industry changes, or as Responsible Care programs in specific regions mature. Dow focuses on Responsible Care in eight areas. In addition to the areas of focus in Korea Employee Health and Safety, Process Safety, Pollution Prevention and Emergency Response Dow also focuses on Product Stewardship, Community Outreach, Distribution Safety and Security. One of the benefits of integrating Responsible Care into Dows management system and instilling a Responsible Care culture at Dow is our ability to incorporate new areas of focus as needed.

Dow is on a journey to create a premier company a better and a bigger company, dedicated to the ideals of sustainability, and devoted to creating value for all its stakeholders. Dow is committed to achieving excellence in the triple bottom line of sustainable development economic prosperity, environmental stewardship and corporate social responsibility. Responsible Care is critical to achieving these goals.

I believe it is important that everyone large and small companies participate in Responsible Care. Larger companies have a responsibility to share best practices with smaller companies whenever possible. It is also important that we work with local industry associations to promote the implementation of Responsible Care. In a competitive global market, we must remember that EH&S performance is not competitive. It is to everyone's benefit that all companies achieve ever-higher levels of EH&S performance. Making Responsible Care a part of all we do as an industry is critical. This cannot be achieved overnight, of course. However, integrating Responsible Care into a company's management system, culture and business strategy will generate significant gains in EH&S performance year by year and help protect the health and safety of our employees, our communities and our world.

# Henkel

Henkel's sustainability strategy has continuously evolved. The starting point was ensuring the ecological safety of its products and production. In the 90s the Chemical Industry generated the program Responsible Care. To implement the requirements of this program Henkel has defined 15 Corporate SHE standards concerning environmental and health, protection and safety as a basis for its SHE managementsystem.

These 15 standards are reinforced by a total of 55 SHE guidelines. The standards set the basic requirements, the guidelines specify the framework. Implementation of these standards and guidelines is mandatory for all Henkel Group companies. In addition the requirements of the relevant quaylity systems like ISO 9000ff, VDA 6.1, QS 9000 etc are integrated according to the market needs.

Today a worldwide management system for safety, health, environment and quality is in place, and the concept of sustainability is firmly anchored in its corporate policy.

## ● Integrated Managementsystem

Efficient management systems are an important instrument for aligning companies to sustainability. Henkel uses an integrated management system as a central coordination instrument which has been designed to be compatible with the requirements of ISO 9000 ff, ISO 14001, EMAS, QS 9000, ISO TS 16949 and other international requirements.

**Management structure :** The documented standards, procedures and work instructions of the integrated management system contain all relevant requirements. This gives employees clear guidelines and certainty in their daily work.

**Process orientation :** The structure and appli-cation of the management system are aligned to the business process. The consequence is the orientation of the system structure according the own operating processes and not as in the past on the structure of external requirements and norms. Employees gain insight into the processes upstream and downstream of their own workplaces. This is a helpful precondition for identifying and realizing potential improvements in business processes.

Corporate mission	
"Eco-leadership"	"Customer focus"
Principles and Objectives of Environm. Protection and Safety	Quality policy, standards and guidelines of the business sectors to ISO 9001
15 Corporate SHE Standards	
55 Corporate SHE Guidelines	
Manuals and documented procedures	
Work instructions	

**Core processes :** Key aspects of all management systems are policy, objectives and strategy, implementation, monitoring and review and corrective actions. Henkel defined four core processes. These are:

- policy, strategic objectives and planning of actions
- work on the market
- development of products and services
- fulfillment of customers orders

Within the frame of these four core processes sub- and sub-sub-processes have to be defined according to the business processes of the different organizations. It is recommended to look for streamlining and to avoid a high complexity.

**Concept of the Henkel SHEQ manual :** The main purpose of the SHEQ manual is a process oriented homogeneous structure of integrated management systems within the Henkel Group. The orientation according to the business processes considering the external legal demands is the essential idea. The consequence is that the manual leaves the usual structure (e.g. the 20 elements of ISO 9001 and is guided mainly by the work flows in the enterprise. The often used structure of the manual chapters according to purpose, field of application, definitions/short cuts, responsibilities, procedures and so forth and the full representation of the contents as full text is modified for the benefit of a condensed form:

- what? (i.e. course of events)
- Who? (i.e. in charge/responsible)
- Reference (i.e. reference to:)

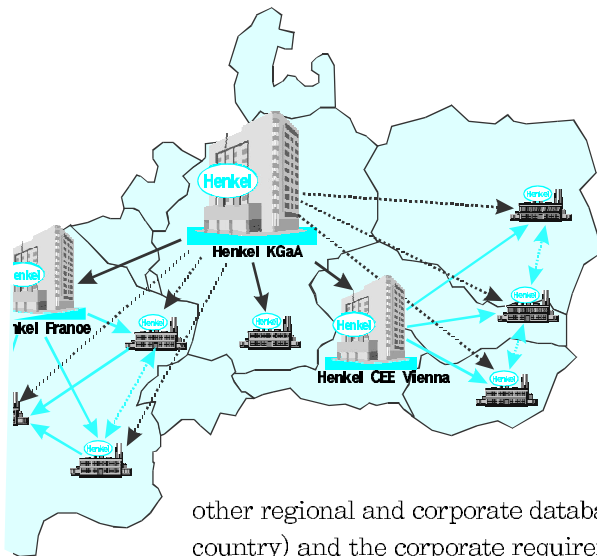
This structure deals with the most important process steps and demands of the international standards, regulations and rules and considers internal companys demands as for i.e. the SHE-Standards & Guidelines of the Henkel Group as well.

Detailed descriptions of how the tasks are executed are not part of the SHEQ manual. These are contents of procedures, operating instructions or process descriptions. An efficient integration generates a considerable reduction of the documentation volume. It should result in a documentation structure that addresses all relevant flows of information in the enterprise and represents them in an integrated context. The current SHEQ manual must be adapted in a useful manner in every business sector or site according to the concrete local demands and circumstances.

The manual described here is sufficiently flexible also to integrate in future further facets of an integrated management system concept, for i.e. personnel management, detailed marketing management processes or the finance management. Therefore, the process-oriented structure offers all advantages of a "open and expandable overall system".

**Documentation :** The site personnel had to generate the documentation (procedures and handbooks) themselves. This ensured that the responsible personnel understood and described their actual business processes. Furthermore, it improved the understanding of the processes and problems between the different departments and helped to solve interface problems.





To ensure a certifiable management documentation Henkel developed a Lotus Notes database for the automated management of documents in conformity with existing standards (HIMDOC, Henkel Integrated Management System Documentation). This system ensures document control and conformity with different management standards, access for all employees, links between documents and other relevant databases and a uniform documentation standard within the group. The database includes multilingual functions with English as master language. Each site or organization can use the database to describe their business processes with links to

other regional and corporate databases. This decentralized system serves the local, the regional (e.g. country) and the corporate requirements, providing all Henkel employees with access to the relevant documents. Furthermore, the electronic release of documents saves time, manpower and paper.

**Site or organization-specific adaptation :** The integrated management system must be adapted to the site-specific business processes. Differences in production methods and types of products have to be taken into account, as well as national and local rules and regulations.

**Support :** To facilitate the implementation process internal experts supported the sites with consultancy and working tools like presentations, checklists and posters which had to be developed. In addition regional and local meetings with the responsible SHEQ experts facilitated the implementation.

**Implementation time :** The process to implement the integrated SHE managementsystems at Henkel worldwide took almost four years.

## ● Benefits of integrated management systems

The benefits of integrated management systems are improvements of the organizational structures as well as the internal business processes. The holistic approach which considers all requirements reduces the complexity, avoids double work and sometimes contradictory regulations. This increases the transparency and therefore the understanding of all employees for all internal and external requirements.

**Organization :** The streamlining of the documentation, the reassessment of existing process steps, the identification of potential double regulations and uncovered areas optimizes the whole organization. Further benefits are the identification and tracking of corrective actions, reduction of the legal risks based on organizational failures and an improved monitoring of all requirements.

**Business processes :** The reduced plant downtimes through the elimination of deficiencies, critical evaluation of internal process steps and a subsequent reduction in complexity increases the efficiency as well as customer satisfaction and decreases process costs considerably.

**Process orientation :** The process orientation of a management system helps to integrate all employees, to understand the different requirements and to accept and fulfill these requirements within the daily business.

**Costs :** The integration of existing Q with SHE managementsystems has reduced the volume of documentation by more than 20 % and an increased the transparency for all employees. Depending on the size of the organization considerable cost reductions have been achieved.