

KGS e-Newsletter

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Reduce Gas Accidents by 50%

KGS Vision 2015 Unveiled



On February 1, KGS held a 'Vision 2015' declaration ceremony at the Grand Auditorium of its head office, while also celebrating its 33rd anniversary at the same time.

KGS has organized and is operating an external experts group and an internal task force team since June 2006 to map out a new vision to prepare for the year 2015.

After internal consensus through various questionnaire surveys, workshops of representatives by job class, interviews, etc., KGS established the 'Vision 2015' containing the corporation's resolve for ethical management, customer satisfaction management and securing technological prowess to become a 'global gas safety service enterprise earning customer confidence.'

Moreover, as its medium and long-term management goals, KGS has set 'Reduction of Gas Accidents by 50%, 'Achievement of No. 1 Customer Satisfaction Company,' 'Realization of an 80% Financial Independence Level,' and 'The Best Expert Enterprise.' For implementation of these four strategies, KGS also established 12 strategic tasks in four fields and separate business strategies by its business sector.

New Management Goals and Strategies

Category	New Management Goals	Medium & Long-Term Strategies
Public Safety	<ul style="list-style-type: none"> ▶ Reduce gas accidents by 50% - To advanced country level (36 cases~18 cases/year) 	<ul style="list-style-type: none"> ▶ Lead safety management - Promote three tasks, including advancement of inspection/monitoring systems
Efficiency	<ul style="list-style-type: none"> ▶ Achieve No.1 in customer satisfaction - Increase customer-satisfied cases (84 cases~89 cases/year) 	<ul style="list-style-type: none"> ▶ Implement three tasks, customer management, ethical management, etc.
Profitability	<ul style="list-style-type: none"> ▶ Achieve 80% financial self-reliance level - Expand new safety management business scope (60 cases~80 cases) 	<ul style="list-style-type: none"> ▶ Strengthen financial self-reliance capability - Three tasks, including establishment of a responsible management system
Growth Potential	<ul style="list-style-type: none"> ▶ Provide vision for top-class experts' firm - Nurture Master's and Ph.D. degree holders (20%), certified professional engineers/technical masters (40%), specialists with over 15 years of experience (60%) 	<ul style="list-style-type: none"> ▶ Expand technical capability - Implement three tasks, including cultivation of specialized manpower and expansion of technology exchanges

By completing its project to establish a new management information system, which had been promoted since July 2005, on January 1 this year, KGS has improved the infrastructure to enable the company to maximize work efficiency, including significant simplification of work processes, and to make strategic decisions rapidly.

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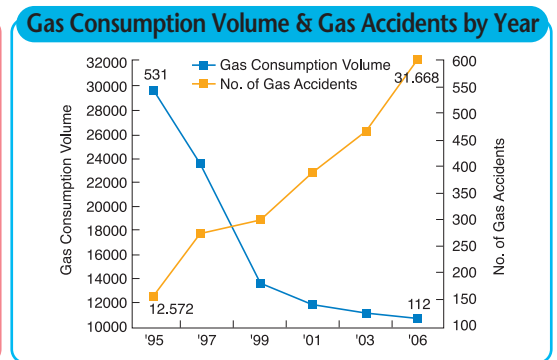
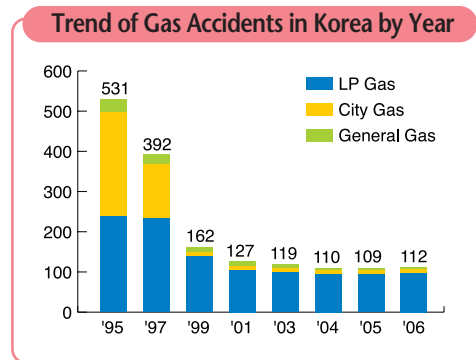
News Focus

2006 Gas Safety Management Achievements

Targeting reduction of gas accidents to the level of advanced countries by 2010, KGS has promoted diverse safety management activities jointly with the government, including advancement of the safety management system, reinforcement of safety management campaigns for vulnerable facilities, and concentrated management for 'dead-angle' (neglected) zones.

Specifically in 2006, KGS strengthened its gas accident prevention activities more than ever before through improvement of the gas safety management system and establishment of a safety network. Despite such efforts, however, a total of 112 gas-related accidents occurred in 2006, up 2.3% from 109 cases in 2005.

Gas accidents, which had been on a declining trend with 531 accidents occurring in 1995 as a turning point, reversed course in 2006 for the first time. Considering the fact that gas consumption volume had increased 8.8% on annual average since 1995, however, it is interpreted that gas accidents are still decreasing. Nevertheless, Korea's 35 gas accidents per 10 million tons of gas consumption are, in fact, still higher compared with advanced countries, such as 24 cases in Japan and 18 cases in U.K.



Note: Industrial gases, oxygen, acetylene, etc. are excluded from the gas consumption volume.

Although KGS reinforced safety management significantly for vulnerable facilities, including the free supply of fuse cocks by gas type and free improvement of gas facilities for the government's basic living cost recipients, 80 accidents occurred in the LPG field, accounting for 80.4% of the total accidents in 2006, an increase of 2.3% from 88 cases in the previous year. In 2006, the number of city gas and high-pressure gas accidents remained similar to the previous year or showed an upward trend.

Meanwhile, human casualties caused by gas accidents fell to 200 persons (death: 10, injury: 190) in 2006, down 5.2% (11 persons) compared with 211 persons (death: 16, injury 195) in the preceding year. The figures indicate that deaths and injuries decreased 37.5% and 2.65%, respectively.

Status of Accidents by Gas Type

(Unit: No. of Cases)

Category	2001	2002	2003	2004	2005	2006	
							y-o-y change (%)
LP Gas	92	84	92	82	88	90	2.3
City Gas	18	27	15	21	16	16	-
High Pressure Gas	17	8	12	7	5	6	20.0
Total	127	119	119	110	109	112	2.8

Note: Intentional accidents are excluded.

In 2006, KGS reaped the fruit of its recent activities as not a single first-class large-scale accident (an accident causing more than five deaths or property damage of over 500 million won) occurred.

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◉ KGS on the Move

KGS to Introduce Private Management System

To accelerate management innovation, KGS has decided to actively introduce and utilize private management techniques, while making efforts to strengthen ethical management.

Under the decision, KGS plans to re-establish medium and long-term management strategies, featuring reinforcement of work processing competitiveness in response to internal and external changes through organizational innovation; enhancement of management efficiency through increased utilization of management information systems; introduction and operation of BSC (Balanced Scoreboard)-based management appraisal system; and establishment of an efficient management accounting system.

With establishment and operation of full-time innovation programs, holding workout town meetings and innovation contests, etc., in particular, KGS decided to foster innovation experts and actively pursue innovation consulting activities.

KGS also plans to continue maximum possible efforts for ethical management in order to develop the corporation's characteristics to the fullest extent in line with introduction of private management techniques. For this, KGS also plans to implement action plans in accordance with its ethical management roadmap, identify and collect best and worst practices and strengthen company-wide ethical management education, while enhancing integrity and honesty among its employees.

To further upgrade its safety management level through ISO certification business, KGS decided to firmly establish an integrated management certification system encompassing quality, environment and safety, raise its certification level through expansion of joint certifications with international certification bodies like Lloyd's, JAZ-ANZ, etc. and also expand overseas ISO certification business.

Setting a 50% reduction in total gas accidents, No. 1 in customer satisfaction, achievement of 80% in financial self-reliance level and realization of a top-class expert enterprise as this year's management goals, KGS plans to take off toward a global gas safety service enterprise earning customer confidence.

2nd-Phase Gas Safety Management Advancement Plan

To reduce gas accidents by 50% through advancement of gas safety management, KGS developed and is promoting its '2nd Phase Gas Safety Management Advancement Plan.' This plan is a company-wide project joined by the departments related to system, research, prevention, diagnosis, etc.

To select the tasks under the plan, KGS launched an 'Advanced Planning TFT' consisting of about 20 department managers on February 16, which identified a total of 46 tasks and announced them at a meeting on March 6.

The meeting participants selected 40 priority tasks after evaluation of their accident prevention contribution level through an analysis of gas accident causes. At the end of March, KGS plans to confirm the final tasks after holding an announcement session jointly with the Ministry of Commerce, Industry and Energy (MOCIE).

If the tasks are achieved efficiently, KGS expects that gas accidents will be reduced significantly to realize an advanced country-level gas safety system covering a wide variety of fields, including system improvement, development and supply of safety equipment and devices, introduction of IT, etc.

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R&D of LNG Terminal Tech Standards

Since April 2006, KGS and KOGAS have been carrying out R&D on LNG terminal technology standards suitable to domestic conditions to systemize safety management of related facilities, ranging from the site selection to planning, design, construction, operation and maintenance.



As part of R&D, a public hearing was held on January 26 at the Pyeongtaek LNG Terminal of KOGAS, where the expansion project of LNG storage tank is underway, with working-level officials from KGS and KOGAS and also from related companies, Samsung Corp. and Seoul Inspection & Testing Co., participating.

The participants in the hearing exchanged opinions on difficulties related to the construction of LNG storage tanks and also on the direction for system modification, including future establishment of technology standards. For this, a working-level committee composed of related officials from domestic business communities and research institutes and also an advisory committee comprised of experts from business and academic circles will promote to establish a draft of technology standards for domestic LNG terminals.

Korea has been importing and using LNG since 1986. As an energy accounting for about 10% of the nation's total energy consumption, natural gas is supplied through a nationwide gas pipeline network for use in homes, industries, power generation, etc. At present, a total of 48 storage tanks are either in operation or under construction at four LNG terminals. In terms of facility scale, Korea's LNG terminals rank second in the world.

As for technology standards and facility criteria required for construction and operation of LNG terminals, however, Korea has only the City Gas Business Law and public notice-related compulsory regulations, while advanced and specific standards do not exist at all.

However, advanced countries with developed LNG technologies have LNG terminal standards suited to their own nations. The standards being applied are EN 1473 (Europe), NFPA 59A (USA), JGA Directives (Japan), etc.

Promoting Safety Valve Standards

The Institute of Gas Safety R&D of KGS deliberated a technology R&D service proposal regarding 'Research of Installation Standards for Safety Valves within Governor Stations of High-Pressure Pipeline for Natural Gas.'

This research service targets interpretation of gas flow to verify the safety valve exhaust volume calculation formula for KOGAS' standard-type governor stations. It was initiated to establish reasonable safety valve installation standards through analysis of the valve's required exhaust volume in abnormal situations, such as failure of the regulator's pressure adjustment, clogging or other trouble with the valve and failure of gas facilities to operate properly due to inflow of foreign materials.

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Exploration of Gas Hydrates Planned for July '07

For the final selection of the five optimum basins among a total of 14 promising gas hydrate-bearing sediments in the East Sea, the government will commence exploration to check and appraise reserves and also to extract substantial samples in the July-October 2007 period.

Vice Minister of Commerce, Industry and Energy Lee Jae-Hoon chaired the '3rd Steering Committee Meeting on Gas Hydrate (GH) Development Project' on March 6 at the Palace Hotel in southern Seoul with related officials from Korea National Oil Corp. (KNOC), Korea Gas Corp. (KOGAS), Korea Energy Economics Institute (KEEI) and Korea Institute of Geoscience and Mineral Resources (KIGAM) participating.

The steering committee meeting received reports from the gas hydrate R&D agency on the 2006 business performance and business plan for 2007 and approved the 2007 business plan after diverse in-depth discussions about business implementation.

Based on the business plan approved at the meeting, the organization finally selected five blocks, which were judged to be the optimum ones of 14 promising basins, and plans to start drilling in the July-October 2007 period to confirm GH reserves, appraise the potential reserve volume and extract actual samples.

The agency also plans to proceed with selection of precise drilling locations and analysis & research related to drilling results, while at the same time promoting a basic research project for production technology and environmental impact and safety, which may occur at the time of drilling and development.

LNG Demand in 2020 Projected at 40 Mil. Tons

Domestic LNG demand is expected to increase by an annual average of 3.5% to reach 40.35 million tons in 2020.

In a recent announcement, the Ministry of Commerce, Industry and Energy (MOCIE) published its projection for LNG demand by 2020. The ministry also forecasted that LNG for power generation use will grow 3.8% annually until 2013 but will experience an annual growth decline of about 1.2% for the 2014-2020 period, while LNG for city gas use will increase 5.4 % on average annual use .

The ministry added that from the demand side, power generation use sharply increased in preparation for the 7th long-term supply and demand plan, and from the supply side, medium-term contracts with Australia and Malaysia will end in 2010.

The government, therefore, decided to secure additional LNG volume after 2008. For this, it plans to extend the medium-term contract with Australia and to import 500,000 tons annually for six years from 2010. It is also pursuing the import of 2.1 million tons of LNG annually from Qatar, for which only signing of a long-term contract remains.

At present, the government is also studying the conclusion of long-term contracts with Australia, Iran, Qatar, etc. for projects that can provide a new supply of LNG.

Meanwhile, the demand for LNG in the international market is growing in newly developing Asian countries like India, China, etc., and also in North America following the drawdown of gas fields in the region.

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KyungDong Navien Co., Ltd.

Heating & Cooling Equipment



KyungDong Navien, which is transforming itself into a living environment-creating enterprise in line with a company name change, put a new product on the market on March 9.

This latest equipment is a package unit having dual functions provided by an air-conditioner and a boiler with a market that is growing gradually centering on commercial and business applications.

KD Navien successfully established its air-conditioner business, which the company started in 2006 owing to a strategy that has focused on the niche market for small-scale businesses and accommodation facilities, such as officetels and motels.

With the market debut of its new equipment, KD Navien plans to strengthen the air-conditioning business area and equip itself with product groups to meet four-season demand along with its existing boilers and air-conditioners.

The new equipment features seven diverse product types consisting of four electric-type and three gas-type models that have sufficient capacity to service 18 pyong (about 59.4 sqm) to 40 pyong (about 132 sqm), high economic viability and substance-rich functions. Giving consumers a wide variety of choices, it can be installed anywhere in shops, schools, business facilities, etc. to suit the respective interiors. KD Navien is selling the equipment through its 350 sales agents nationwide.

Seoul Gas ENG Co., Ltd.

Emergency Shut-Off Valve & Safety Valve

Special high-pressure gas equipment manufacturer Seoul Gas ENG (SGE) is preparing for production of an emergency shut-off valve, safety valve and pressure regulator in April this year. Among the preparations, SGE is processing the necessary administrative procedures to add these items to its product range.

The addition of these items will help SGE pursue customer satisfaction by supplying more kinds of products for different customer applications together with its existing equipment and materials, including tank lorry pumps and cryogenic pumps.

SGE President Lee Young-Hwan revealed, "As the emergency shut-off valve and safety valve are receiving recognition for their quality to the extent that we can begin export, I expect to have a good response and results from the domestic market as well."

Meanwhile, SGE is strengthening the promotion of overseas business for its cryogenic pump. The advantages of this pump include superior durability, nearly noiseless operation, easier supply of parts and far cheaper price than imported products.

SGE is also recording brisk business performance in overseas markets, exporting oxygen, carbon dioxide and argon vaporizers to the Philippines and pumps for nitrogen, ammonia, helium and argon filling facilities to Taiwan in January and February this year, respectively.

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Energy-Resource Self-Development Capability

The Ministry of Commerce, Industry and Energy (MOCIE) has announced its 2007 business plan for enhancement of the nation's energy and resource self-development capability, which is summarized below.

Reinforce Promotion System for Development of Overseas Resources

In April 2007, the ministry plans to establish its '3rd Basic Plan for Development of Overseas Resources (2007~2016)' designed to realize medium and long-term self-development goals by key mineral and detail specific promotion strategies. The ministry intends to expand cooperation channels with key resource-rich countries, including establishment of new resources cooperation councils with the Republic of South Africa and other countries, and promote three-dimensional diplomacy through analysis of advance strategies by country, such as organization of a research team for Central Asia. It also plans to expand the government's investment to nurture Korea National Oil Corp. and Korea Resources Corp. into enterprises specializing in the development of resources.

Expand Resource Development Infrastructure

The ministry plans to increase the budget for sustained development of resources and diversify financing sources for investment through activation of a resource development fund utilizing funds in the market. In June 2007, it plans to launch a 80~200 billion won fund for development of minerals, while creating an environment for follow-on funds. In addition, the ministry will prepare and promote strategies for systematic cultivation of resource development manpower, including a master plan to foster resource development specialists in April 2007 and launch second and third courses at its resource development academy from March to July 2007 and from September 2007 to February 2008 respectively.

Strengthen Self-Development Capability by Securing and Enriching New Projects

The ministry plans to expand self-development by starting production at projects currently underway, including BMC-8 Block in Brazil, Harley/Wabamun in Canada, etc., and increasing production at El Vinalar in Argentina. It will also promote new projects to secure key minerals, crude oil & gas, uranium and other resources. In the first half of 2007, the ministry intends to establish a comprehensive plan for development of domestic continental shelves, targeting commercial production of gas hydrates by 2015, which are emerging as a new oil and gas energy resource. To investigate reserves, it also plans to conduct exploratory deep-sea drilling at promising sites in October 2007.

Promote Package-Type Resource Development Strategy

The ministry plans to promote a package-type resource development strategy that links securing resources required by Korea to provision of the nation's economic development experience and construction of energy infrastructure and SOC required by resource-rich countries in return. To this effect, the ministry plans to dispatch joint private-government survey teams to promising regions in Central Asia and Africa, and implement diverse package-type resource development models, including promotion of full-scale negotiation with Nigeria to secure oil fields linked to construction of a railroad project for the country.