Industrial Safety and Hygiene

Year	Major Events and Achievements
2000	1. Formation of OHSAS 18001 Executive Committee for establishment of Occupational Health and Safety Management System
2001	1. CSC won World Safety Organization award of "Concerned Company/Corporation Honorable Mention Certificate" for its commendable support of environmental, occupational, safety, etc. programs on the 15th World Safety Conference. 2. Executive Vice President Mr. Chen approved of CSC Industrial Safety and Hygiene Objectives.
2002	1. Chairman of Board Y. T. Kuo signed CSC Industrial Safety and Hygiene Policy. 2. British Standards Institution (BSi) experts certified OHSAS 18001 and granted OHSAS 18001 certificate. 3. Chairwoman of Council of Labor Affairs Chen Chu and delegates visited CSC and attended a roundtable discussion along with CSC chairman on labor self safety and health management. 4. BSi conducted the first OHSAS 18001 regular review. 5. Utilities Department installed 35 sets of dangerous equipment including cooling equipment, LAr tank truck, LO_2 tank truck for equipment Nos.6 and 7 in the O_2 Plant and vacuum type jacket tanks for equipment Nos. 4 and 5 in order to replace internal examination, prevent production loss and increase process safety. 6. Examination of 4 dangerous workplaces: Nos.3 and 4 de-NOx equipment in the sintering plant and equipment Nos. 2, 3, 4 in O_2 plants. 7. Activated OHSAS 18001 impromptu audits at units W1, W39, W5 and C34. 8. Commissioned Center for Environmental Safety and Health Technology Development, Industrial Technology Research Institute to assist in improving CSC performance on industrial safety and hygiene management system.
2003	1. BSi conducted the second and third OHSAS 18001 regular review. 2. Provided guidance of establishing OHSAS18001 to 69 partner companies engaging in high risk operations. 3. Participated in the 17th World Safety Conference organized by World Safety Organization. 4. Utilities Department installed 56 sets of dangerous equipment including cooling equipment, LAr tank truck, LO_2 tank truck for equipment Nos.1~5 and 8 in the O_2 Plant and vacuum type jacket tanks for equipment Nos. 4 and 5 in order to replace internal examination, prevent production loss and increase process safety. 5. Examination of 17 dangerous workplaces: CDQ furnace in the coking plant, sinter-cooling furnaces Nos. 3 and 4, injecting coal system in the blast furnace No.2, boilers Nos.1~10 in the power plant, and equipment Nos. 5, 6 in O_2 plants. 6. Commissioned Center for Environmental Safety and Health Technology Development, Industrial Technology Research Institute to assist in strengthening operation safety management and monitoring of partner companies.
2004	1. BSi conducted the 4th OHSAS 18001 regular review. 2. Exchange program on industrial safety, hygiene and environment with Japanese Sumimoto Metal Company. 3. The first seminar on industrial safety and environmental protection for CSC group. 4. Utilities Department installed 50 sets of dangerous equipment including cooling equipment and LO_2 tank truck for equipment Nos.1, 3~5 and 8 in the O_2 Plant and vacuum type jacket tanks for equipment Nos. 4 and 5 in order to replace internal examination, prevent production loss and increase process safety. 5. Examination of dangerous workplace- No.1 de-NOx equipment in the sintering plant. 6. Commissioned Center for Environmental Safety and Health Technology Development, Industrial Technology Research Institute to assist in creating MSDS for steel products and materials, and strengthening operation monitor and safety & hygiene performance assessment. 7. All CSC employees including partner companies concluded "Zero-Accident" training; "zero-accident campaign" effectively carried out. 8. Helped partner companies with OHSAS 18001 planning. Partner companies contracting CSC medium or high risk projects have to acquire OHSAS 18000 certificate. 9. Implemented management of near-miss incidents: memorandum of a near-miss incident should be notified to all departments and posted on EIP website; until 31 December 2004 reporting percentage is 9%. 10. Established 11 health and safety subcommittees, which gives wider participation in safety work planning by having the subcommittees hold regular meetings on related issues and giving suggestions for the Safety and Hygiene Committee's reference and make resolutions; 11. Phase One Health Care and Management Program concluded: CSC clinic continued to organize health promotion activities to care for CSC employees and prevent sudden diseases, thus minimizing accidents at work. 12. Chairman of the Board W. Y. Lin signed CSC Industrial Safety and Hygiene Policy. 13. Rolling Mill III improved operation procedure and working environment to reduce operation risks by installing roller blade on the electrical sheets coating line (ESCL). 14. Improved gauge suspender on NO1 CGL (Continuous Galvanizing Line) for better operation and less risks. 15. Erected permanent maintenance platform on NO1 CGL induction heater air blower to prevent motor maintenance personnel from falling. 16. Revised standard operation procedure for detection of radioactive material in scrape steel; new detection system for truck scale completed.

Environmental Protection

Year	Major Events and Achievements
2000	1. Continued to implement ISO 14001 by improving environmental management performance and passed follow-up inspection of Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs. 2. Reconstructed cleaner set for feeding car type furnaces Nos.4 and 5 to effectively collect stock and prevent pollution. 3. Replaced COG Watertight Door A to prevent gas leakage.
2001	1. Installed 19 water spray guns in the raw material stockpile to improve dust pollution. 2. Completed installation of coating material cooling system in the color coating lines (CCL) to reduce temperature of coating material (from 35˚C to 25～27˚C), which lessens the amount of hot materials sticking to the coating roller, reducing waste coating material. 3. Continued to master operational technology of water-quenched BF slag and increase productivity of BF slag, thus annual water quenching rate reached as high as 91.6%. 4. Chromium containing sludge was fully recycled internally, lowering treatment cost by 14.4 million NT / year.
2002	1. Planning of the system to treat the storm run-off wastewater collected from raw material stockpiles. 2. Completed automatic liquid caustic soda feeding for the first continuous annealing line, preventing leakage of liquid caustic soda (2,270 kgs / February) 3. Applied heat recovery technology to bustle pipe of Blast Furnace No.1 to preheat BFG. Energy saving efficiency reached NT$100 million per year with reduced discharge of CO_2 , SOx and NOx. 4. Clean steaming coals are used for boilers in the power plant to save cost on the process of De-SOx and De-NOx and air pollution tax. Fly ash treatment cost decreased (NT$30 million/year). 5. Replacement of coagulant with Bio-Enzymes in activated sludge system of the water treatment plant to improve settling the characteristics of suspended solids and to decrease sludge generation (135 tons / day). 6. Export of coarse zinc oxide sludge to Japan for zinc smelting, reduceing treatment of zinc oxide containing sludge (1200 tons / year), turning waste into useful resources.
2003	1. Replacement of traditional fluorescent light ballasts with electronic fluorescent ballasts, saving in 413,072kwh of electricity and reducing air pollution. 2. Revamped LED modules of air quality display boards around CSC boundary for brighter and clearer display quality. 3. Improved recycling of spent refractory materials used for maintance of snorkel in the vacuum treatment tank in the second BOF continuous casting plant; recycling rate reached over 82%. 4. Improved equipment and machinery in the coke oven furnace doors to reduce dust SOx and NOx emission. 5. New activated sludge aeration basins were built in the biochemical waste water treatment plant to stabilize the system and enhance treatment efficiency.
2004	1. Completed installation of thermal heater shield to recover waste gas for air preheating as a way to reduce COG consumption and CO_2 discharge. 2. Set up spent refractory screening equipment to 100% recycle and reuse spent refractory by classifying them into internal BOF use and external sales. 3. Convinced Industrial Development Bureau, Ministry of Economic Affairs to treat water-quenched slag as recycled resources instead of waste. 4. With permission from the Environmental Protection Administration, CSC and Kaohsiung Harbor Bureau jointly completed the "ocean disposal of dredged sludge from Kaohsiung harbor and monitoring" project. 5. Concluded the report on environmental impact evaluation difference analysis of Dragon Steel Corp.phase II expansion project ; the report was approved by EPA. 6. Concluded the report on environmental impact evaluation difference analysis of 11.66 million tons yearly crude steel production capacity; the report was approved by Environmental Protection Bureau, Kaohsiung City government. 7. Completed operation planning for harbor channel dredging for 2005-2007 which was approved by EPA.