Remarks on Special Issue on Engineering

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The Engineering Division at Nippon Steel Corporation has dedicated its resources to developing and expanding its independent technologies and products. This effort has been made on the basis of "equipment technologies" which focus on methods for manufacturing steel that have been cultivated over many years in our steel division, "steel material utilization technologies" that focus on how to process and utilize produced steel, and 'technologies relating to energy, energy conservation and the environment' that are essential elements in the operations of an iron works. Currently, we have set up a three-division organization including our Steel Plant & Environmental Engineering Division, Energy Facilities, Civil Engineering & Marine Construction Division, and Building Construction Division to expand our Engineering Divisions Group. Our Steel Plant & Environmental Engineering Division has intensified focus on an iron works plant as typified by the blast furnace, and an environmental plant as represented by the direct melting furnace for wastes. Our Energy Facilities, Civil Engineering & Marine Construction Division are experts in marine constructions such as artificial islands, long-span bridges, and plants and pipelines for natural gas and petroleum. The Building Construction Division has advantages in steel construction for buildings, such as PFI and city solutions, large-span roofing, and seismic isolation and energy dissipation devices.

In recent years, we have witnessed a change of the destination in manufacturing, namely the shift to the manufacturing in order to create a society that pursues environmental protection as well as economic growth, from the manufacturing based on the mass-production and mass-consumption ideology. The Engineering Divisions Group has pointed up the three areas of the environment, energy and city revitalization as matters of the utmost importance in the 21st century. Living in abundance, in safety and in comfort are our primary goals, and the Group has thus strived to attain a so-called solution engineering to provide an optimum form of manufacturing. It is the type of manufacturing not only harmonized with the environment but also sustaining economical efficiency in any infrastructures.

In special issues in the past that relate to the Engineering Divisions Group provided in Nippon Steel Technical Reports, technical discussions have centered on the areas of the "Plant and Machinery Division," "Steel Frame Marine Construction," "Environmental Controls," "Steel Structures" "Toward the Development of a Recycling Society" and "Corrosion Prevention Technologies." However, in this special issue on engineering, talented engineers have applied themselves to disclosing the current state of technologies correspond to the recent needs in the society in relation to the environment, energy and city revitalization. Technological development immediately applied to actual products is promised to branch out rapidly and expansively in the near future. We have already being witnessed manufacturing technologies for Gas to Liquid (or GTL) and liquid hydrogen. We hope that the efforts of those engineers accurately meet the recent concerns of society.

In what at first glance appears to be an incongruent endeavor, Nippon Steel Corporation intends to go forward to find out the optimum balance between economy and ecology, while further enhancing each specialty of those three divisions. We firmly believe that pushing ahead with technical developments is our duty for producing the balance. We look forward to hearing further readers' opinions and suggestions.