Production of Nickel Oxide Powder for Fuel Cells

Sumitomo Metal Mining Co., Ltd. has decided to install verification facilities for the mass production of high-purity nickel oxide powder for use in fuel cell electrodes.

A fuel cell is a clean, highly efficient system for the generation of electricity using the chemical reaction between hydrogen and oxygen that creates electricity and heat. Future growth is expected in this area as plans are afoot in Japan and other countries around the world to install and expand the use of fuel cell electricity generation facilities in a broad range of settings including homes, shops, and factories.

While there are several types of fuel cell the ones that generate electricity most efficiently are solid oxide fuel cells (SOFC), and in these cells nickel oxide powder is used for the electrodes. SMM has developed a fine and highly pure nickel oxide powder to contribute to increased SOFC efficiency and durability, and as demand for nickel oxide powder is expected to increase henceforth with the full commercialization of fuel cells, SMM will aim to establish mass-production verification facilities by the first half of FY2018 at its premises in the city of Niihama in Japan’s Ehime prefecture.

SMM has increased production of cathode material (lithium nickel oxide) for rechargeable batteries in automobiles. In addition to the company’s strength of being able to cover all aspects of the production process from nickel smelting to producing the actual material, SMM shall leverage the powder control and mass production technology it has gained through developing and producing a wide range of functional materials to meet the needs of this new market while contributing to the creation of a society that is based on environmentally friendly energy.

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