

Industrial Solutions and Services

For the trade press

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Siemens Provides Hypochlorination Systems for LNG Carriers

Leading shipbuilder Samsung Heavy Industries (SHI) has awarded Siemens Water Technologies an order for 14 Electrochemical Chloropac sodium hypochlorite generating systems. SHI, in turn, will install the systems on separate liquefied natural gas (LNG) carriers for three petrochemical companies. The Chloropac systems from Siemens will help prevent marine growth in the main components of the LNG carriers' seawater cooling systems, including sea chests, piping, coolers, and heat exchangers. The first system was delivered to SHI in May, with subsequent deliveries scheduled throughout 2007 and 2008.

Vessel capacities range from 155,000 m³ to 266,000 m³. The Chloropac systems were specified for their ability to treat varying seawater flowrates of 2800 m³/h to 5000 m³/h, with continuous sodium hypochlorite dosing levels of 0.2 ppm to 0.5 ppm. The clients chose the Chloropac systems based on their reliability, easy maintenance, and favorable life cycle cost.

Electrochemical Chloropac systems cost-effectively control micro-fouling organisms (slime, algae, and seaweed) as well as macro-fouling organisms (barnacles, mussels, clams, and hydroids). By passing electric current through the seawater, Chloropac systems convert sodium chloride into sodium hypochlorite, the active ingredient required for disinfection, water sterilization and organic fouling prevention. Siemens-designed concentric tubular electrode technology helps prevent biological fouling and

produce, in situ, a dilute solution of sodium hypochlorite from seawater for direct injection into the ship's water circuit. System controllers may be adjusted manually or automatically to control the amount of hypochlorite being produced – a safe, effective alternative to handling and storing hazardous bulk chlorine or liquid sodium hypochlorite.

Water treatment equipment is an important part of Siemens Industrial Solutions and Services (I&S) Group's complete marine technology product offering. Siemens also specializes in the design, manufacture and commissioning of electrical equipment for all types of merchant vessels, naval vessels and submarines worldwide. This includes turnkey projects and conversions and covers the entire ship's life cycle.

Chloropac is a registered trademark of Siemens and/or its affiliates in some countries.

Siemens Water Technologies delivers cost-effective, reliable water and wastewater treatment systems and services to municipal, industrial, commercial and institutional customers worldwide. The division "Water Technologies" is part of Siemens' **Industrial Solutions and Services Group (I&S)** which is a system and solution provider for industrial and infrastructure facilities and global service provider for the plant and projects business covering planning, installation, operation and the entire life cycle. In fiscal 2006 (to September 30), I&S employed a total of 36,200 people worldwide and achieved total sales of EUR 8.819 billion, according U.S. GAAP.

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