



MARITIME

DNV GL GAS READY NOTATION

Prepared for tomorrow's fuel today

With the IGF Code practically finalised the introduction of sulphur limits and burgeoning infrastructure and production capability, LNG as a ship fuel is spreading rapidly through the maritime world. DNV GL's new GAS READY notation gives owners, who at the new building stage want to prepare their vessel for a potential conversion to LNG operation after delivery, a useful framework for contracting. It provides a clear picture of the level of LNG-fuelled preparedness of their vessel, as well as guidance on the scope of the contemplated work to all involved parties.

The new GAS READY notation has been developed based on the experience gained from the LNG Ready Service as well as

the 50 LNG fuelled vessels already in class with DNV GL's GAS FUELLED notation. The notation enables owners to ensure that a future LNG-fuelled version of the vessel complies with the relevant safety and operational requirements, while also being very useful in helping owners specify and quantify the level of investment they are making at the newbuilding stage.

The basic notation with nominators D and MEc - GAS READY (D, MEc) - verifies that the vessel is in compliance with the gas fuelled rules in terms of its overall design for future LNG fuel operations and that the main engine can be converted or operate on gas fuel. The owner can also choose to add extra optional levels to the newbuilding under the notation.

YOUR TRUSTED PARTNER - DNV GL

- More than 150 years of expertise in the maritime industry
- Comprehensive research and development within LNG as ship fuel
- 14 years of experience with LNG as fuel, with first rules for gas-fuelled ships in 2001
- 50 LNG-fuelled ships in operation worldwide; 95% to DNV GL class
- 50 confirmed orders for LNG-fuelled newbuilds worldwide; close to 60% to DNV GL class
- Well-proven tools that ensure efficient work and reliable output

These cover selections such as structural reinforcements and the choice of correct materials to support future LNG tanks (S), preparations for future gas fuel systems (P), certification and installation of LNG fuel tanks (T), and the installation of machinery, which can be converted gas fuel, or which is already capable of burning gas fuel - putting the vessel further along the LNG track and thereby speeding and simplifying a later conversion.

In 2014 the industry hit a significant milestone with over 120 LNG-fuelled ships in operation or on order worldwide (excluding LNG carriers). The vast majority of these ships already operate or will be built to DNV GL class, a result of the trust the industry places in DNV GL due to our long involvement in this technology and our continually evolving technical expertise.

DNV GL's unique LNG Ready Service has been in place for over two years and has proven its value in assisting many shipowners, operators, yards and designers in identifying the most attractive compliance option for their ships. Through a detailed technical and financial feasibility study, the LNG Ready Service investigates all the potential options for compliance and fuel cost reduction, uncovers any technical showstoppers, as well as calculating the financial attractiveness of each option. And the GAS READY notation provides a formalised framework for documenting the compliance option and preparation level chosen - a natural extension of the LNG Ready Service.

Over the past decades DNV GL has undertaken extensive research and has implemented many projects world-wide with industry partners covering the regulatory framework, infrastructure and bunkering for LNG-fuelled vessels. At DNV GL we have been helping companies and authorities to utilise LNG safely as a source of clean, reliable energy in the maritime industry through a complete set of services for nearly 20 years. With our breadth of services and global outreach delivered through our regional gas and LNG ready teams we have the capability to serve our customers wherever they might be.



Gas Ready - basic notation and extended options (as at 2.12.2014):

GAS READY	D	The design for the ship with LNG as fuel is found to be in compliance with the GAS FUELLED notation rules applicable for the new-building, ref. Pt.1 Ch.1 Sec.2 A300.
	S	Structural reinforcements to support the fuel containment system (LNG fuel tank(s)) are installed, and materials to support the relevant temperatures are used
	T	Fuel containment system (LNG fuel tank(s)) is installed
	P	The ship is prepared for future gas fuel system installations: Pipe routing, structural arrangements for bunkering station, gas valve unit space, fuel preparation space if relevant (optional)
	MEc	Main engine(s) installed can be converted to dual fuel
	MEi	Main engine(s) installed can be operated on gas fuel
	AEc	Auxiliary engines installed can be converted to dual fuel
	AEi	Auxiliary engines installed can be operated on gas fuel
	B	Boilers installed are capable of burning gas fuel
Misc	Additional systems and equipment are installed on board from new building stage.	

Table 1: DNV GL's new GAS READY notation provides a clear picture of the level of LNG-fuelled preparedness of a vessel.

For more information please visit:

www.dnvgl.com/Inready