

LOW SULPHUR DIRECTIVE IMPLEMENTATION

TANKERS BOILERS VS LNG BOILERS

	TANKERS AUXILIARY BOILERS	LNG MAIN BOILERS
STEAM PRESSURE	15 bar	60 bar
STEAM TEMPERATURE	175 – 200 °C	515 °C
AIR PREHEATING	NO	YES (515°C)
FURNACE VOLUME	LIMITED	BIG
FURNACE TEMPERATURE	LIMITED	HIGH
TYPICAL FIRING	SIDE	TOP
REQUIRED FOR PROPULSION	NO	YES
DUAL FIRING	NO	YES
STEAM ATOMISING	UNFREQUENT	FREQUENT

LOW SULPHUR DIRECTIVE IMPLEMENTATION CONSTRAINTS FOR STEAM LNG CARRIERS BOILERS

1. INDUSTRY IS RUNNING OUT OF TIME

Out of 260 vessels, only a very small fraction has been converted.

2. SAFETY DIFFICULTIES FOR CONVERSION IN OPERATION

Boilers must be kept in operation except when in shipyard

3. LNG FLEET SAFETY RECORD IS IMPRESSIVE UNTIL NOW, HOWEVER...

This is based on well established operational practice

LOW SULPHUR DIRECTIVE IMPLEMENTATION CONSTRAINTS FOR STEAM LNG CARRIERS BOILERS

- 4. ALWAYS WHEN IN PORT, VESSELS OPERATE THE BOILERS TOTALLY OR PARTIALLY IN HFO**
No experience of port operation in gas only mode.
- 5. A VERY SUBSTANTIAL PART OF THE EXPLOSIONS IN BOILERS FURNACES HAPPENED DURING FIRING WITH DIESEL OIL OR GAS OIL.**
- 6. WHILE NOT MANY EXPLOSIONS HAVE BEEN REPORTED, THERE IS INFORMATION OF A SUBSTANTIAL NUMBER OF “SMALL” EXPLOSIONS.**