

Captain Massimo GARBARINO speech:

PERSONAL INFORMATION:

BORN IN 1957 IN GENOA, ONLY ONE IN THE FAMILY BEING A SEAFARER.

FIRST TIME ON BOARD SHIPS IN 1974 ON A GENERAL CARGO SHIP, WHILE I STILL WAS AT SCHOOL, AND IN 1978 MY FIRST WORKING CONTRACT AS CADET OFFICER ON BOARD A GENERAL CARGO SHIP. I ALWAYS WORKED FOR COSTA CROCIERE, AND IN 1996 BECAME CAPTAIN ON CRUISE SHIP COSTA RIVIERA (PREVIOUS GUGLIELMO MARCONI). IN 1992 WAS ASSIGNED TO NEW CONSTRUCTIONS, AND BEING IN SHIPYARD IN FINLAND AND ITALY FOR SIX NEW BUILDINGS (COSTA CLASSICA, ATLANTICA, MEDITERRANEA, LUMINOSA, DIADEMA, SMERALDA).

- COMPANY INFORMS IN 2016 ABOUT BEING THE CAPTAIN OF THE FIRST COSTA LNG POWERED SHIP. LATER IN NOVEMBER 2016 I WAS INFORMED ABOUT MOVING TO AIDA CRUISES. AIDA WAS OPERATING AIDA PRIMA, FIRST CRUISE SHIP WITH DUAL FUEL (LSFO/DIESEL AND LNG) GENERATOR (“MAK”) THAT WAS RUNNING ON LNG ONLY WHEN THE SHIP WAS DOCKED IN PORT, AND LNG WAS PROVIDED BY TANK CONTAINER. THIS WAS THE FIRST EXPERIENCE WITH LNG UTILIZED BY CRUISE SHIPS. LNG WAS PROVIDED WHEN CRUISING IN NORTHERN EUROPE ON A 20’ LNG TANK CONTAINER TRANSFERRED WITH A TRUCK FROM PORTO TO PORT. AIDA PRIMA WAS NOT CLASSIFIED AS LNG POWERED SHIP, BECAUSE SHE WAS NOT CARRYING - STORING ANY LNG ON BOARD.

- LEGISLATION – AT THAT TIME, ITALIAN LEGISLATION WAS NOT EXISTING TO CERTIFY THE OFFICERS AND ENGINEERS WITH ADVANCED IGF CERTIFICATE IN ORDER TO CONDUCT PASSENGER SHIPS POWERED WITH LNG. ITALIAN COAST GUARD WAS NOT ACCEPTING FOREIGN COUNTRIES CERTIFICATION FOR ITALIAN CREW. CERTIFICATION HAD TO BE CREATED. I HAD TO GET TRAINING AND GET CERTIFICATION IN GERMANY (WHILE I WAS WORKING WITH AIDA), IN ORDER TO ACQUIRE SOME KNOWLEDGE ABOUT LNG, SAFETY MEASURES TO BE ADOPTED WHILE HANDLING, TRANSFERING AND USING THAT FUEL.

- TRAINING – FIRST TRAINING SESSIONS FOR LNG WERE HELD IN GERMANY, PROVIDING NOTIONS ABOUT LNG AND SAFETY PRECAUTIONS WHEN HANDLING AND DURING TRANSFER OPERATIONS FROM TRUCK TO GENERATOR. CERTIFICATION (ADVANCED IGF CERTIFICATION) CERTIFICATION FOR LNG POWERED CRUISE SHIPS FOR OFFICERS AND ENGINEERS HOLDING ITALIAN CERTIFICATION FINALLY BECAME A REALITY IN ITALY IN 2018 WITH ONLY A FEW CERTIFIED TRAINING CENTERS IN ITALY ONLY BY THE END OF YEAR 2019. I WAS TRAINED AT “THESI” TRAINING CENTER IN MOLA DI BARI, AND PROVIDED AN EXCELLENT COMPLETE PICTURE ABOUT DIFFERENT GASES, SAFETY MEASURES, PRECAUTIONS AND PROCEDURES ON HOW TO HANDLE, TRANSFER AND USE OF LNG ON BOARD SHIPS. OUT OF THIS COMPULSORY TRAINING, CUSTOMIZED TRAINING FOR OUR SHIP WAS PROVIDED AT CARNIVAL CORPORATION TRAINING CENTER IN HOLLAND.

- TIME AT SHIP YARD FOR CONSTRUCTION, SEA TRIALS AND DELIVERY OF COSTA SMERALDA AT MEYER TURKU FROM 2 GIUGNO AL 5 DICEMBRE 2019.

- DIFFERENCIES BETWEEN LNG POWERED SHIPS AND SHIP'S USING TRADITIONAL FUELS. BECAUSE OF HOLDING LNG ON BOARD IN BIG QUANTITY, SAFETY PROCEDURES ON BOARD HAVE A HIGHER LEVEL AND MORE RESTRICTIVE COMPARED TO SHIPS USING TRADITIONAL FUEL. BUNKERING OPERATIONS REQUIRE A BIT LONGER TIME BEFORE GAS BEING TRANSFERED, AND LONGER TIME ONCE TRANSFER OF GAS IS COMPLETED. TRANSFER OF LNG CANNOT START WITHOUT A WRITTEN AUTHORIZATION OF THE MASTER AND THE CHIEF ENGINEER, AUTHORIZATION NOT REQUIRED WITH TRADITIONAL FUEL). DIFFERENT REGULATIONS HAVE TO BE RESPECTED AND PROCEDURES AND REQUIREMENTS ENFORCED, THAT DIFFER FROM PORT TO PORT. ALWAYS BALCONIES ON THE BARGE SIDE HAVE TO BE SHUT AND NOT USED, SAFETY ZONES. ENTIRE BUNKERING OPERATION LASTS APPROXIMATELY 8-10 HOURS, INCLUDING TWO HOURS APPROX OF LNG TRANSFERING (3000 CUBIC METERS). ON COSTA LNG SHIPS, IS EXISTING THE POSITION OF LNG ENGINEER, A FIRST ENGINEER FULLY DEDICATED TO LNG, REPORTING DIRECTLY TO THE CHIEF ENGINEER ABOUT ALL ISSUES RELATED TO LNG.

- PROBLEMS AND BENEFITS WHILE AT SEA:
 NO PARTICULAR DIFFERENCE BETWEEN A TRADITIONAL SHIP AND AN LNG POWERED SHIP, OUT OF HAVING ALWAYS IN MIND THAT THE SHIP IS LOADED WITH 3000- 5000 CUBIC METERS OF LNG. MORE CAUTION HAVE TO BE USED IN TRAFFIC ZONES.
 ADVANTAGES ARE GREAT FROM THE ENVIRONMENTAL POINT OF VIEW, WITH LESS POLLUTION GENERATED BY LNG, NO SMOKE, NO SMOKE RESIDUES (ASH) ON DECKS, NO BAD SMELL ORIGINATED BY COMBUSTION.
 OTHER POSITIVE ASPECT IS THAT GENERATORS, BECAUSE OF USING A CLEAN COMBUSTIBLE, DO NOT GET AS "DIRTY" AS THE ONES USING DIESEL FUEL.
 A MINIMAL USE OF DIESEL IS USED, (ONE TON PER WEEK APPROXIMATELY), TO GENERATE THE IGNITION OF LNG IN THE COMBUSTION CHAMBER.

- MANOUVERS AND SHIPHANDLING:
 GENERATORS PROVIDING POWER TO PROPELLERS AND THRUSTERS ARE ALWAYS SUPPLIED BY LNG, WHEN AT SEA AND ON ARRIVAL AND SALING FROM PORTS.
 AS ON GPL POWERED CARS, THE GENERATORS POWERED WITH LNG, PROVIDE SOME SMALLER AMOUNT OF POWER.
 SOME PRECAUTION, THAT BASICALLY ARE THE SAME PRECAUTIONS THAT ALWAYS HAVE TO BE USED WHEN HANDLING THE SHIP, MUST BE USED, AND QUICK AND SUDDEN REQUEST OF POWER SHOULD BE AVOIDED IN ORDER FOR THE GENERATOR NOT TO SWITCH TO DIESEL FUEL.
 THIS SWITCH IS VERY QUICK, AND HAPPENS WITHOUT THE OFFICER MAENOUVERING REALISES THIS CAHNGE OF COMBUSTIBLE ON THE GENERATORS.

INCONVENIENCES:

THE BIGGEST INCONVENIENCE COULD BE THE DIFFICULTY TO FIND LNG IN ALL PORTS BECAUSE IS NOT YET SO COMMON TO HAVE LNG POWERED SHIPS. CONTRACTS HAVE TO BE MADE WITH SUPPLIERS IN ORDER TO HAVE FUEL PROVIDED IN CERTAIN PORT, WHERE THAT OPERATION IS AUTHORIZED BECAUSE OF RESTRICTIONS AND LIMITATION DICTATED BY DIFFERENT PORT AUTHORITIES. IN MEDITERRANEAN SEA WE HAD LNG SUPPLIED IN BARCELONA, LA SPEZIA, AND MARSEILLE (DURING PANDEMIC PERIOD).

ONE PROBLEM FOR SHIP OWNER / OPERATOR OF THE SHIP, CAN BE THE SPECIFIC TRAINING OF SEVERAL POSITIONS ON BOARD, THAT MUST HAVE A BASIC OR ADVANCED LNG TRAINING.

SEVERAL POSITIONS ON BOARD HAVE TO HOLD AN IGF CERTIFICATE, STARTING FROM BOATSWAIN, CHIEF FIREMAN AND FIREMEN, DECK OFFICERS IN CHARGE OF BRIDGE WATCH, SAFETY OFFICERS, STAFF CAPTAIN, CAPTAIN, AND ALL ENGINEERS, ELECTRICIAN OFFICERS, AND FEW ENGINE PETTY OFFICERS. THIS MAY CREATE SOME ISSUES IF ONLY A LIMITED NUMBER OF CREW IS DULY CERTIFIED.