

**SOUTHAMPTON MASTER MARINERS 'CLUB**

**TECHNICAL COMMITTEE SEMINAR.**

**WHAT IS SAFE MANNING ?**

**SAFE MANNING CERTIFICATES FOR ALL SHIPS IN EXCESS OF 500 GRT BECAME MANDATORY IN EARLY 1992.**

**Section 30 of the MSA 1988 includes "undermanning" among the reasons for declaring a vessel "dangerously unsafe" and for which the Owner and Master are liable for prosecution. There does not appear to be any mention of "manning" in SOLAS and although a definition of "seaworthiness" is difficult to identify it surely includes safe manning.**

But ..what IS Safety ? It is often defined as freedom from danger or risk and it follows, since danger and risk are always present in some degree that total safety cannot be achieved. A fundamental issue is how to balance the possible penalties incurred by low safety standards against the costs of high safety standards - and to establish what is optimum.

Given that manning is one of the highest expenditure items incurred by the Shipowner or Ship Manager it follows that manning reductions are an obvious means of economising and over the past two decades we have seen a steady deterioration in manning standards internationally in terms of both quantity and quality.

SO ...when is a vessel safely manned ? THE ANSWER PROBABLY IS ....

- 1 .When she is manned with competent crew members in sufficient numbers to operate the vessel safely under normal conditions and to deal as effectively as possible with abnormal circumstances.
2. When such crew members are medically fit. Their health and competence should not be significantly reduced by fatigue.
3. When the crew has adequate familiarisation with the type of vessel and equipment to enable these to be correctly operated and maintained.
4. When crew members are capable of communicating directly with each other in a common language under normal and emergency conditions.

BUT ...THERE ARE OTHER QUESTIONS THAT MUST BE ASKED

- a. Should a SAFE MANNING CERTIFICATE, issued to a new vessel, still be valid when deterioration has set in and the operational and maintenance workload increases ?
- b. Should the Master ( or Chief Engineer) be expected to maintain a scheduled period of Watchkeeping on a regular basis.?
- c. Can too great a mix of nationalities reduce safety ?
- d. To what extent is safety jeopardised by indiscipline ?
- e. To what extent is safety jeopardised by the abuse of drugs or alcohol ?
- f. To what extent can the continuation of on-board training contribute to safety ?

Generally speaking, we conduct our affairs as safely as we are compelled to because accidents cause injury or loss of life, they cost money, they can often cause damage to the environment and they frequently give rise to adverse public pressure.

SEAFARERS SHOULD NEVER BE CALLED UPON TO EMBRACE THE "ACCEPTABLE RISK" CONCEPT SINCE IT IMPLIES ACCEPTANCE OF AN IMPERFECT STANDARD .... AND SOMEONE, SOMEWHERE HAS TO ACCEPT THE RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH IMPERFECTIONS WHEN THEY OCCUR.

USUALLY ...THAT "SOMEONE" IS THE SHIPMASTER.

The Technical Committee of the Southampton Master Mariners' Club held their annual seminar in the Club Room on Wednesday, May 13th. 1992 and some 42 persons attended.

The discussion subject was "What is Safe Manning ?"

The seminar was chaired by Captain C.R.Kelso, Club Captain and Chairman of the Technical Committee and the "panel" comprised :

Captain Simon Harwood.	Department of Transport, London
Mr. Julian Parker, B.Sc,FNI	Secretary, The Nautical Institute.
Mr. Richard Shaw	Solicitor. Shaw and Croft, London
Professor M.J.Dove, M.Sc.Ph.D	Head of Maritime Division of The Southampton Institute

The Chairman introduced the panel and also specially welcomed :

Commodore Stephen Taylor, RN.	Lately Head of Maritime Tactical School.
Ralph D.Coton, B.Sc.	Shipowners Mutual P&I Association
Mr.W.Beck	Chief Surveyor,South & S.West, D.Tp.
Captain Ken Owen	Senior Master "Peninsular Bay" P&OCL.

Each panel member was invited to say a few words about his background and then to speak for approximately ten minutes giving an outline of his views on, interest in or connection with the seminar subject.

Captain Simon Harwood traced the history of manning legislation from the reign of Charles II when all crew members had to be "English". The first significant legislation was in 1850 when the Certification of Deck Officers was introduced necessitating the carriage of a specified number of Officers based on tonnage. 1862 saw the introduction of Certificates of Competency for Engineer Officers. Much of this legislation with a few minor amendments obtained until the advent of the 1970 Merchant Shipping Act (which came into force in 1981)

In 1855 the term "proper complement" was replaced with "efficient crew" and the Merchant Shipping Act of 1894 embodied this requirement - but there was no requirement to carry a specified number of crew members as the Act only catered for qualified Officers.

In 1897 the Merchant Shipping Act classed "undermanning" as an offence.

The wartime years circa 1940 saw the publication (by the Ministry of War Transport) of significant "M" Notices dealing with the manning of ships. This was carried on by the B.O.Trade but the legislation dealt in the main with the Deck manning of foreign going ships as it was deemed impossible to lay down safe manning in the machinery spaces on account of the wide range of propulsion systems.

Meanwhile, internationally attempts were being made to regulate manning. The International Labour Organisation played a major role in terms both of manning and regulation of working hours but many of their recommendations have still not been ratified despite the fact that some were introduced as far back as 1936. In 1948 a specialised United Nations agency was established and in 1958 it became operative, as IMCO. In 1960 this agency convened the 4th. International Convention of SOLAS ( the first three Conventions having been set-up by the UK Government). The only manning legislation resulting from that Convention was a vague requirement that all ships should be "sufficiently and efficiently manned."- a statement taken directly from the ILO Convention.

It was not until the MSA of 1970 that the D.O.T. was given powers to make regulations relating to a

requirement for a specified number of Deck ratings in every UK registered seagoing vessel. This change was brought about by the recommendations of the Rochdale Report.

M 798 was published in April 1977 and this was the first real attempt to relate safe manning and ship type.

During the next few years further M notices were published embodying the requirements and guidelines laid down by IMCO and these now included reference to Engine room manning.

In 1989 Solas was again amended to enforce the carriage of a Safe Manning Certificate in all ships in excess of 500 GRT and this became mandatory in February of 1992.

Julian Parker opened by saying that he saw the question of manning in a more International context as the Nautical Institute is an International body. At a recent NI discussion on Bridge Procedures the "well heeled" companies admitted that improved standards were essential but some of the Management companies were rather less enthusiastic pointing out that their manning agencies were giving them Officers of very doubtful competence due to lack of training facilities.

The definition of "Safe" is exceedingly complex. The sensible practices introduced over the years have been, to a large degree, ignored with the result that today a lot of ships are not safely manned ..many are unsafely manned due to the incompetence of their crews although this may not necessarily apply to all UK registered ships. Indeed in the UK we have a long history of manning legislation.

Until recently manning has never been an issue. Large sailing craft often had a crew of 12 and today coasters of similar size have crews half that number. Nevertheless undermanning has long been a problem and sailing ships often had too few crew to handle the sail complement so they rigged fewer sails and were inefficient. Self regulating principles always existed. Inefficient ships lost money and ignorant Officers could kill people. The reasonable balance between commercial expediency and government regulations was a good compromise.

The continual improvement in employment terms and conditions of seafarers during the years of steady expansion between 1930 and 1970 also played their part in producing our current problem. AS the UK fleet expanded ( and the owners made money) so trainees were recruited to meet the demand for Officers and ratings. As long as one has a flow of trainees no problem exists ..but once that flow stops problems arise.

Extra labour was needed in the existing fleet to man new ships and shore migration demanded an extra intake of trainees. The fuel oil crisis, the crash in shipowning due to overcapacity of some 50% created commercial problems and the options were cost cutting or liquidation. It is quite feasible to establish a ship "balance" where the level of scrapping and building is consistent with trade requirements.

Between 1975 and 1977 surplus ships increased rapidly until the 50% overtonnaging mark was reached.

Training was stopped and owners "flagged out" in an effort to remain competitive.

Owners and managers were forced to go as far as they could to meet the minimum legal requirements so as to preserve their limitation of liability so using the inadequate provisions of safe manning certification as a basis for their minimum manning.

In SOLAS Reg. 13 there is really only a broad requirement that all ships must be "sufficiently and efficiently manned" but an IMO resolution interprets this more sensibly and covers a wider range of safety aspects but it is seriously deficient as a measure of work-load because it omits aspect such as the cargo work and maintenance.

UK owners are endeavouring to find the minimum safe manning in order to stay in business and they are using lax legislation to introduce ever-lower levels.

Does this matter and should we be concerned ?

This is the way that the industry is going internationally and we must decide if we want to be a part of it.

For the seamen from the emerging nations seafaring is often a means to an end - money earning -so few are career seamen and most would probably opt to return to wives and families. They often see pay as more important than conditions or working efficiency.

However it is also recognised that pollution caused by fatigue can make the owner "liable" and this dictates "safe manning" for a different reason.

P&I Clubs and underwriters are raising rates so these commercial pressures will influence the owners views on safe and competent manning .Old ships with badly trained Officers still pose a problem and a number of solutions have been suggested to meet the problems of manning but implied is a level of regulation that nobody can enforce in practice.

Nobody can challenge a Liberian Masters Certificate except a Liberian Inspector.

Limiting hours of work is an attractive proposition but is unworkable - seamen work for money and generally want as much as possible.

Another approach is to produce a functional model of shipboard tasks ...the Americans have done much work on this and have produced a report aimed at reducing manning to the minimum in an endeavour to remain competitive.

Mr. Parker favoured identifying individuals - all of whom must be adequately trained and competent - (and make their carriage mandatory)- but leave the level of "casual labour" to the Owners discretion. Somebody must measure manning safety in real terms but as it is almost impossible to do this perhaps we should leave it alone and let market forces solve the problem. Mr. Parker favoured a manning of at least a Master and two mates in all hard working ships.

Richard Shaw opened by saying that his one year at sea as an Ordinary Seaman taught him a very great deal. That ship was manned by 36 souls but today she would probably have less than 20.

Involvement in marine casualties on behalf of P&I clubs, insurers cargo underwriters, brought him into daily contact with bent ships. Casualties brought about by unsafe manning are relatively rare but unsafe manning is a factor in almost all casualties. The Hague Rules enforce "seaworthiness" on the shipowner and this implies by case law that this includes the provision of a safe and competent crew and this is the lynch pin of the law on the link between seaworthiness and safety. Section 39.5 of the Marine

Insurance Act says that if the vessel is sent to sea in an unseaworthy state with the privity of the owner then the vessel is uninsured...and if the underwriter does not pay then neither does the P&I Club if cargo claims, etc. are involved.

There are also provisions covering Limitation of Liability under the MSA and equivalent international legislation. Broadly, an owner can limit his liability to a fixed amount per ton of the Gross Tonnage and that right was based on a condition that the casualty was not caused by the fault or privity of the owner.

A shipowner who sends an undermanned ship to sea is privy to that fact and so he cannot limit his liability.

The best laws are the shortest ones and Mr. Shaw is very much in favour of the phrase "sufficiently and efficiently manned".

It is said that "Rules are made for the obedience of fools and the guidance of wise men" and today the trend is towards making rules more and more specific in relation to what one can and cannot do.

The danger of having a specific all-embracing manning certificate relating to a certain ship on a certain day under certain conditions is obvious and such a requirement should be for the obedience of fools and the guidance of wise men - the latter being the owner and the Master.

At the end of the day it is the laws of common sense which DO apply in the marine legal field that matter - and it is the application of these by owners and Masters than will ensure safe manning.

Owners DO care about the safety of the crews if only because a breach costs them money but the books must be balanced and economies must be made.

A ship must be efficiently and sufficiently manned but this can be reduced by fatigue and fatigue has been a major contributor to many marine accidents.

Communications between crew members - and with the outside world - are vital but above all -

common sense must prevail in all matters relating to safe manning.

Common sense exercised by a competent Master supported by an efficient and sufficient crew is more to be desired than the computer-orientated world that is talked about today.

Professor Mike Dove opened by responding to the comment made by the previous speaker regarding computers and said that they were only as good as those operating them and those who programme them but he was most concerned about the lack of training facilities available for those who would be called upon to use them in the future.

After obtaining a Second Mates' Certificate and subsequent service in the Merchant Navy, Professor Dove served for some time in the Royal Navy before entering the field of education. He believed that the problems created by unacceptable low manning levels could, to a degree be solved by automation. What is meant by automation at sea? What is meant by the Integrated Bridge?

Over the past five years Mike Dove has worked with Kelvin Hughes on the integrated bridge project and the latter claim that the integrated bridge is now in service.

It incorporates the electronic chart concept and negotiations are going on with the Hydrographer to deal with production problems and the problem of the continuing need to carry "paper" charts.

Liverpool Polytechnic have succeeded in producing an utterly realistic chart for computer display purposes.

A possible way of dealing with the problems of training, recruiting and manning is to concentrate on automation on the Bridge.

The aircraft industry has, to a large extent, been successful in their automation programme. Smith's Industries have produced a system for the European Airbus whereby the pilot taxis to the end of the runway, presses four buttons and then could, if he wished, sleep until he was on the destination tarmac. If there is a diversion he can punch in new co-ordinates to take him to his new destination. But, without aircrew, few airlines would attract passengers.

Is that the way we want to go? Given that some 63% of accidents are attributable to human error - particularly under stressful conditions .The "Torrey Canyon" for example. The human on the bridge IS under stress and if manning levels are reduced that stress is increased. However, we are aware that trials are going on involving One Man Bridge Operations at night.

One possible solution for the future is to go some way down the road that the aircraft industry has gone in respect of reduced manning but if we are to do that we must look at training.

Officers of the future must be taught to be aware of the limitations of, and the errors in, the computer and electronic equipment that they will be called upon to use in the future.

Training for this electronic era is crucial so we must ask if the educationalists are approaching this problem correctly and also ask if the shipowners- and the Government- are approaching it correctly.

We have looked at the dual manning concept whereby there is a sensible educational policy leading to deck and engine room joint certification but the support from the Industry for this concept has been disappointing. Lack of numbers has meant the cessation of the course locally.

Possible we have to accept reduced manning and so we must look towards degrees of automation but only if we deal with the training problems thrown up by this. The problems of communication have to a degree been tackled by the introduction of "Seaspeak" sponsored by IMO but there is still much to be done.

Automation - and training to operate it correctly - are the ways ahead in this era of reduced manning.

In a brief summing-up the Chairman said that following the historical background outlined by the first speaker the second speaker advised us to leave the problem alone (unless we were truly able to get a grip on it).The third speaker favoured a "common-sense" approach to the problem and the last speaker favoured the adoption of more technology coupled with better and correct training as a remedy.

The subject was then thrown open for discussion from the floor.

The first comment from the floor related to the lack of attraction afforded by a seafaring career today to the young men and women of this country. With British ships disappearing from the scene the expertise is moving to the East. Most accidents can be attributed to human error. The accent today is on automation and the increase in computers will see an even greater reduction in manning.

Endeavours are being made to design out the human factor in shipping operations. A large German flag container ship trading to this port has a manning target of 12 aided to a degree by the adoption of combined Deck/Engine Certificates of Competency. She is a "high tech" ship but one wonders what would happen to her if she was sold to a Third World owner and manned with people lacking the necessary expertise.

IF the UK fleet has a future then it must be in high technology vessels with minimum manning employing technology at every level and problems "designed out".

Professor Dove agreed with the comment from the floor and in stating a personal view he saw a possible way forward by utilising a totally automated ship manned only when leaving and entering harbour by a mooring gang flown out to meet her. The technology for such a vessel exists but there may be legal problems precluding such an operation.

Mr. Shaw disputed the assertion that seafaring no longer appealed to the young man and woman of today. He had met many such -usually after they had bent their ship ! In fact there are many motivated Officers from all corners of the World. Automation has a place but good training and a shorter sea career (incorporating an opportunity for shore employment in the industry) will attract the right type of people to a seafaring career.

Professor Dove agreed with the latter viewpoint and commented that the Royal Navy had a well defined sea/shore career pattern. Other registers were looking closely at a career structure for maritime Officers which allowed them a period of seafaring interspersed with a period of shore employment - and the opportunity to work ashore in the years leading to retirement.

Julian Parker commented on the Lauritzen system in which large reefer ships are designed to be run by six people - although they currently employ 9 or 10. Crews change every three months so they work a six month year. The "feared" problems of "isolation" simply do not occur. Their Government has given them dispensation for One Man Bridge Operation by day and by night. The crews like it.

Maintenance is done in port with outside help and the crew are willing to work hard because they have short tours of duty. Automation is expensive but it does work. With reference to the raising of standards in Management companies Mr. Parker said that those major companies prepared to spend money in training and selection were operating safely and successfully but the real "horrors" were those who adhered to the lowest standards in order to make greater profits. Captain Harwood said that he really enjoyed seafaring but that he was forced to leave when his employers "flagged out" and employed inexperienced Filipino seafarers in sophisticated gas carriers. Despite his misgivings the ships are still trading with Filipino crews and mixed nationality Officers.

His experience of high technology ships indicated that provided there was enough technology and automation then untrained crews could be employed provided the Officers understood the technology, could maintain it and it was, in fact, kept operational. He shared the dread of these ships passing into the hands of the lowest-cost operator.

The next speaker had recently retired after a career spanning some 44 years and he assured the meeting that he had had a very satisfying career. Well paid, four months "ON" and four months "OFF" A short period of secondment to "the Office" had convinced him of the advantages of seafaring. The Industry needed well trained and motivated young people who wanted to come to sea and if they are not forthcoming then where, in twenty years time, do we get our Marine Surveyors and our Harbour pilots etc. We will not be able to get them from Taiwan.

The next speaker commented on the assertion that the job was unattractive. Those of us who came ashore some years ago see today's seafaring as being unattractive but we must accept that the job has changed. We must look at the type of person who goes to sea today - he is a very different personality to the seafarer of 20 years ago.

The next speaker questioned the wisdom of drawing too close a comparison between the marine

industry and the aircraft industry. His occupation as a Marine Surveyor brought him into contact with Officers who worked excessive hours (resulting in "incidents") because of inadequate manning. Aircrews simply flew the aircraft -they did nothing prior to or after the actual flight Dual certification has many dangers and has the potential for a major catastrophe in the event of machinery failure. There are already Surveyors in the field fresh from University and without the practical training or experience to enable them to carry out their duties correctly. Unsafely manned ships and inexperienced Surveyors are a recipe for disaster. Professor Dove agreed in general with the speaker but said that to redress the problem of safe manning it was essential to attract young people to a seafaring career and to afford them adequate training and educational facilities. Warsash campus would still be a College of Maritime Studies today if young people were forthcoming but for some time there has been a reduction in both the quantity and quality of applicants. Today we have some excellent students but they do differ from those of the past. It is probable that some 1000 seafarers come ashore each year to work in the industry ashore - where will they come from in the future? Warsash is currently negotiating with Lloyds to train ex-seafarers as Surveyors. But that supply will dry-up so we are designing courses for Marine Surveyors without seafaring experience.

Mr.Shaw emphasised the need for "hands-on" experience in ships and said that in his Law firm there was a programme to allow everyone in the office to visit ships and it was very evident how much better motivated they were when they had actually seen a ship and identified what they were writing about. He found it surprising that in these hard times the GCBS endeavours to attract young people to a seafaring career had not met with more success.

Professor Dove repeated that the young trainees were not coming forward in the numbers they would have wished to have seen and he had no doubt that the major cause of this was the fact that Shipping Companies had stopped recruitment.

Julian Parker referred to the case of the Chief Officer working long hours and said that although he was very sympathetic he was sure that the ship in question had a Safe Manning Certificate, was complying with the law and had protected their liability. The question of that ship holding a Safe Manning Certificate was challenged and Mr.Parker agreed that with or without one that Chief Officer would still have worked for 12 hours. That was the problem and how are we going to solve it ? You must lay down firm rules governing hours of work and fatigue but other than getting International agreement on a new manning scale little else can be done.

A seafaring Master recalled the recent days when the industry made many Cadets redundant midway through their cadetship and he felt that this had made parents and career masters wary of the sea as a worthwhile career. Nowadays there is a slightly better approach. He recalled being asked his views on the manning numbers for a new container ship and he said that if he was allowed to chose his crew then he would opt for no more than 12. If he was not allowed to chose his men it would be 24.His present ship ran with 20 men and this was usually satisfactory but a recent fire had demonstrated how stretched they really were. He had strong reservations about dual certification as he valued a well experienced Chief Engineer and doubted if dual certification would always ensure that such a high degree of professionalism would be available.

A retired Surveyor said that we had had several definitions of safe manning from the legal standpoint and it was his belief that these were based on the safety of the cargo but tonight we are concerned with the safety of the people carrying that cargo. Is current international and national legislation aimed at the protection of the cargo or of the people aboard ? So much of our legislation was enacted in an era when ethical standards were different from those obtaining today.

A P&I Club representative commented that over the years manning had always been related to the size of the vessel and not to the occupation or employment of the vessel. Many small ships work in the most congested waterways of the world with small crews working excessive hours at sea and in port while bigger vessels enjoy the tranquility of wide oceans and stays in port with much greater manning and less stress. Was it not time to address this problem ?

Captain Harwood agreed and said that the Dept. was trying to review manning but they were, to a degree, hampered by their requirement to adhere to international standards for ships in excess of 500 tons. However, they are now looking in much more detail at ships and their equipment before issuing

safe manning certificates. Hitherto tonnage has been the main criterion. The original questioner said that this was still unsatisfactory insofar as the vessel's employment was still not a factor for major consideration in relation to her safe manning. Manning should reflect fully the requirements of the job. Captain Harwood agreed but pointed out the great difficulties in legislating for this. The Department will be introducing legislation on Limitation of Hours. The latest draft contains the catchall phrase "Seafarers shall not work more hours than are safe"

Various speakers commented on the need to man for the job and not for the tonnage. A small tanker probably needed more cargo supervision than a general cargo vessel of comparable size.

A Department representative commented that it was the responsibility of the owner to run a safely manned ship and the Merchant Shipping Acts specified this very clearly. The Department could not and should not be expected to oversee every nook and cranny of safe ship operation. If the owner imposes excessive hours on his crews it is his problem, not that of the Department.

Richard Shaw said that that was precisely his point....it was impossible to make "blanket" legislation. A dry cargo coasters crew could vary according to her cargo, older ships probably need more crew than newer ships. Certificates cannot be relied on implicitly. An Insurance Manager may tell the Owner that provided he is manned in accordance with his certificate he is within the law but a Judge may see the issue rather differently. An owner must be seen to own, manage and husband his ships correctly and safely and know what is going on. Such a case was the "Lady Gwendolin" whose owners chose to ignore the fact that she consistently steamed at excessive speed in fog. When, eventually, she was in collision it was ruled that her owners were negligent insofar as they should have known that the Master seldom if ever slowed down in fog.

A P&I Club representative said that the potential for disaster posed by a small chemical tanker was no less, for the environment and for the people living on the coast, than that posed by a 250,000 ton tanker. Perhaps there should be standardisation of certification ?

Captain Harwood said that in 15 years we had come a long way to improving qualification standards in coasting vessels. 15 years ago no certificate of any sort was needed (other than in a HT passenger vessel) but today we require a Class 4 or 5 with a Command Endorsement.

Julian Parker said the problem would be solved by commercial initiative. Chemical companies have taken a lead in this and they had introduced a Quality Code. The oil majors are also looking for higher manning standards in their chartered tonnage and would probably not accept a "two mate" ship. This is all very encouraging.

A representative of a towing company commented on training. Early certificates taught little about cargo handling so juniors were seldom able to give as much help as they should.

Mike Dove commented that in his experience Greek Shipmasters were more commercially aware than their North European counterparts and maybe training should take this into consideration.

A Warsash representative agreed but said that in days past, for their own reasons, the shipowner never allowed his Officers and Masters to know how the commercial aspect of the ship was operating.

The Chairman commented that interesting as these observations were they did not really relate to the subject matter.

An Engineer Surveyor wondered what the Master was doing when the Mates were working such excessive hours. It was suggested that he was showing Surveyors around.!!

The Chairman asked a serving Shipmaster to answer the question and Captain Smith said that he preferred to revert to the safe manning aspect. The MAIB enquiry into the recent collision in the Channel between a cargo ship and a fishing vessel resulted in a recommendation that in fog there is a forward lookout and a helmsman steering - in effect a three man watch needing nine sailors. We now have reefer ships operating with 6 men ....apart from anything else how do they clean them ?

Julian Parker in a brief answer said they really have nine and do little or no cleaning.

An MAIB inspector commented that MAIB reports were non-specific and that recommendations were made to ensure general safe operations.

The Chairman reverted to the question of the part played by the Shipmaster in reducing the work-load of the other Officers and asked a Surveyor if, in his experience, the Master generally played a full part.



The latter reported that in the case he mentioned both the Master and Mate had worked excessive hours and, of course, the Master had other duties in relation to the documentation. In fact he had relieved the Chief Officer on deck.

The Chairman commented on the increasing calls on the Master by Port Officials (since the demise of the Purser/Catering Officer rank). It was agreed that the Master was at the beck and call of almost everyone .

The Engineer Surveyor asked if, in the final analysis, it was not down to the Master to say "enough is enough ..we are all exhausted so cargo must stop". Representation to the Dept. of Transport would meet with sympathetic consideration.

There was some discussion about the attitude of Owners to Masters delaying sailing on account of personal fatigue and a Shipmaster said that he was confident that his owners would accept his judgement on this matter without question.

Richard Shaw said that an Owner would be well advised to back the Masters judgement in these matters.

Comment was made that the Carriage of Good by Sea Act was concerned more with the safety of the cargo than the safety of the crew and ship but Richard Shaw qualified this by saying that the overriding requirement was the seaworthiness of the vessel before and at the commencement of the voyage. Seaworthiness includes crewing ..and the safety of the crew. An exhausted Master is a hazard to himself, his ship and his cargo.

Commodore Taylor RN said that he was sure that many of us had seen RN ships pass with hordes of sailors but even with such heavy manning things still went wrong. Safety for other sea users and safety in environmental terms probably calls for a legal Code of Conduct. To depend on the tortuous process of International Law to get safe manning is probably pie in the sky.

Richard Shaw said that IMO is a very efficient organisation and is truly International with all the strengths and weaknesses that includes. National legislation is rarely sufficient as shipowners will switch flags but considering sea users at large international control is essential. Legally, there is a wide understanding as to what comprises safe manning and generally speaking that understanding works well.

A Marine Surveyor brought up the question of communications with mixed nationality crews. He cited the case of a ship with mixed national manning where communications between the Bridge and Engine Room were almost impossible.

Captain Harwood said that the update of the MOU did bring this question into ship inspection procedures and it specified that key crew members must be able to communicate.

There being no further questions the Chairman invited the assembly to join him in thanking the panel for contributing so much to an enjoyable and instructive evening.

## **SUMMARY OF MEETING AND CONCLUSIONS.**

The four panel members highlighted a number of points relating to Safe Manning and these are summarised as follows:

1. There is a direct conflict between the traditional "Blue Chip" shipowning company approach to manning and that currently practised by some of those Management companies that supply manning.
2. It is not easy to define the word "safe" in any context and particularly so in relation to ship manning.
3. There must be a balance between commercial expediency and regulatory requirements.
4. It seems to be commonplace for shipowners to apply the criteria of minimum (safe) manning.
5. Casualties caused directly by unsafe manning are rare, but unsafe manning is a factor in almost all casualties.

6. Unsafe manning can result in unseaworthiness.

7. An Owner sending his ship to sea inadequately crewed (unsafely manned) is privy to that fact and will not be able to limit his liability in the event of a casualty.

8. The current problems created by unacceptable low manning could, to a degree, be overcome by shipboard automation. 9. If automation is to be accepted (and successful) crews must be properly trained in use and maintenance.

The ensuing discussion raised, inter alia, the following points :

- a. A vessel incorporating a high degree of automation will operate safely and satisfactorily during primary ownership but problems will be encountered when it enters the second and third hand market.
- b. The Lauritzen concept is interesting. Crews of nine or ten work industriously during short tours of duty (with a high degree of shore-based assistance as opportunity presents) and, on aggregate, they appear to have six months annual leave.
- c. Comparisons between marine and aviation practice are probably inappropriate. Air crew just work the aircraft in flight and "voyage times" are very much less.
- d. Possession of a Safe Manning Certificate is only one aspect of adequate manning and may not be evidence of it.
- e. Ships may operate satisfactorily with small crews under normal conditions but shipboard emergencies ( fire etc.) pose severe problems.
- f. The Carriage of Goods by Sea Act is primarily concerned with the safe carriage of the cargo and not the safety of the crew. The requirements of Safe Manning should relate to both.
- g. Ships must be efficiently manned for their current commercial role - not just for a particular tonnage or type. Ships employed on a coastal or short sea trade often demand far more commitment from their crews than, say, a much larger vessel on an ocean trading pattern.
- h. Standardisation of certification on an International basis is essential.
- j. The Master's workload has increased with the demise of ancillary staff. Much "in port" time is spent acting as a "liaison officer" to the detriment of his supervisory capacity and opportunity to become sufficiently rested.
- k. If a Master felt that crew fatigue was such that it was unsafe to sail an Owner would be well advised to support the decision of the Master to delay sailing until an adequate number were sufficiently rested.
- l. Is a ship safely manned when onboard communications are reduced by lack of a common language ? In an emergency people tend to think and speak in their native language.

The Seminar probably raised more questions than it answered. The lack of well-defined conclusions indicates that defining "safe manning" is probably no less difficult than trying to define "seaworthiness". It is obviously essential to clearly recognise the difference between "minimum manning" and "safe manning". The QUALITY OF MANNING is probably more important than the QUANTITY and if that quality is missing then compensation in terms of safety cannot be achieved by increasing crew numbers. Probably the most thought-provoking comment in relation to Safe Manning legislation was the quote: "Rules are made for the obedience of fools and the guidance of wise men".

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