

14th May 1998

TO ALL MEMBERS

Dear Sirs,

MILLENNIUM PROBLEMS

The Association's Circular of 2nd April 1998 (5:250) alerted Members to the possibility of serious system problems resulting from the approaching change in millennium. It is intended that Members will be updated regularly by Circulars or Newsletters on this issue, and this is the first such update.

Members should anticipate that problems will arise with equipment containing electronic 'chips' which have not been confirmed as year 2000 compliant.

'Chips' which are not year 2000 compliant are made worldwide, and marine equipment manufacturers often receive 'chips' from many sources. These 'chips' may have similar specifications, but they could have sufficient differences to malfunction in different ways, or not at all, in similar circuitry; and 'chips' from the same supplier fitted in different circuitry may similarly malfunction in different ways, or not at all.

The nature of this problem means that systems on sister-ships, or even back-up systems on the same ship, may not react identically with the change in millennium. It is possible that some equipment will continue to function normally when other similar equipment will fail or operate erratically.

The likelihood of problems will be enhanced if the date function of a 'chip' is being utilised, but this is by no means a fool-proof indication that a problem will or will not occur.

In essence, nobody is sure what will happen to equipment which is fitted with 'chips' which are not year 2000 compliant. Therefore awareness that problems could arise, their location and what repercussions may occur, is of great importance if expensive incidents are to be avoided.

The attached list is designed to draw attention to some shipboard equipment which might contain 'chips' and thus possibly be liable to malfunction unless suitable remedial action is taken. Remedial action could simply entail obtaining a guarantee from the manufacturer that the equipment is year 2000 compliant, but it may mean fully testing for compliance or changing the 'chips' for compliant ones or even replacing the equipment altogether.

The list is by no means exhaustive and may well contain data which is not relevant to all ships. However the list should provide some indication of what shipowners will need to look at and also stimulate some thought and discussion amongst those responsible for the various areas of shipboard activity.

The list does not include the most obvious applications with 'chips' which are the computers and computer systems themselves, which are commonplace on ships today, including many which have to be class approved for such applications as loading, stress, and damage stability calculators.

Yours faithfully,
A.BILBROUGH & CO. LTD.
(MANAGERS)

SHIPS' EQUIPMENT POSSIBLY FITTED WITH ELECTRONIC CHIPS
(Equipment may contain chips with active or dormant date functions)

FUNCTIONAL AREA	POSSIBLE CLASS INVOLVEMENT	EQUIPMENT	ESTIMATED TYPICAL NUMBER OF CHIPS [with date function]
MAIN ENGINE			
	YES	Engine control systems	10
	YES	Fuel control systems	4
	YES	Governors	4
	YES	Load sharing	2
	YES	Lubrication management	2
	YES	Alarm systems	4
PROPULSION SYSTEMS			
	YES	C.P.P. systems	20
	YES	Load set-up and control	4
	YES	Data loggers	4
	YES	Alarm systems	4
AUXILIARY ENGINES			
	YES	Engine control systems	10
	YES	Power control systems	10
	YES	Fuel control systems	2
	YES	Stand-By duty systems	4
	YES	Alarm systems	4
ELECTRICAL MANAGEMENT			
	YES	Power sharing	6
	YES	Alarm systems	6
BOILERS			
	YES	Firing control systems	10
	YES	Load sharing systems	2
	YES	Start-up control systems	2
	YES	Alarm systems	2
GENERAL AUTOMATION			
	If U.M.S.	Systems checking	20
	If U.M.S.	Sequential start systems	10
	If U.M.S.	Systems management	10
	If U.M.S.	Alarm systems	4
STEERING GEAR			
	YES	Systems control	2
	YES	Alarm systems	2
PURIFIERS			
	If U.M.S.	Systems control	10
	If U.M.S.	Alarm systems	4
AIR COMPRESSORS			
	If U.M.S.	Sequential load control	6
	If U.M.S.	Lubrication management	2
	If U.M.S.	Alarm systems	1
AUXILIARY PUMPS			
	If U.M.S.	Sequential starts/stops	10
	If U.M.S.	Alarm systems	2

FUNCTIONAL AREA	POSSIBLE CLASS INVOLVEMENT	EQUIPMENT	ESTIMATED TYPICAL NUMBER OF CHIPS [with date function]
FRESH WATER SYSTEM			
	If U.M.S.	Salinity controls	1
	If U.M.S.	Alarm systems	1
	If U.M.S.	Sewage control	2
	If U.M.S.	Pumping systems	1
SALT WATER SYSTEM			
	If U.M.S.	Pump controls	2
	If U.M.S.	Control systems	2
	If U.M.S.	Alarm systems	2
HOTEL EQUIPMENT AND SERVICES			
		Air conditioning	4
		Domestic fridge room controls	2
		Tumble dryers	2
		Washing machines	2
		Galley range	1
FIRE DETECTION			
	YES	Systems management	4
	YES	Alarm systems	2
FIRE PREVENTION			
	YES	Auto control systems	4
	YES	Alarm systems	4
	YES	Ventilation control	2
	YES	Fire door actuation	2
	YES	Shut-down systems	2
FIRE FIGHTING			
	YES	Sprinkler systems	2
	YES	Alarm systems	2
GAS MONITORING			
	YES	Auto control systems	4
	YES	Alarm systems	2
BATTERY CHARGERS			
		Control systems	2
		Alarm systems	1
BRIDGE EQUIPMENT			
	YES	Main Engine Control	20
	YES	C.P.P. control	5
	YES	Auto Pilot	10
	YES	Radars	10
	YES	G.P.S. for navigation	2
	YES	Radio equipment	4
	YES	Echo sounder	2
	YES	EPIRB	1
	If U.M.S.	Data loggers	2
	YES	Alarm systems	2
	YES	Fog horn/Ship's whistle	1
TOTAL ESTIMATED CHIPS:			313

ADDITIONAL SPECIALIST EQUIPMENT & SYSTEMS

FUNCTIONAL AREA	POSSIBLE CLASS INVOLVEMENT	EQUIPMENT	ESTIMATED TYPICAL NUMBER OF CHIPS [with date function]
Tankers (specialised)			
	YES	Remote gauging	10
	YES	Loading instruments	2
	YES	Hi-level controls	4
	YES	Pumping systems	2
	YES	Alarm systems	2
		Stress monitors	4
Bulk carriers			
	YES	Loading instruments	2
	YES	Ballast control systems	4
	YES	Alarm systems	2
		Stress monitors	4
Reefers			
	YES	Cargo monitoring	8
	YES	Fridge plant controls	4
	YES	Alarm systems	4
Ro-Ro's			
	YES	Cargo monitoring	4
	YES	Ballast monitoring	2
	YES	Alarm systems	4
Ferries / passenger			
		Ballast monitoring	4
		Stabilisers	8
<p>N.B. Some of the equipment or systems, detailed above, are inspected by Class for their own purposes & others are done on behalf of flag states.</p>			