Survey of Wire Maintenance & Testing

INMARTECH 2006

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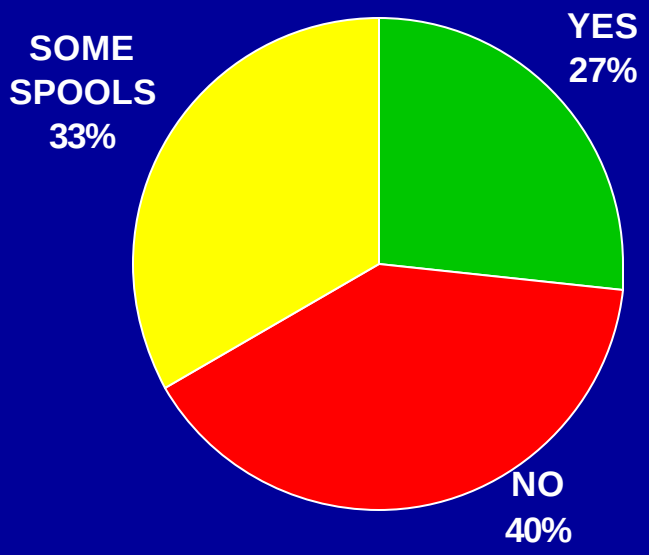
WHOI

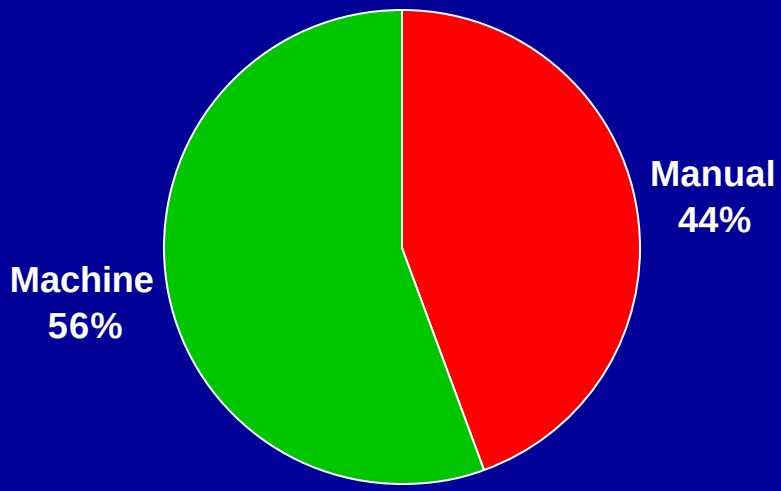
PURPOSE: To better understand existing wire use and evaluation practices within the research fleet while providing a basis for the discussion of objective standards.

- 15 Responding Institutions
- Representing 30 ships & 49 winches
- 73% use .322 wire

Are you lubricating wire?



If so, manual or machine lube?

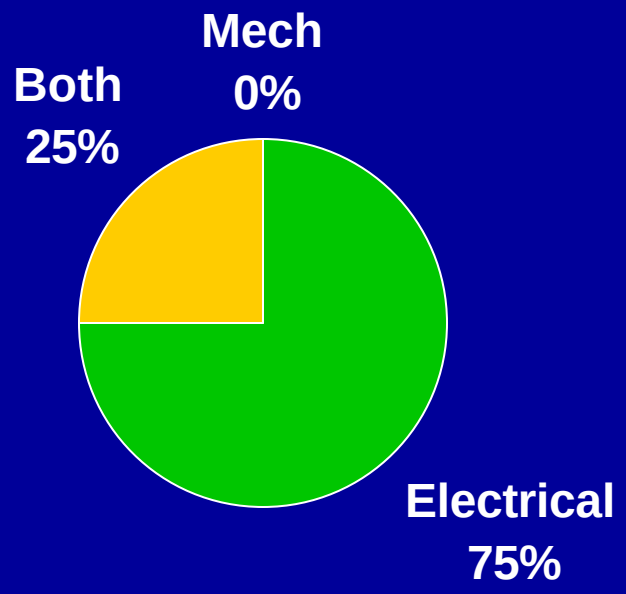


LUBRICATION MATERIAL*

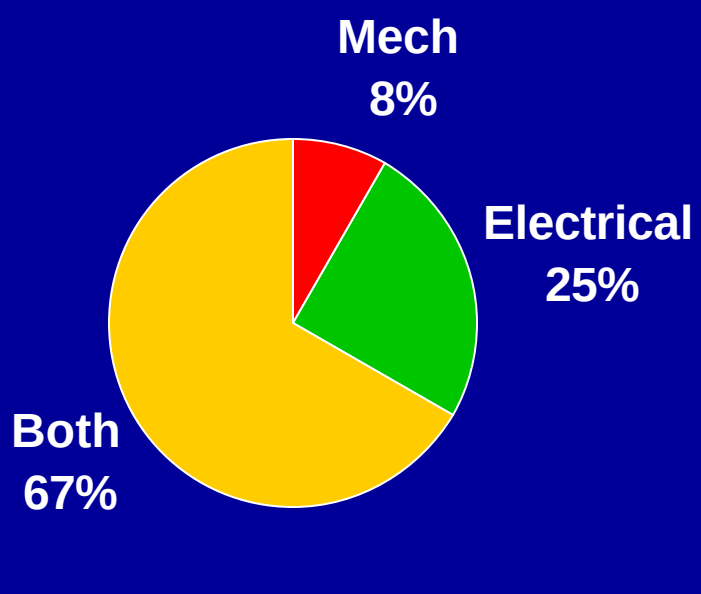
Not Specified	1	Prelube 19	2
Plant-based Oil	1	Lanolin	1
Dynacon	11	Fluid Film	1
Grignard EMII	1		

* Number of institutions reporting

Testing At Sea



Testing Ashore



TYPE OF TESTS PERFORMED

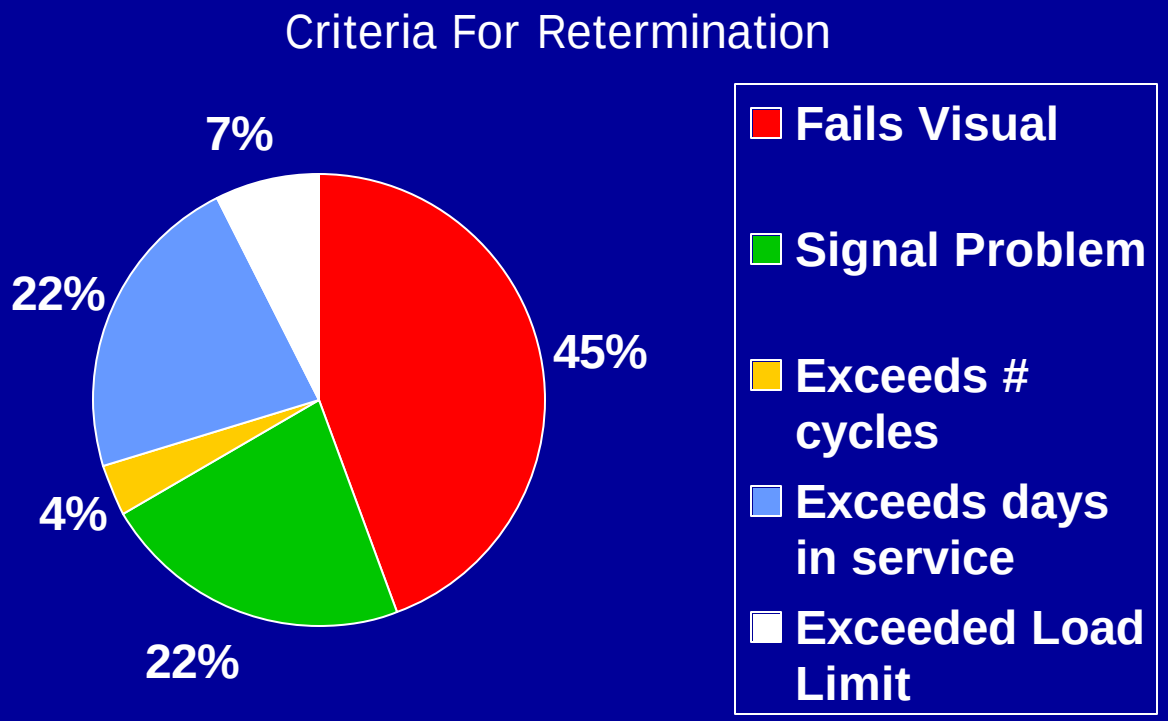
Breaking Strength	22%
Termination Proof	22
Resistance	27
MEGA	27
TDR	3
Eddy Current	*

* To be introduced by UNOLS in the near future

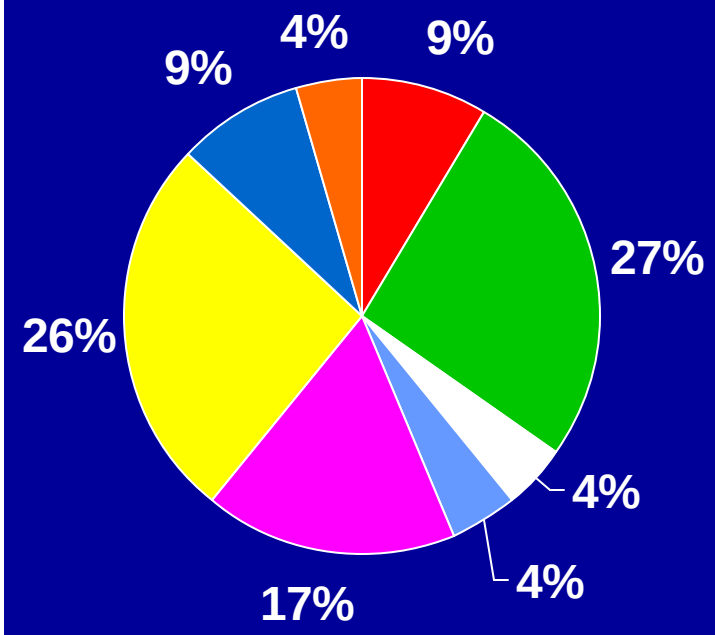
TENSION MONITORING OF WIRE DURING USE

Type of monitoring:	Continuously – 11	Max Value Only – 1
When is data reviewed:	Routinely – 2	After suspicious event – 9

(Number of Institutions responding)



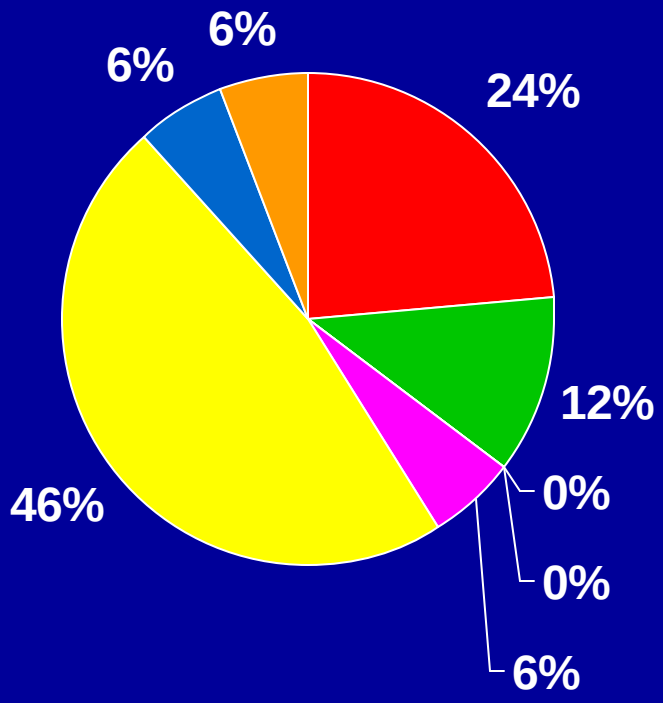
Institution's Criteria For Replacing A Spool



Mode of Failure

- Failed Break Test
- Electrical
- Birdcaging
- Max Cycles
- Visual
- Insuf. Length
- Unspecified
- Age

Most Common Reason For Replacing A Spool



Conclusions

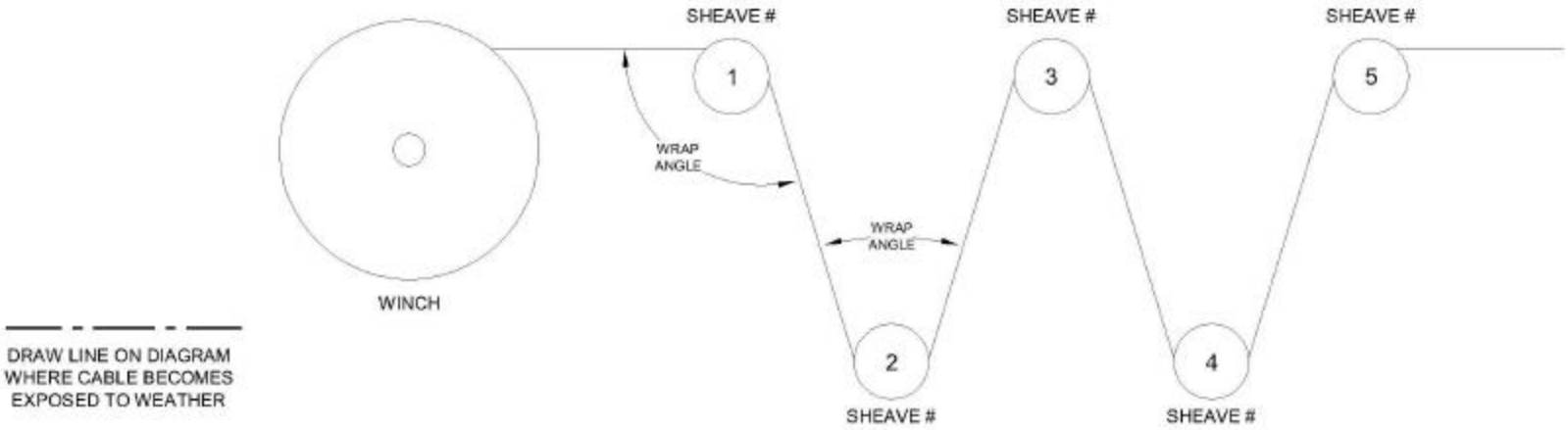
- Once wire has been placed in service there is very little concurrence between institutions in the area of wire test methods, rejection criteria or maintenance.
- Uniform standards would maximize wire life, minimize equipment loss and provide science users with wire guidelines that are consistent throughout the fleet.

WINCH / CONFIGURATION DESIGNATION

VESSEL NAME _____ DATE _____

WINCH	
COMMON NAME (Trawl, Hydro,...)	
MAKE:	
MODEL:	
DRUM CORE RADIUS:	
MONITOR SENSOR:	WINCH SUPPLIED _____
	or INDEPENDENT _____

WIRE TYPES		
TYPE	Max. Length	Date of Last Lube
Use * to indicate commonly stored on drum		



DRAW LINE ON DIAGRAM WHERE CABLE BECOMES EXPOSED TO WEATHER

SHEAVE 1	SHEAVE 2	SHEAVE 3	SHEAVE 4	SHEAVE 5
RADIUS	RADIUS	RADIUS	RADIUS	RADIUS
WRAP ANGLE:	WRAP ANGLE:	WRAP ANGLE:	WRAP ANGLE:	WRAP ANGLE:
GROOVE RADIUS:	GROOVE RADIUS:	GROOVE RADIUS:	GROOVE RADIUS:	GROOVE RADIUS:
WHEEL MATL.	WHEEL MATL.	WHEEL MATL.	WHEEL MATL.	WHEEL MATL.
MONITOR SENSOR TYPE: WINCH SUPPLIED _____ or INDEPENDENT _____	MONITOR SENSOR TYPE: WINCH SUPPLIED _____ or INDEPENDENT _____	MONITOR SENSOR TYPE: WINCH SUPPLIED _____ or INDEPENDENT _____	MONITOR SENSOR TYPE: WINCH SUPPLIED _____ or INDEPENDENT _____	MONITOR SENSOR TYPE: WINCH SUPPLIED _____ or INDEPENDENT _____

Woods Hole Oceanographic Institution

WINCH FORM

dwg # S400001	Betsey Doherty	Rev. 08/29/06