



Hawser Winch
Render/Recover Line Controls

UNOLS RVOC 2008 Annual Meeting
Old Dominion University
Norfolk, VA

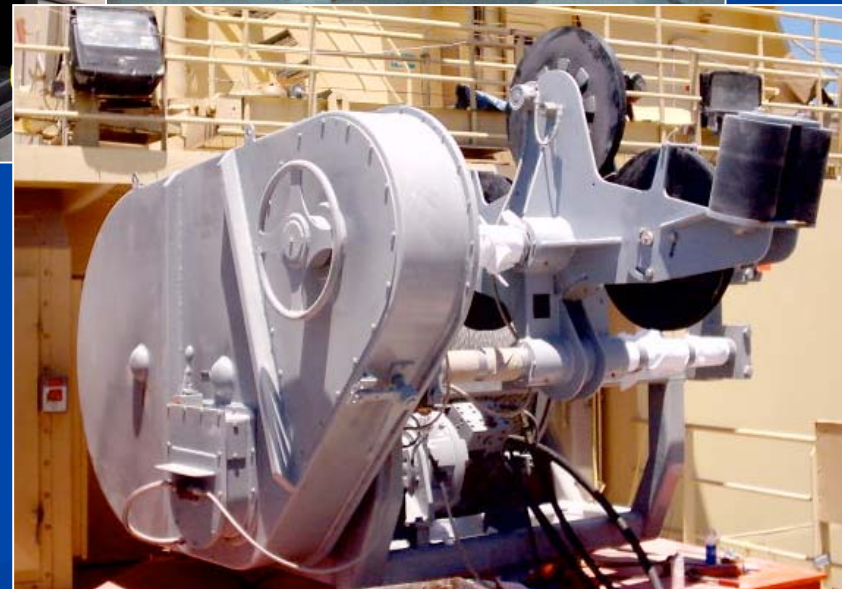
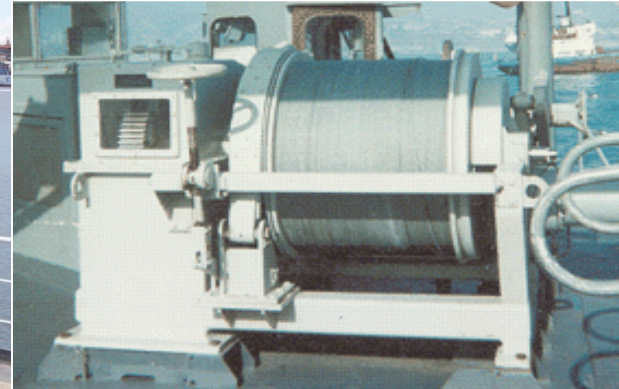
John C. Davis, Jr.

PRESENTATION OVER VIEW

- INTRODUCTION
- RESEARCH WINCHES
- HAWSER WINCH
 - Application
 - Evolution
 - Form
- FUTURE TRENDS



RESEARCH FLEET MACHINERY



Deep Sea Research Drum Winches

- DESH
- DUSH
- CUBE

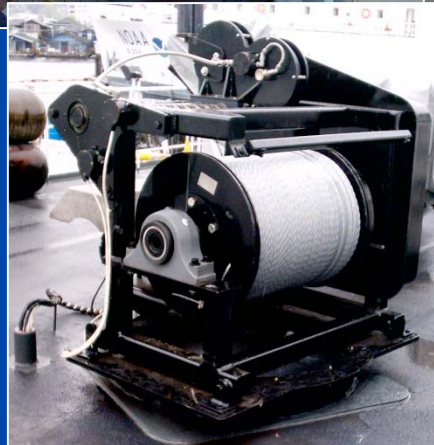
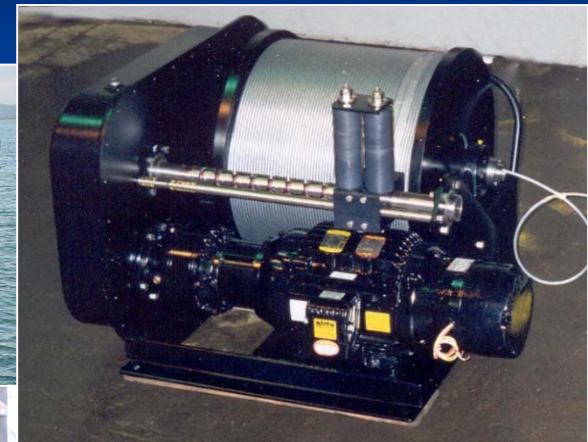
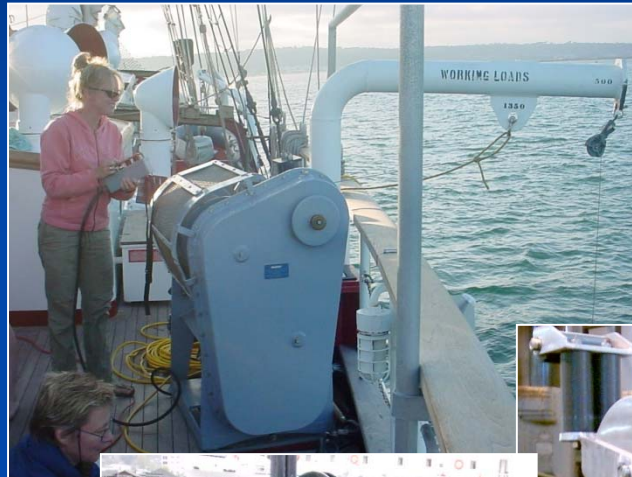
RVOC April 2008

MARKEY

RESEARCH FLEET MACHINERY

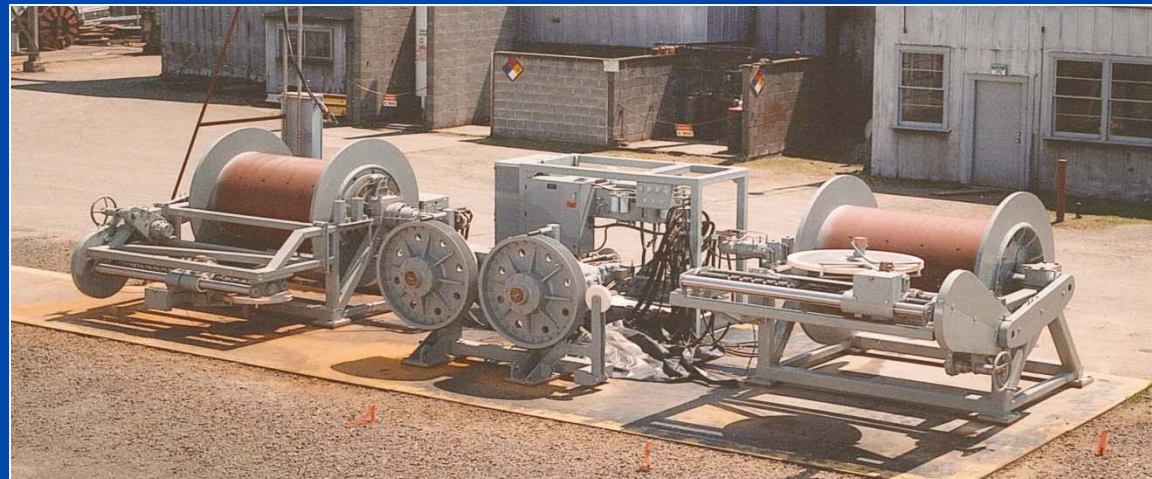
COMPACT LINE

- COM-4
- COM-5
- COM-7 (*electric or hydraulic*)
- COM-10
- COM-15
- DEBT-3
(*Bathy-Thermograph*)

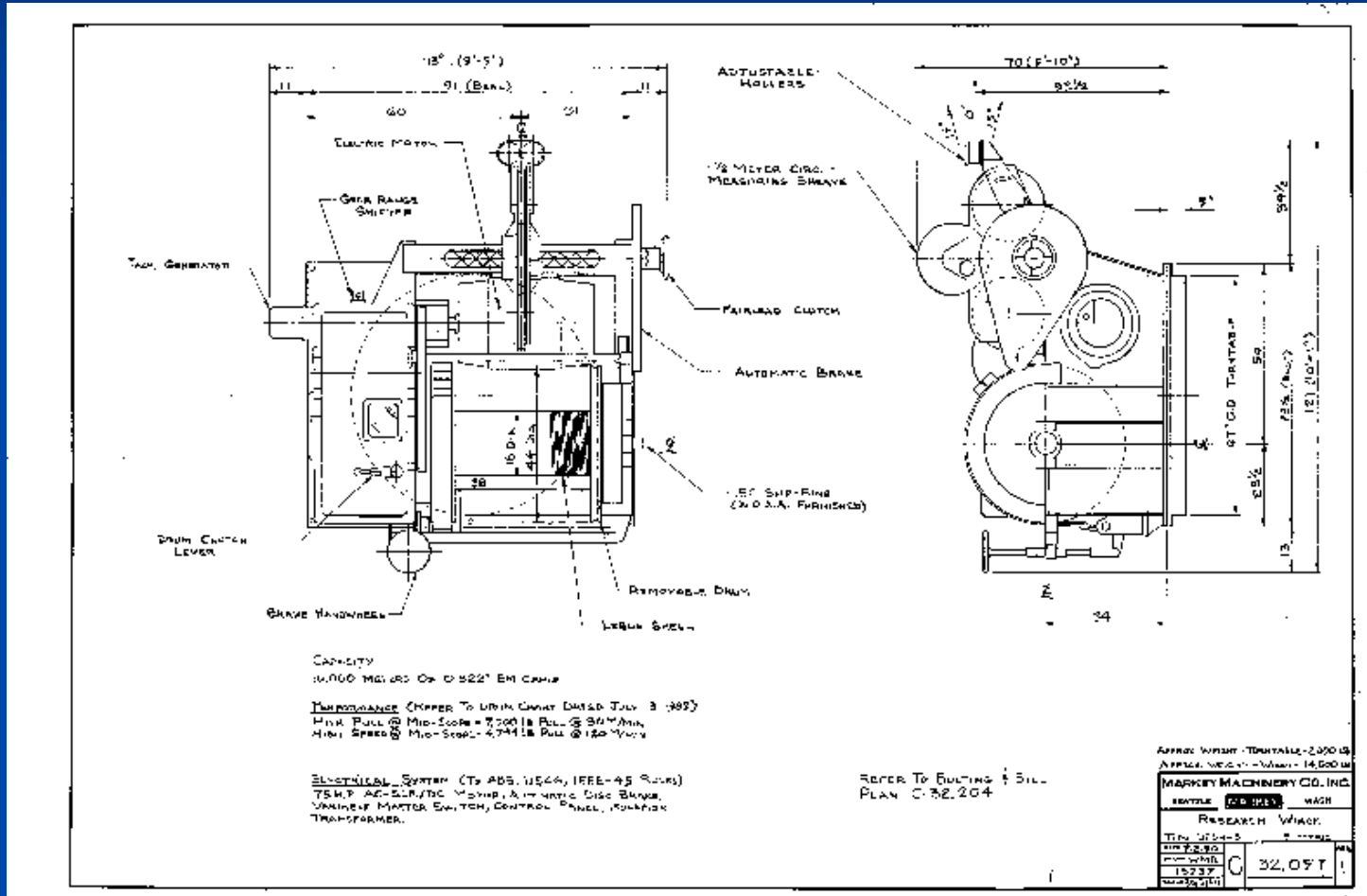


RESEARCH FLEET MACHINERY

- DUTW-48 &
DUSR-9 & 11
Traction
Winch System



"FORM EVER FOLLOWS FUNCTION" - LOUIS SULLIVAN



HAWSER WINCH FUNCTION

- Application

- Ship Assist
- Escort Services

- Commercial Harbor Tugs



Crowley Maritime
Tug RESPONSE
12 Knot Indirect
B.A. Griffin Associates, Inc. ITS 2004

Type DESS-52 250HP Electric Constant-Tension Winch

Winch Capabilities

Constant-tension winch line-pulls to 440,000 lbs.

Automatic inhaul and payout up to speeds of 700 ft/min.

Water-cooled “slip-brakes” capable of continuously dissipating up to 1600 HP

Full “Render/Recover” hands-free controls up to 3-times the bollard-pull

Dual all-electric 250 HP AC-Variable Frequency drive

Active line-tension monitoring during all winch operations

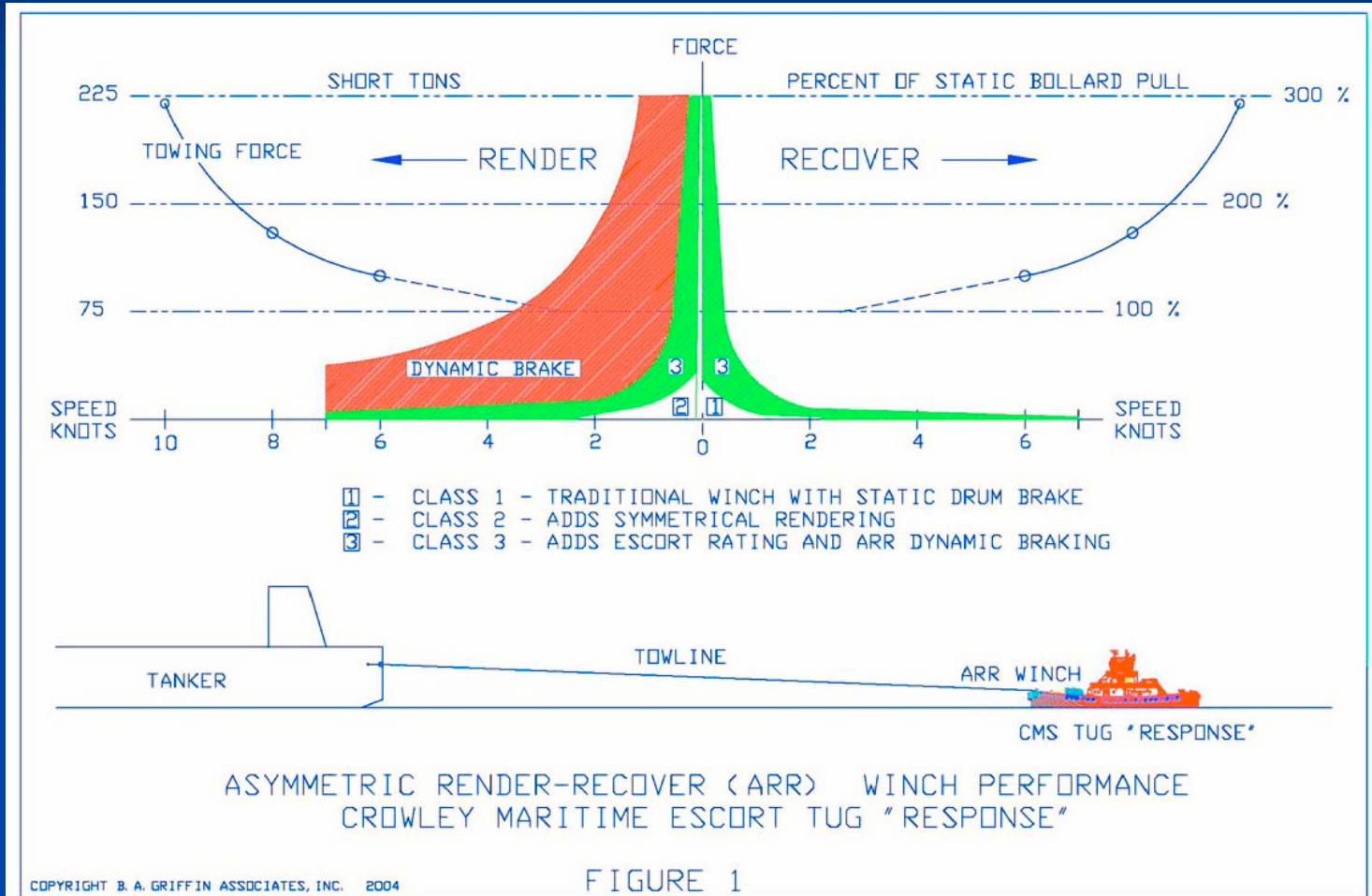
User-controlled 30 HP electric fairleader to automatically spool line, with manual override



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HAWSER WINCH CLASSES

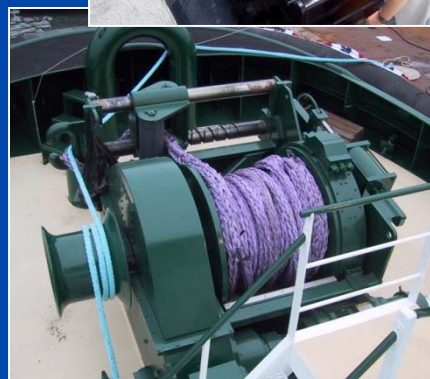
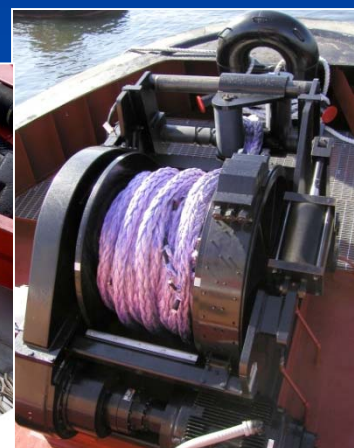
- Higher Capacity
- Bitts
- Class I- Static Brake
- Class II- Render / Recover
- Class III- Asymmetric R/R



ESCORT AND SHIP ASSIST WINCHES

DEPC models are single-drum electric hawser winches (hydraulic versions available) designed for escort and ship assist vessels. Features include automatic tension-selectable render-recover mode, high braking capacities, and fast line speeds.

- DEPC-32
- DEPC-42 / DEPCF-42
- DEPGF-42
- DEPC-48 / DEPCF-48
- DEPC-52 / DEPCF-52
- DYSF-42 (*hydraulic*)
- DYSF-52 (*hydraulic*)



Escort & Ship Assist Winches

The high-performance **DESS-52** (250HP) and **DESF-48** (100HP) are state-of-the-art single-drum electric asymmetric render-recover hawser winches with constant-tension operation and automatic inhaul/payout features that permit full hands-free control, so escort and ship-assist operators can focus on tug maneuvers while the winch handles the line.

- **DESS-52** (250HP)
- **DESF-48** (100HP and 250HP versions available)
- **DESD-48WF** (250HP)
- **DESDF-48WF** (760HP)

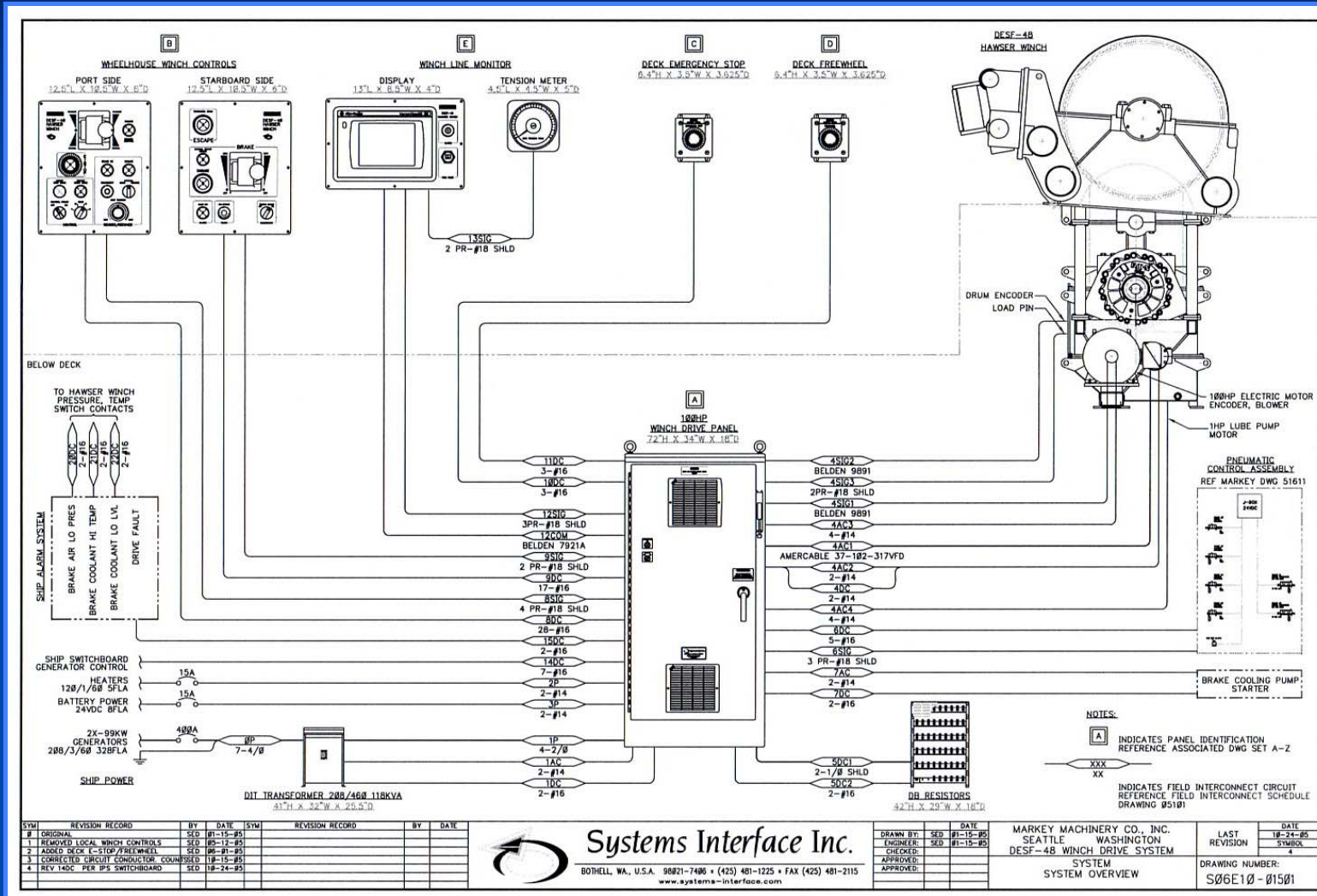


STANDARD WHEELHOUSE CONTROLS

Winch Controls (right)
Line-Tension & Drive Display (left)



DESF-48 WINCH SYSTEM OVERVIEW



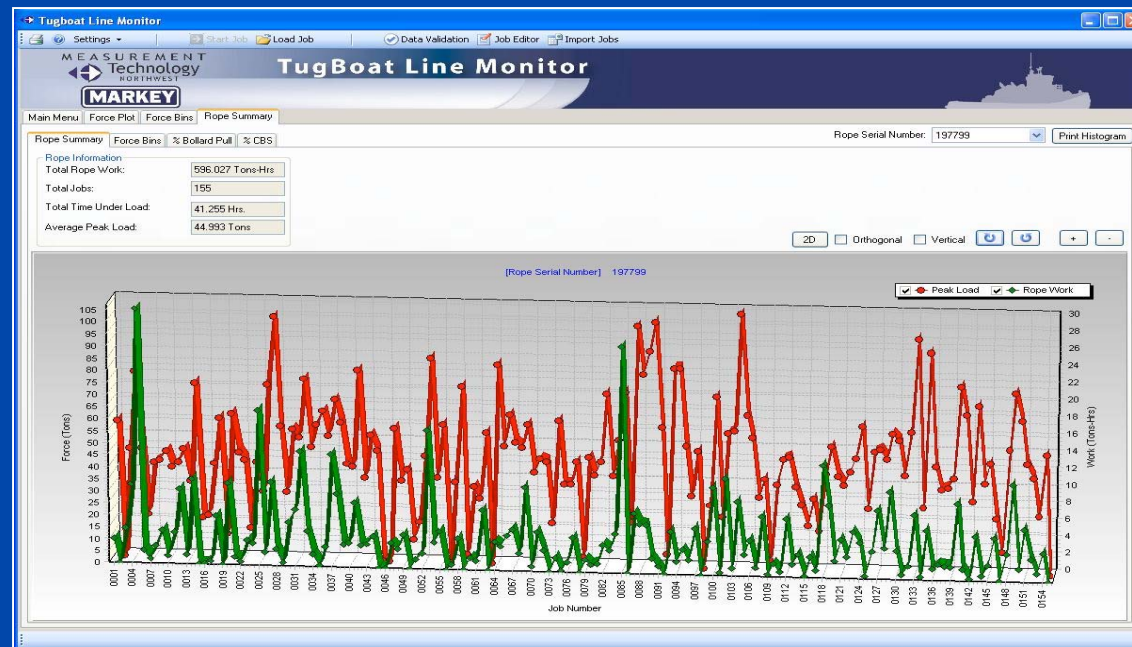
HAWSER WINCH TRENDS

- Dynamic Operating Environments
 - More Powerful
 - Safer Operations
- “Green” Hawser Winch Models



HAWSER WINCH TRENDS

- Improved System Management
 - Log Data
 - Software Tools
 - Interconnectivity
 - Internet-based Diagnostics and Service



MORE INFORMATION

- Markey, M.J.; [Single Drum Winch Design](#); Handbook of Oceanographic Winch, Wire and Cable Technology, Third Edition
- Markey, M.J.; [Science Duty Traction Winches](#); Sea Technology Magazine; July, 1996
- Griffin, B.A., Nishimura, G.J, [How to Design a Big New Winch](#); [Pacific Maritime Magazine](#); July 2007
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