



Management Consulting Engineering



Growth Opportunities for General Cargo and Shallow-Draft Ports

Presented by

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Ports and Maritime Services

NOVEMBER 2006

Planning for Growth

- What is Planning?
- What Are the Challenges?
- Planning - Example for the Coal Market
- So...What is Planning?
- Wrap-up

What is Planning?

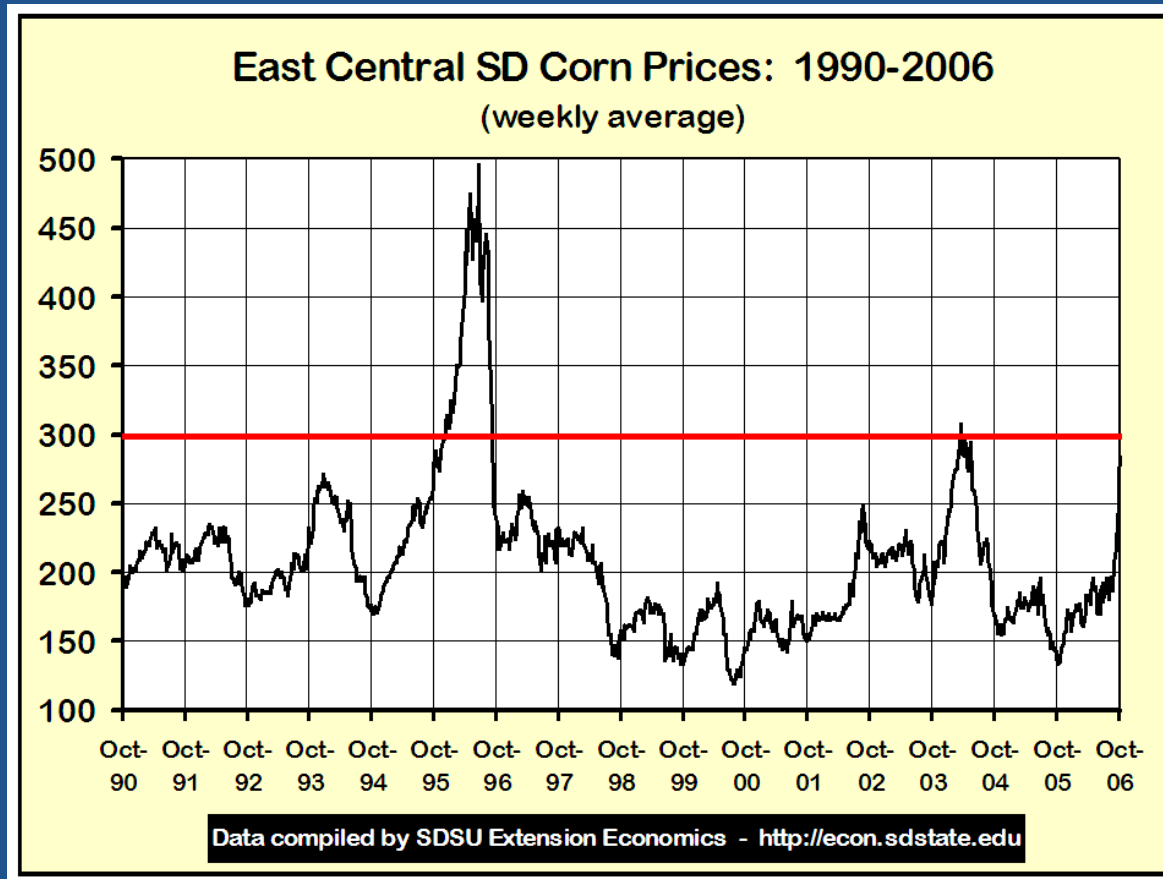
- A few definitions of planning:
 - An act of formulating a program for a definite course of action.
 - The act or process of drawing up plans or layouts for some project or enterprise.
 - The cognitive process of thinking about what you will do in the event of something happening.

Planning literally just means the creation of a plan.

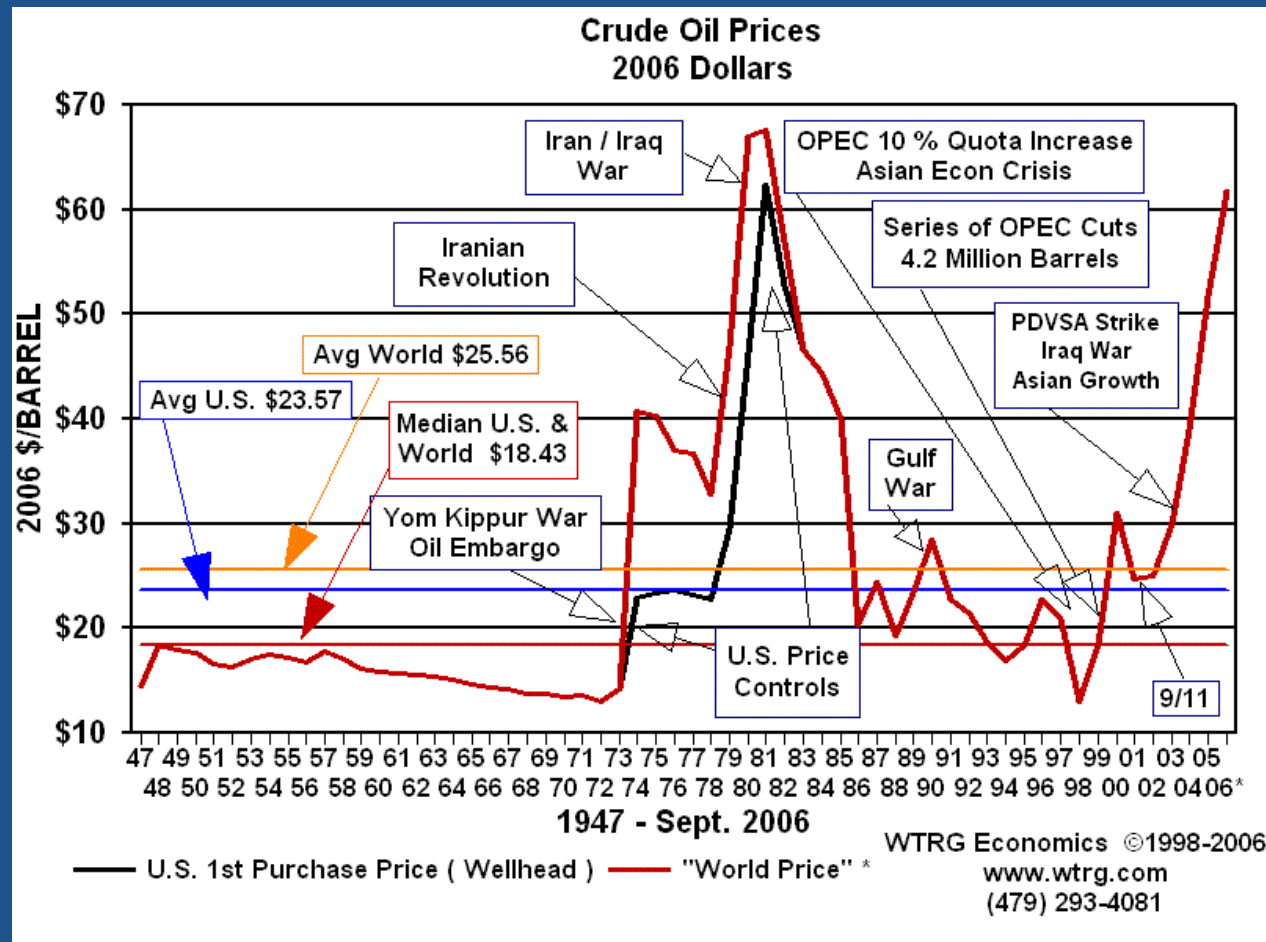
A Few Quotes

- Mencius: “Planning is in the power of man; executing is in the hands of Heaven.”
- Richard Nixon: “A riot is a spontaneous outburst. A war is subject to advance planning.”
- You are young at any age if you are planning for tomorrow.
- If you employed study, thinking, and planning time daily, you could develop and use the power that can change the course of your destiny.

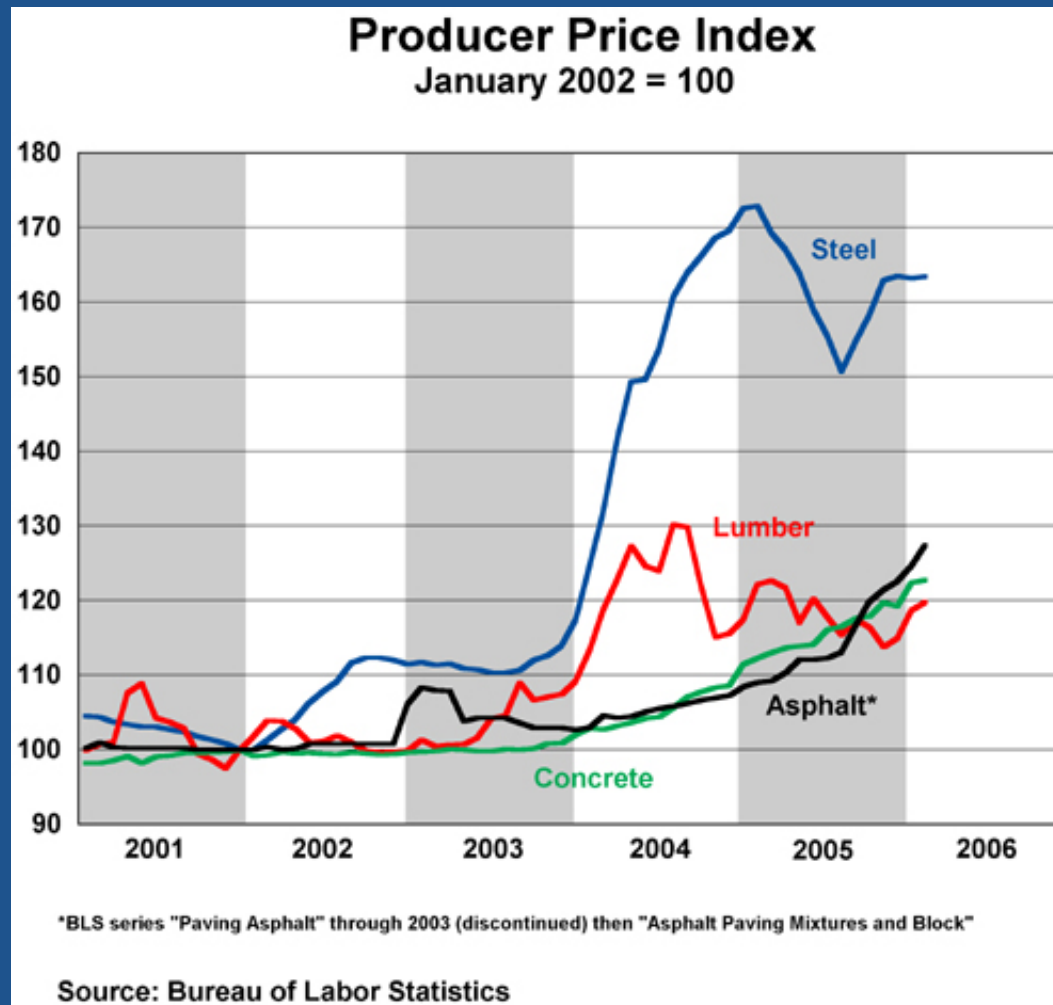
Commodities - Corn



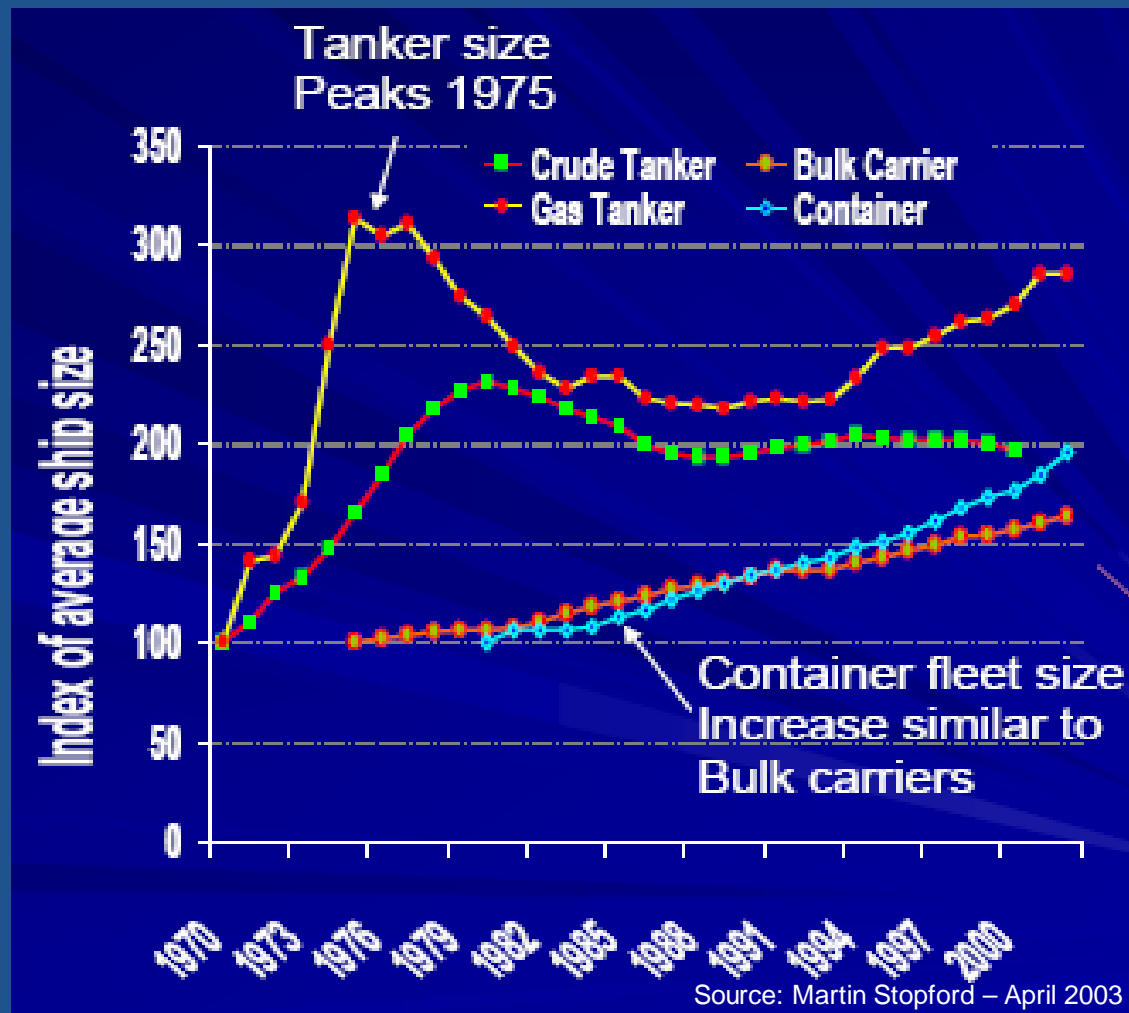
Commodities – Crude Oil



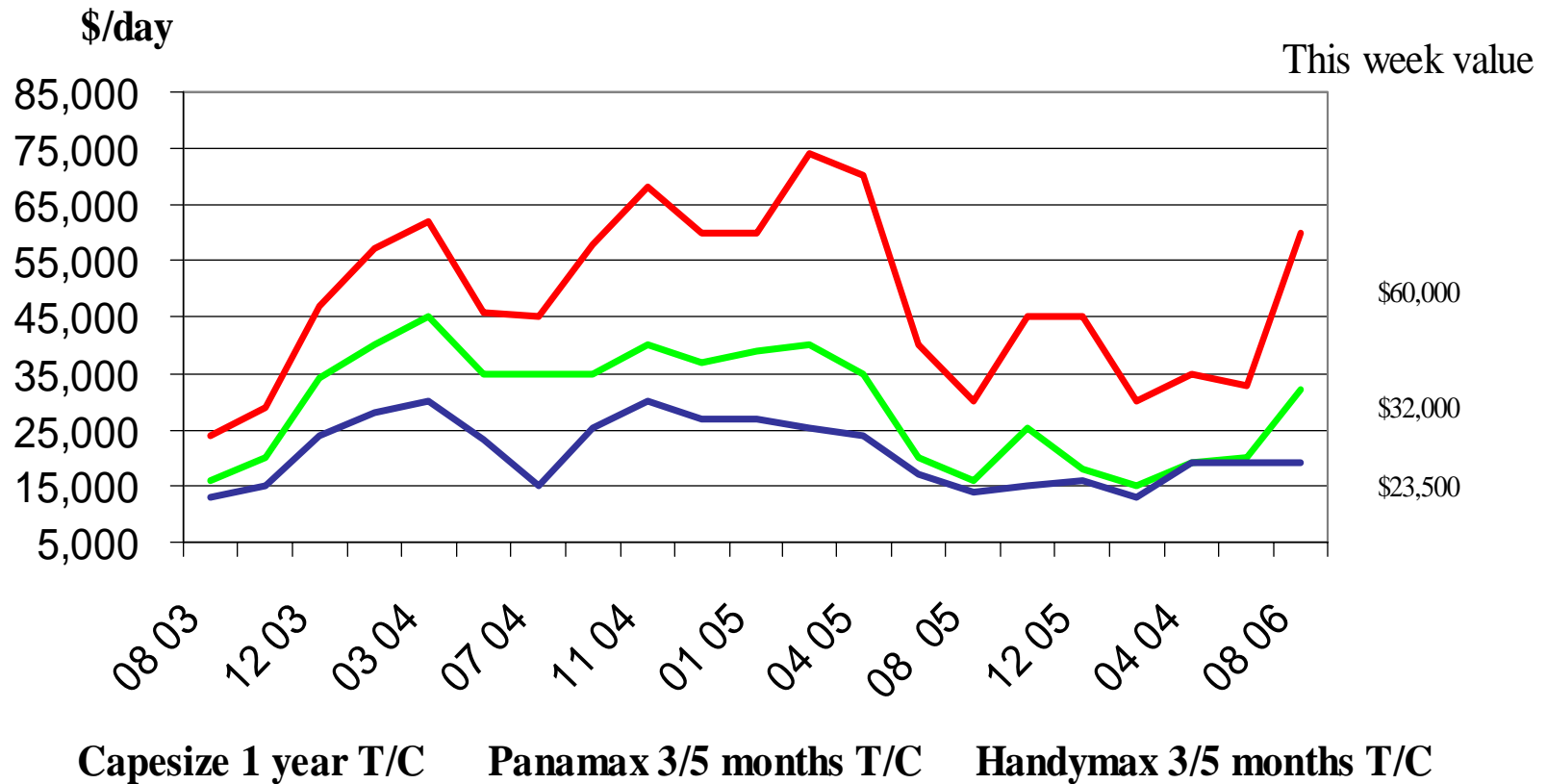
Construction Costs



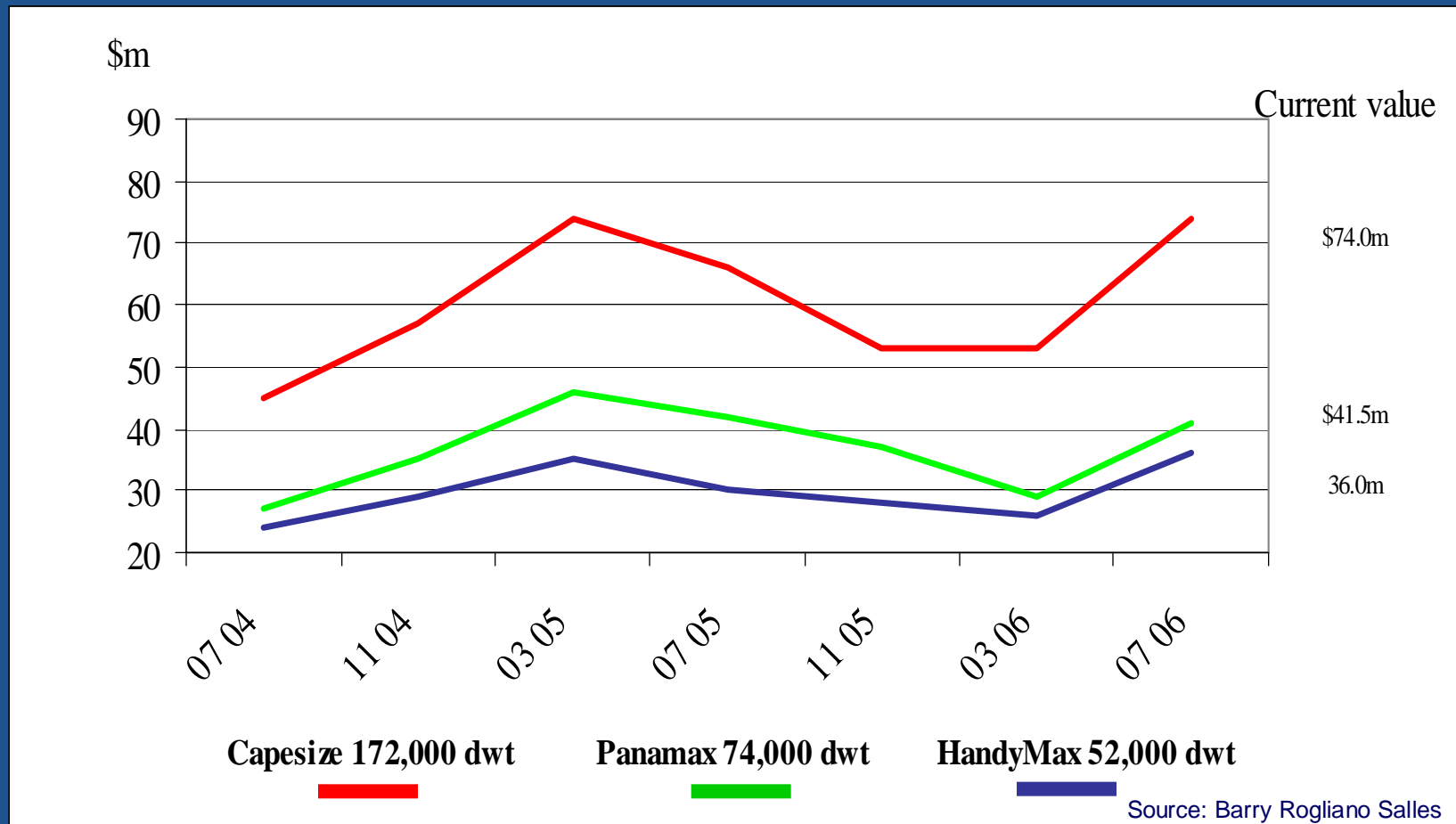
Vessel Sizes



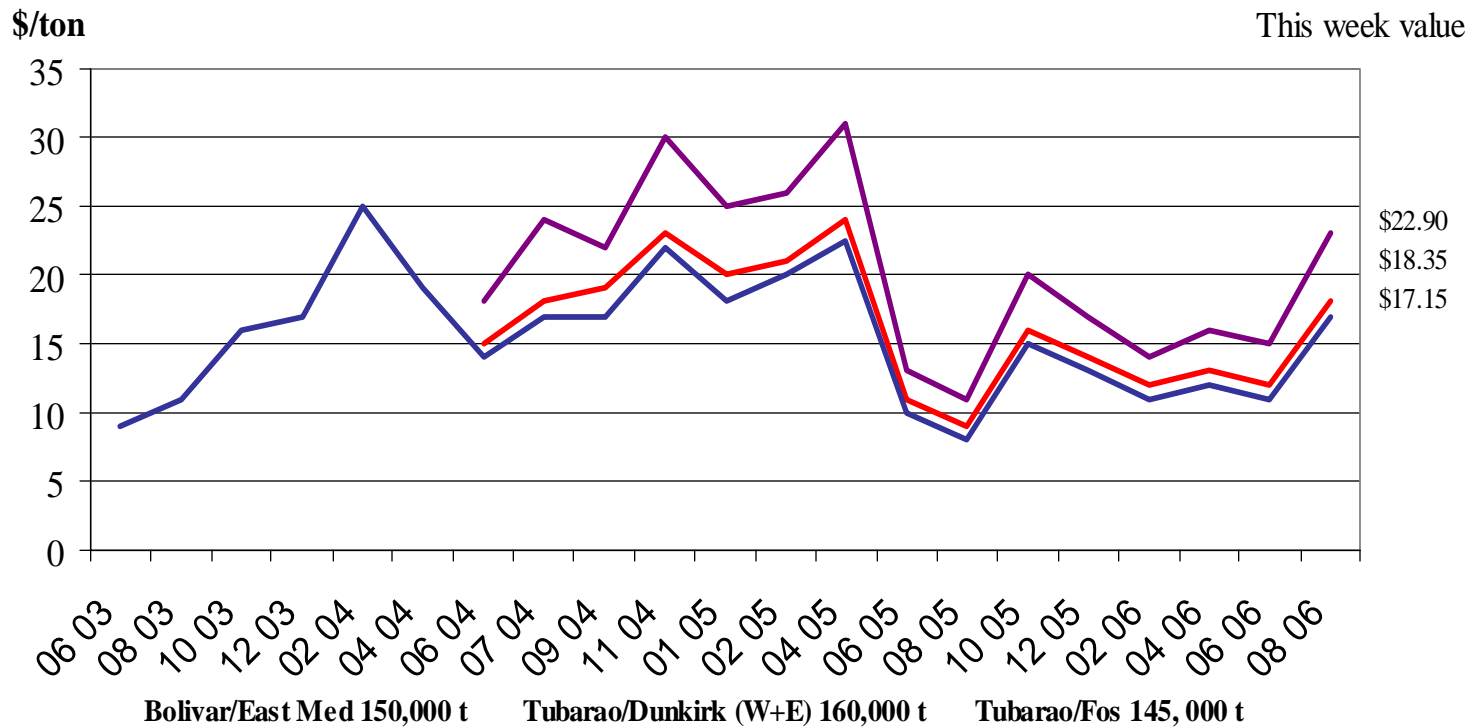
Time – Charter Rates Bulkera



Dry Bulk Carriers Second-Hand Prices

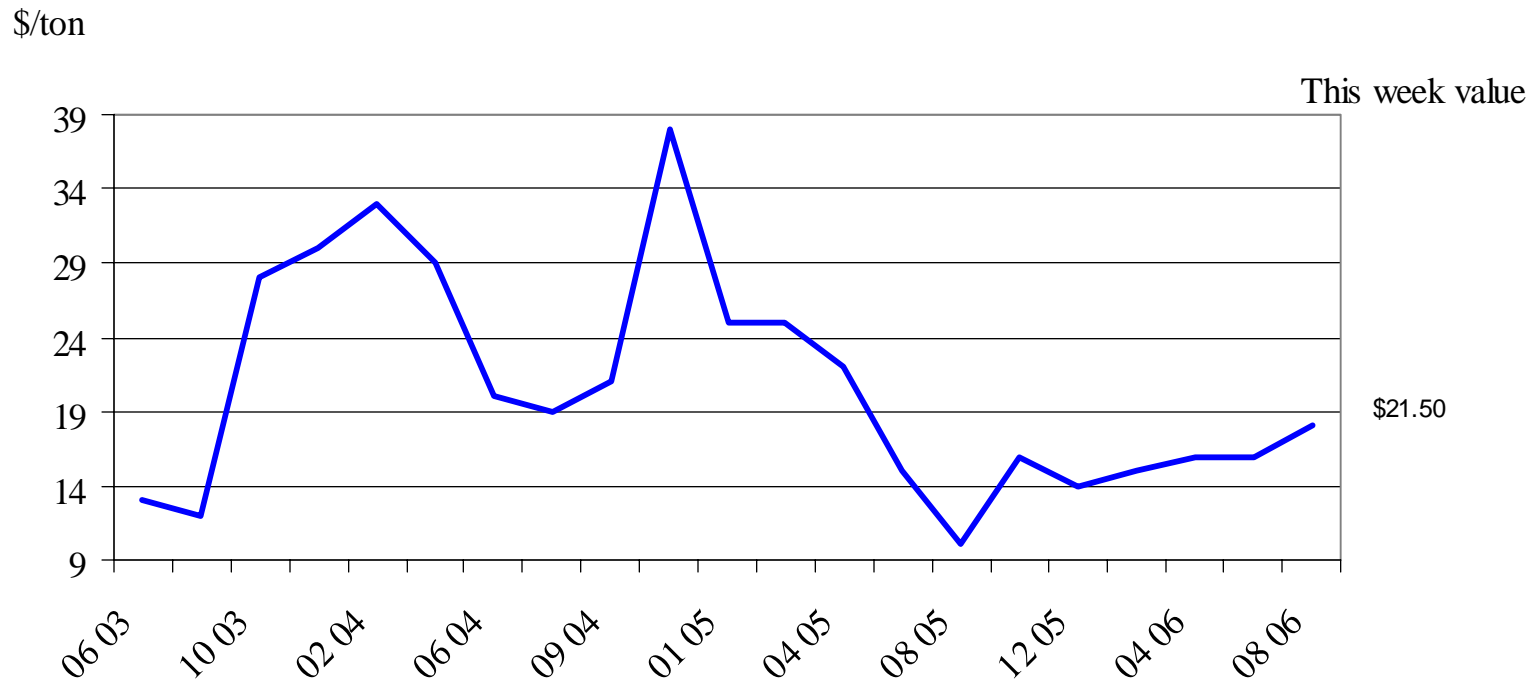


Capesize & Iron Coal Freight Rates



Source: Barry Rogliano Salles

Atlantic Coal Freight Rates

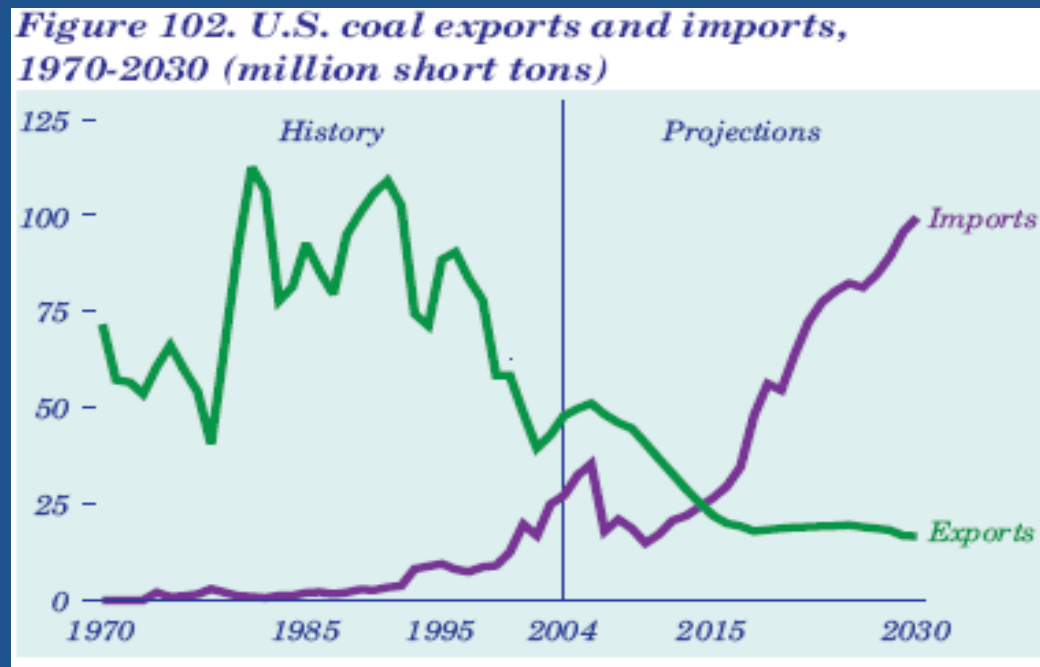


Panamax Richards Bay / Le Harve - 70,000t

Source: Barry Rogiano Salles

Coal Export/Import

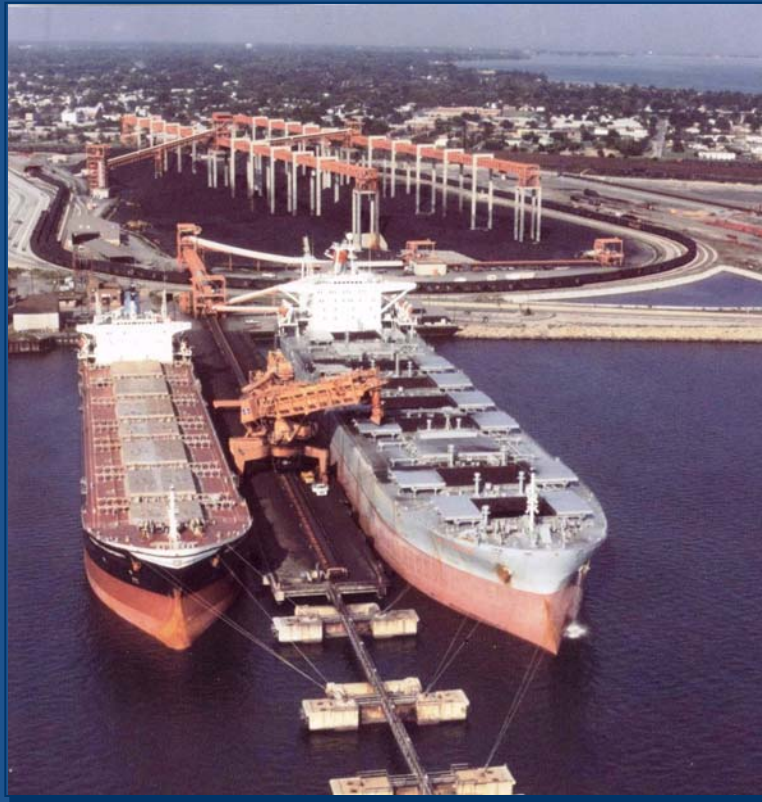
Coal Export/Import Tonnage Trends



Source: Energy Information Administration

Terminal/Plant Infrastructure

Export to Dual Export/Import

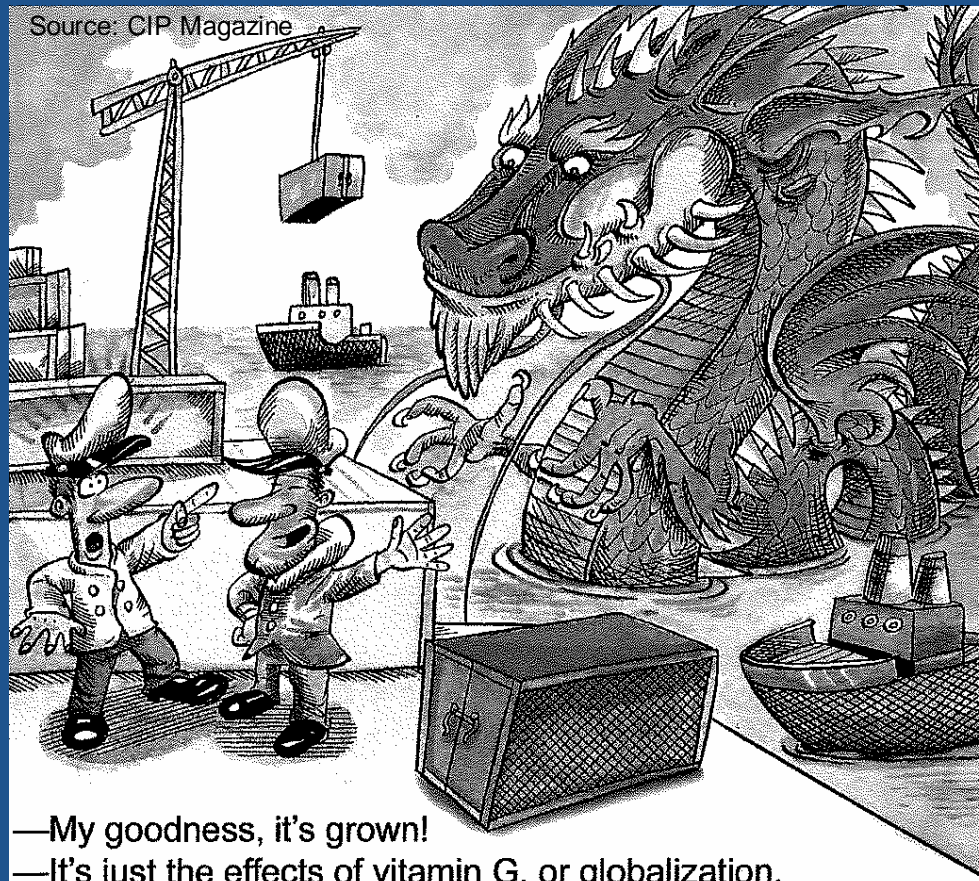


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Globalization



- My goodness, it's grown!
- It's just the effects of vitamin G, or globalization.
- ¡Cómo ha crecido!
- Son los efectos de la vitamina G, globalización.

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The Challenges - Volatility....

- Commodity Market
- Globalization Issues
- Construction Costs
- Charter Rates
- Fleet Size
- Environmental Issues
- Security Issues

The Elements of Planning

- Establish the facts
- Establish the variables and their sensitivity
- Assess the risks and Embrace them
- Establish the success metrics
- Set a realistic Expectation
- Define the solutions and course of action when face with change
- Continue planning


Design Criteria – Outline the Facts

Microsoft Excel - Design Criteria 2-23-06.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF Type a question for help

100% Times New Roman 10 B I U

N14

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	 DESIGN CRITERIA SUMMARY															
2																
3																
4	Site Data and Facility Standards															
5	Project Information															
6	Client: _____								RC Project No: _____							
7	Project Description: _____								Project Manager: _____							
8	Project Location: _____								Current Revision By: _____				Date: _____			
9									RC Approval By: _____				Date: _____			
10	Revision: A ISSUED FOR REVIEW & COMMENT								Client Approval By: _____				Date: _____			
11	Site Data:															
12	Ambient Temperatures: Mean High: 67°F				Mean Low: 47°F				Annual Snowfall: 31"							
13	Max. High: 105°F				Max. Low: -5°F				Frost Line: 47"							
14	Total Annual Prec.: 39.3"								Design Storm: 25 Year (10, 25, 50, or 100)							
15	Significant Seasonal Effects: Snowfall, Waterways May Freeze, Hurricanes, Fog				Design Method: Rational											
16	Perimeter Survey: Existing Available				To be Developed _____											
17	Topographic Survey: Existing TDB				To be Developed Mirant											
18	Hydrographic Survey: Existing TBD				To be Developed Mirant											
19	Flow Study: n/a				To be Developed n/a											
20	Geotechnical Report: Existing TBD				To be Developed Mirant											
21	Subsoil Data: Existing To be included with geotechnical study				To be Developed Mirant											
22	Environmental Assess. Permit available				To be Developed _____											
23	River or Harbor Data: <i>See Marine Section of Design Criteria</i>															
24	Facility Design Capacities															
25	Annual Throughput: 4,000,000 tons per year				Operating Hours: 24 hours											
26	Distribution System: Belt Conv.				System Capacity 1,700 tph											
27	Yard Storage: n/a				Capacity n/a											
28	Truck Loadout: n/a				System Capacity n/a											
29	_____				_____											

Site / Material / Material Handling / Bulk Matl. Accessories / Piping & Equip / Electrical / Stuctural / Marine

Trends in Coal Export/Import

Coal Export Facilities

Table 7. U.S. Coal Exports and Imports, 2000-2006 (Thousand Short Tons)										
Year	January - March		April - June		July - September		Oct - December		Total	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
2000	13,598	2,815	14,379	2,745	15,799	3,562	14,713	3,391	58,489	12,513
2001	11,841	3,910	13,500	4,124	11,655	6,047	11,671	5,707	48,666	19,787
2002	9,253	4,000	11,043	3,857	9,257	4,654	10,050	4,365	39,601	16,875
2003	8,518	4,954	11,450	6,393	12,094	7,051	10,952	6,645	43,014	25,044
2004	9,688	5,326	15,255	6,853	12,203	7,804	10,852	7,297	47,998	27,280
2005	10,129	7,607	14,803	7,233	12,620	7,832	12,390	7,788	49,942	30,460
2006	10,659	8,958	12,590	7,956	-	-	-	-	23,249	16,914
Note: Total may not equal sum of components because of independent rounding. Source: Exports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 545;" and Imports: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."										

Trends in Coal Export/Import

Main Destinations for Exported Coal

Table 10. U.S. Coal Exports (Short Tons)						
Continent and Country of Destination	April - June	January - March	April - June	Year to Date		
	2006	2006	2005	2006	2005	Percent Change
North America Total	5,860,882	3,427,350	6,132,782	9,288,232	8,397,972	10.6
Canada ¹	5,748,644	3,230,402	5,897,462	8,979,046	7,771,429	15.5
South America Total	1,190,478	1,273,972	1,168,466	2,464,450	2,193,004	12.4
Brazil	1,085,707	1,216,002	994,711	2,301,709	1,937,092	18.8
Europe Total	4,910,077	5,016,445	5,428,841	9,926,522	10,264,236	-3.3
Italy	648,895	1,031,634	695,202	1,680,529	1,149,028	46.3
Netherlands	523,083	425,551	641,849	948,634	1,365,238	-30.5
Asia Total	156,390	786,872	1,702,632	943,262	3,369,513	-72.0
Japan	67,792	263,234	528,096	331,026	1,499,035	-77.9
Oceania & Australia Total	1,058	22	-	1,080	629	71.7
Africa Total	471,425	154,503	370,325	625,928	707,097	-11.5
Total	12,590,310	10,659,164	14,803,046	23,249,474	24,932,451	-6.8

¹ Based on the U.S. -Canada Free Trade Agreement; as of January 1990, the U.S. Department of Commerce began reporting statistics on U.S. exports to Canada based on information on imports provided monthly by the Canadian government.

² Includes countries with coal exports less than or equal to 50,000 short tons in 2005.

* Quantity is less than 0.5 thousand short tons or percent change is less than 0.1%.

Note: Total may not equal sum of components because of independent rounding.

Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report EM 545."

Trends - Coal Import Facilities

Table 20. Coal Imports by Customs District (Short Tons)						
Customs District	April - June	Jan. - March	April - June	Year to Date		
	2006	2006	2005	2006	2005	Percent Change
Eastern Total	2,743,982	2,847,250	2,194,443	5,591,232	4,490,180	24.5
Boston, MA	1,275,841	1,130,361	1,269,179	2,406,202	2,429,446	-1.0
Southern Total	4,670,265	5,514,522	4,192,215	10,184,787	8,876,311	14.7
Mobile, AL	2,218,003	3,312,675	2,480,545	5,530,678	5,314,953	4.1
New Orleans, LA	852,967	423,767	156,550	1,276,734	448,181	184.9
Tampa, FL	548,279	634,088	640,404	1,182,367	1,201,308	-1.6
Western Total	161,766	221,139	246,348	382,905	494,846	-22.6
Honolulu, HI	120,696	198,172	206,087	318,868	402,713	-20.8
Northern Total	379,957	374,849	600,081	754,806	978,851	-22.9
Pembina, ND	311,358	348,433	316,951	659,791	661,664	-0.3
Total	7,955,970	8,957,760	7,233,087	16,913,730	14,840,188	14.0
NM = Changes of 500 percent or more are not shown.						
Note: Total may not equal sum of components because of independent rounding.						
Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."						

Trends - Main Sources of Import Coal

Table 18.		U.S. Coal Imports (Short Tons)				
Continent and Country of Origin	April - June	Jan. - March	April - June	Year to Date		
	2006	2006	2005	2006	2005	Percent Change
North America Total	495,146	396,757	639,584	891,903	1,071,019	-16.7
Mexico	-	-	-	-	1,343	-
South America Total	6,382,727	7,425,762	5,988,892	13,808,489	12,406,731	11.3
Colombia	5,391,698	6,446,952	5,090,386	11,838,650	10,569,716	12.0
Venezuela	991,029	977,677	898,506	1,968,706	1,837,015	7.2
Europe Total	362,767	265,661	339	628,428	35,617	NM
Russia	325,933	265,033	-	590,966	-	-
Asia Total	638,593	745,549	576,185	1,384,142	1,196,539	15.7
Indonesia	629,555	735,261	575,508	1,364,816	1,182,611	15.4
Oceania & Australia Total	76,737	62,382	28,087	139,119	130,282	6.8
Africa Total	-	61,649	-	61,649	-	-
Total	7,955,970	8,957,760	7,233,087	16,913,730	14,840,188	14.0
NM = Changes of 500 percent or more are not shown.						
Note: Total may not equal sum of components because of independent rounding. Coal imports include coal to Puerto Rico and the Virgin Islands.						
Source: Bureau of the Census, U.S. Department of Commerce, "Monthly Report IM 145."						

Coal Terminal Development Trends

East Coast (*Northeast to NY Harbor*)

Moving to cleaner cargoes and container handling

- Heavy environmental regulations
- Higher labor costs
- High land value



Coal Terminal Development Trends

Southeast – VA, SC, NC, GA:

Receptive to the growth of bulk handling terminals

- Multiple deep water ports
- Room for expansion
- Less stringent regulations
- Lower labor costs
- Good water drafts for larger size vessels



Coal Terminal Development Trends

Florida; the Exception:

Focus on container, cruise and leisure uses

- Coastlines used for tourists versus bulk terminal use
- Public perception/land value
- Pushing for clean cargo

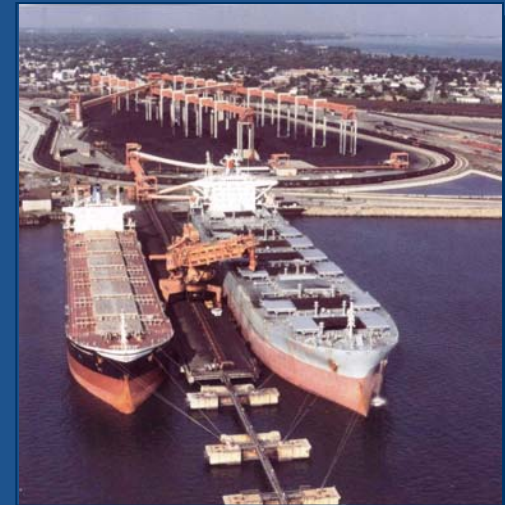


Coal Terminal Development Trends

Gulf Coast – AL, MS, LA, TX:

Receptive to growth of bulk handling terminals

- Multiple deep water ports
- Room for expansion
- Less stringent regulations
- Lower labor costs
- Good water drafts for larger size vessels



Coal Terminal Development Trends

West Coast – CA, OR, WA: Development will be difficult

- Limited deep water
- Heavy environmental regulations
- Adverse public sentiment
- Higher labor costs
- High demand for container facilities



Coal Terminal Development Trends

Great Lakes:

Diminishing (?) use as import terminals

- Competitiveness directly affected by facilities on St. Lawrence River
- Economies favor transport through Quebec and Montreal followed by rail through the U.S.



Coal Terminal Development Trends

- Increase in imports and decrease in exports
- Desire to use cape size vessels for import from SA
- Will see expansion in existing terminals versus building new terminals due to:
 - Increase of charter rates
 - High current cost of construction
- Northeast, West Coast and Florida are all pushing for clean cargo due to environmental restrictions and public perception

Coal Terminal Development Trends

Security Considerations

- Homeland Security measures not adversely impacting bulk terminals
- Coal does not lend itself to hiding other materials or objects
- Requires minimal staff for shipping

Coal Terminal Development Trends

U.S. Ports will be importing coal offering economic or environmental advantages to the power plants and industries currently using domestic coal.

There are two broad categories for ports facilities that will handle this coal:

- Inter-modal terminals
- End users

Coal Terminal/Plant Infrastructure Trends

Intermodal Terminals

- Dedicated or multiple clients
- “Green field” or expansion
- Single or multiple commodities

Coal Terminal/Plant Infrastructure Trends

Existing Facilities to Import Facilities

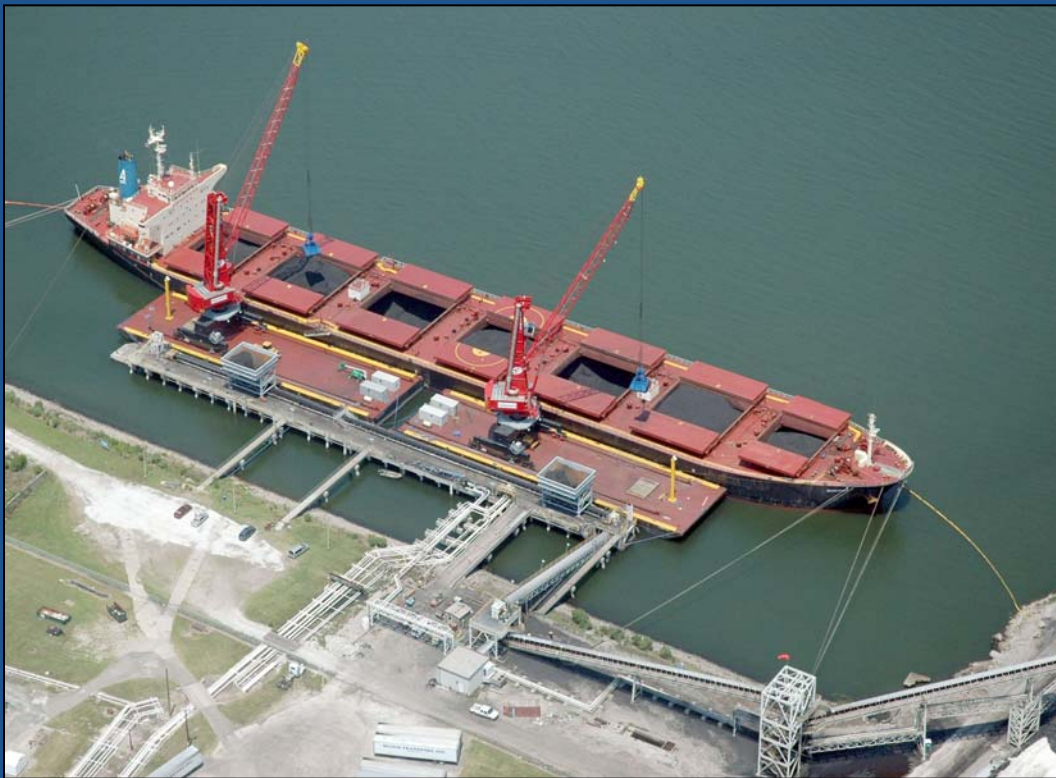
Factors Influencing Design:

- Location of facility
 - ✓ Proximity to end users
 - ✓ Outbound mode of transportation available
- Existing assets

Solution – Flexibility...Adaptability...

New Import Facilities

Largest crane-on-barge installation in U.S.



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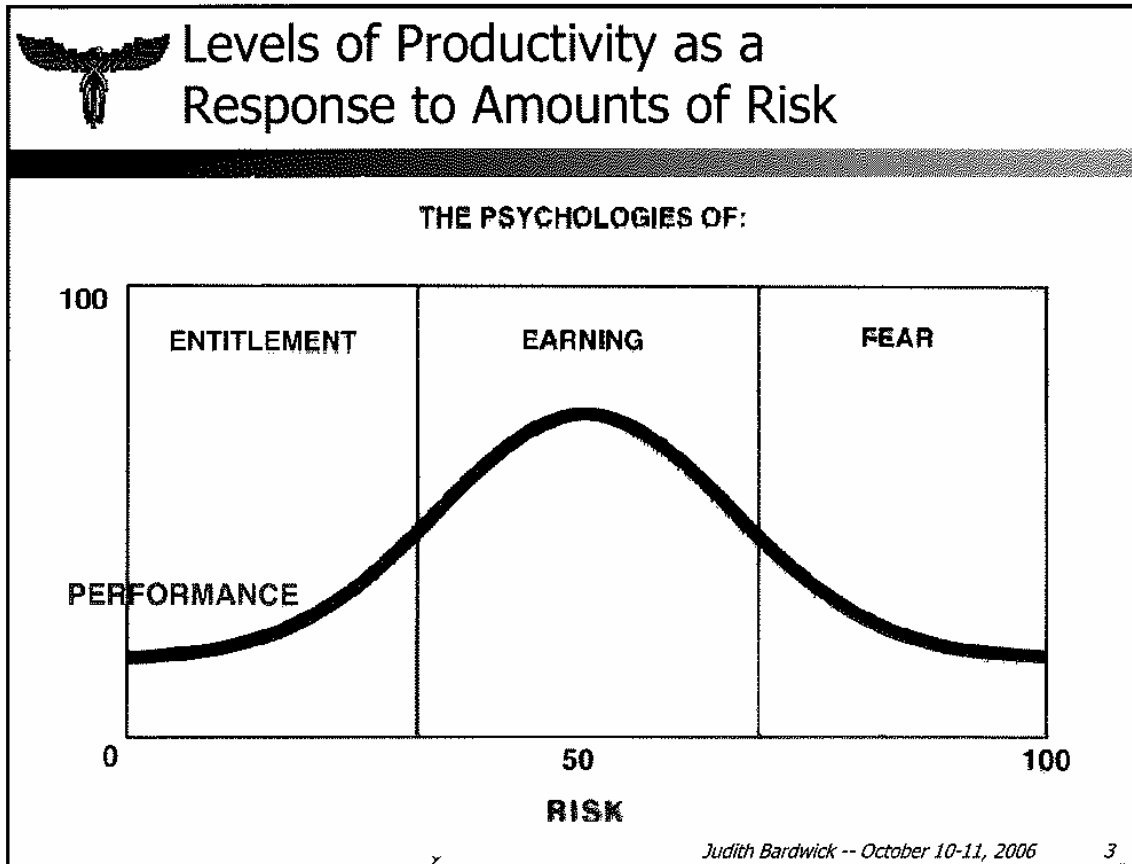
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Planning = Accepting Risk

Successful planning requires accepting failure. Success is not defined by gambling on the right solution for an unknown dilemma, but rather reacting properly to the market changes while limiting the impact on capital and operational costs.

Success Requires Risk – The Right Culture...



So What is Successful Planning?

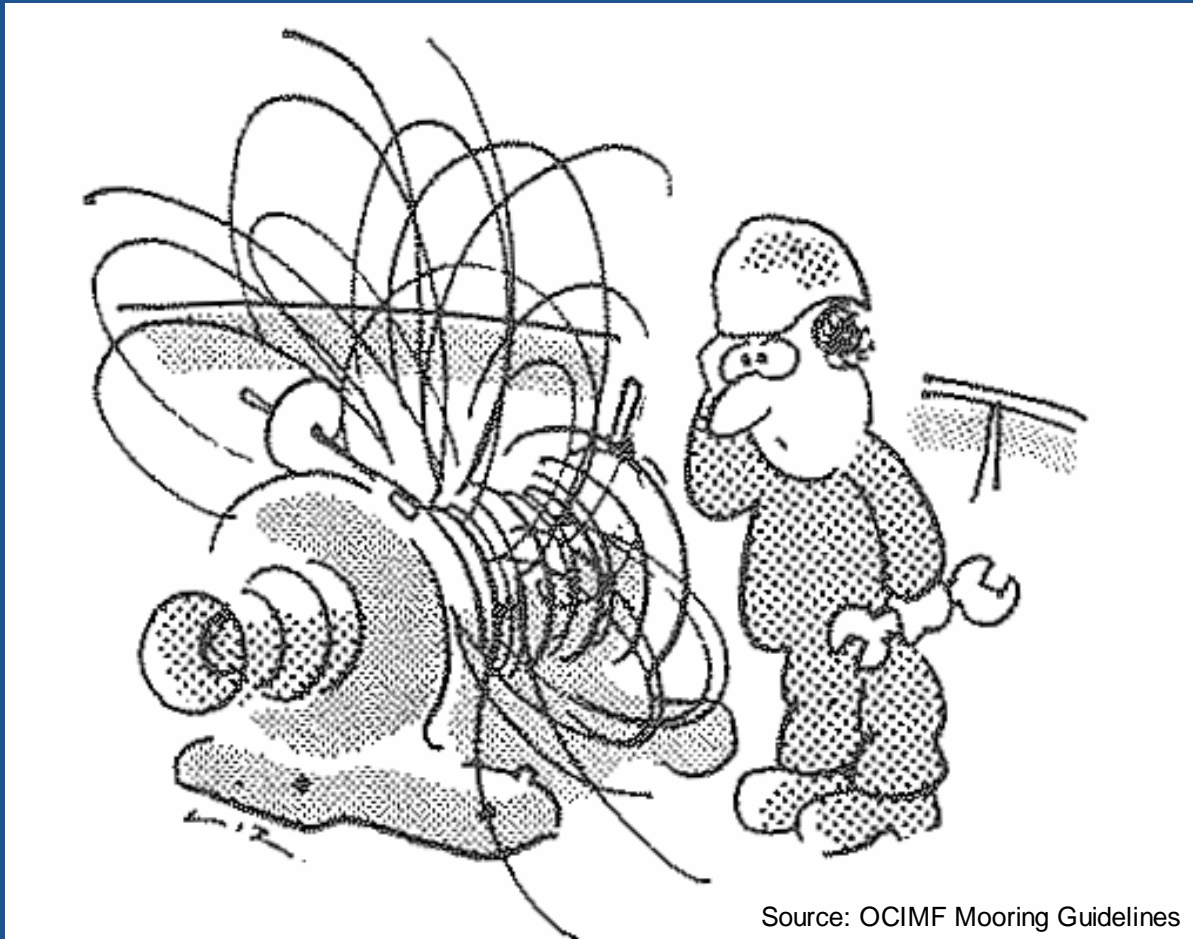
Planning is not:

- Forecasting...
- Guessing...
- Certainly not gambling...
- Promising the unpredictable...

So What is Successful Planning?

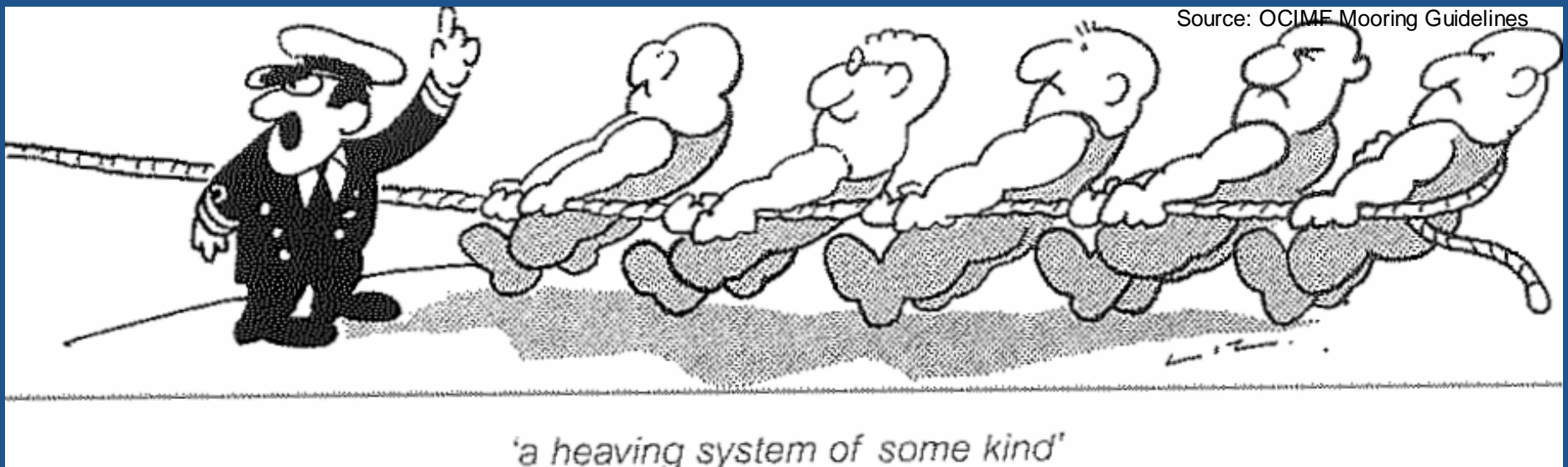
Setting the right expectation for
users, operators, and owners...

A plan can be established to solve
any problem...

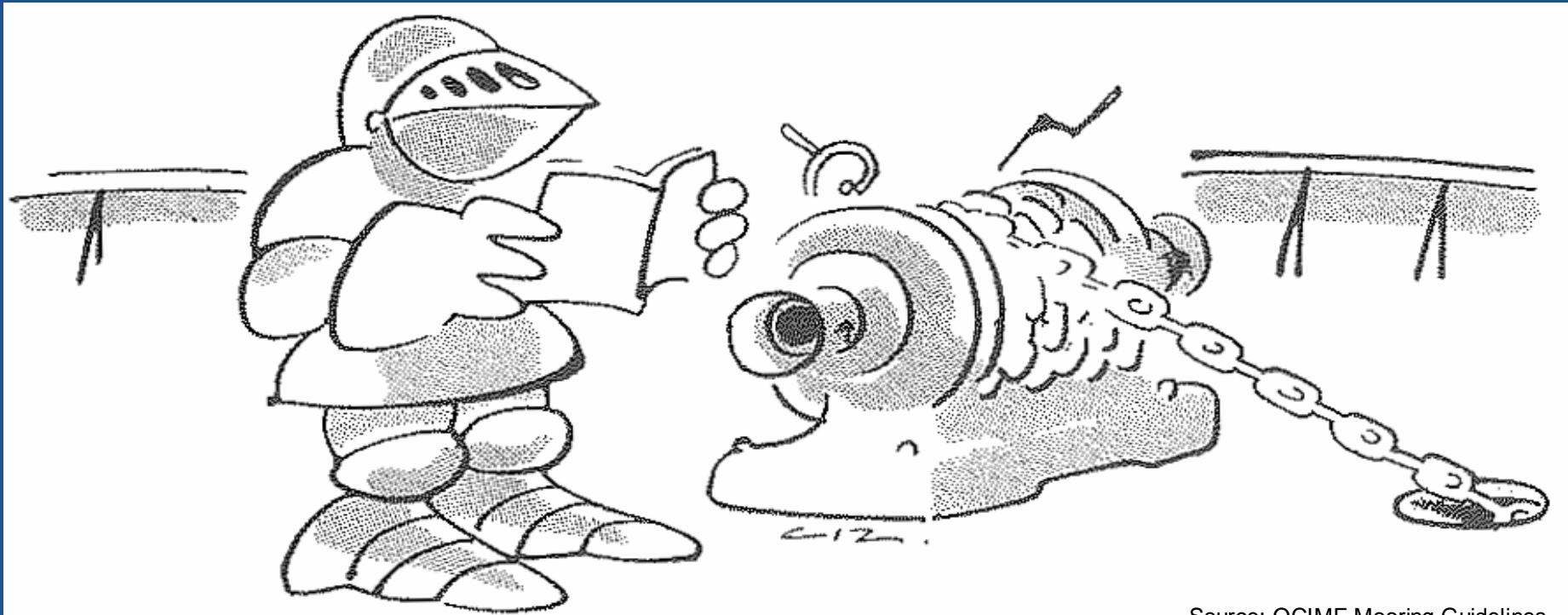


Source: OCIMF Mooring Guidelines

...if we give it our best effort...



...protect ourselves from
catastrophic failure...



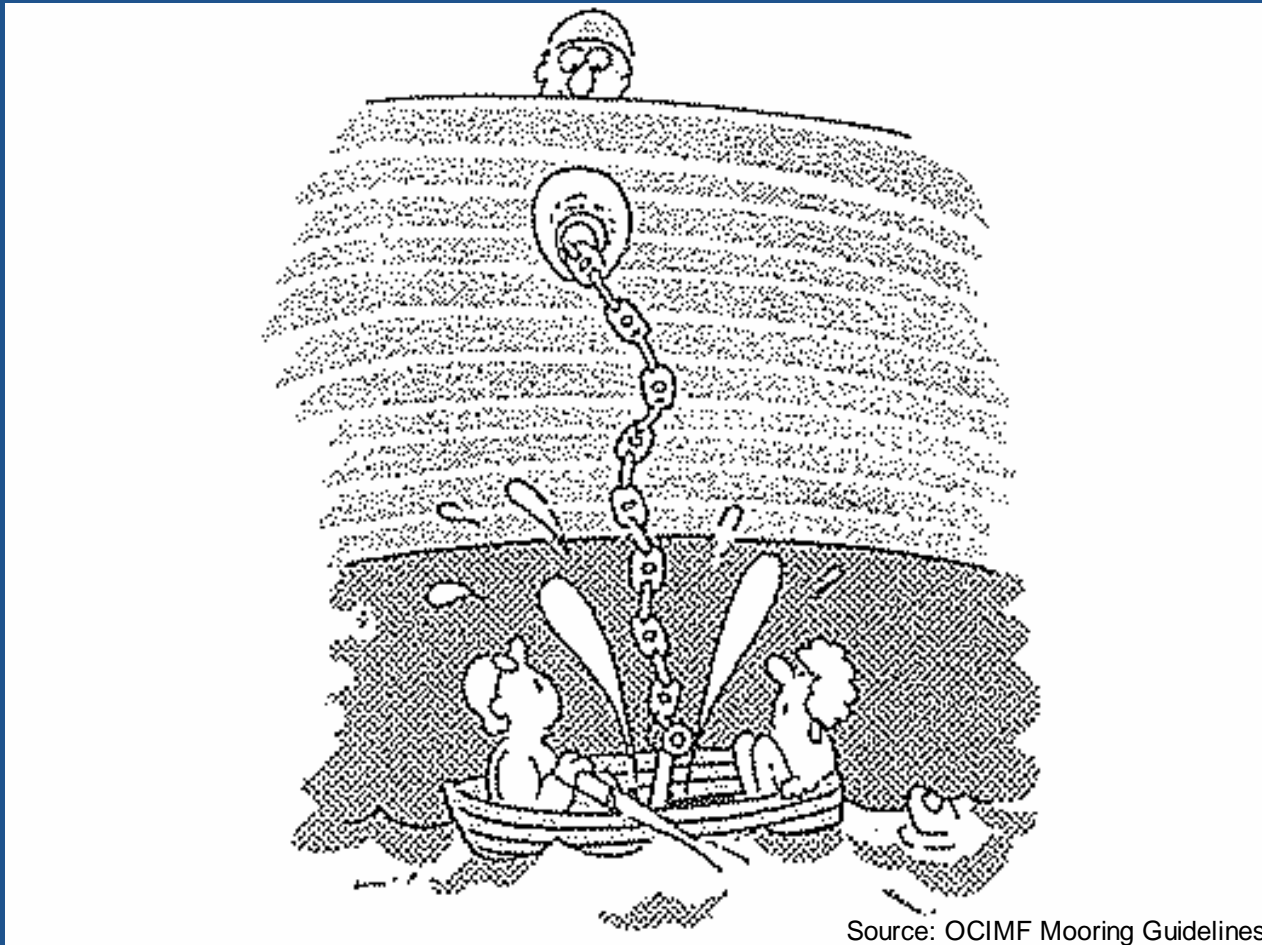
Source: OCIMF Mooring Guidelines

...while not imposing too many
restrictions...



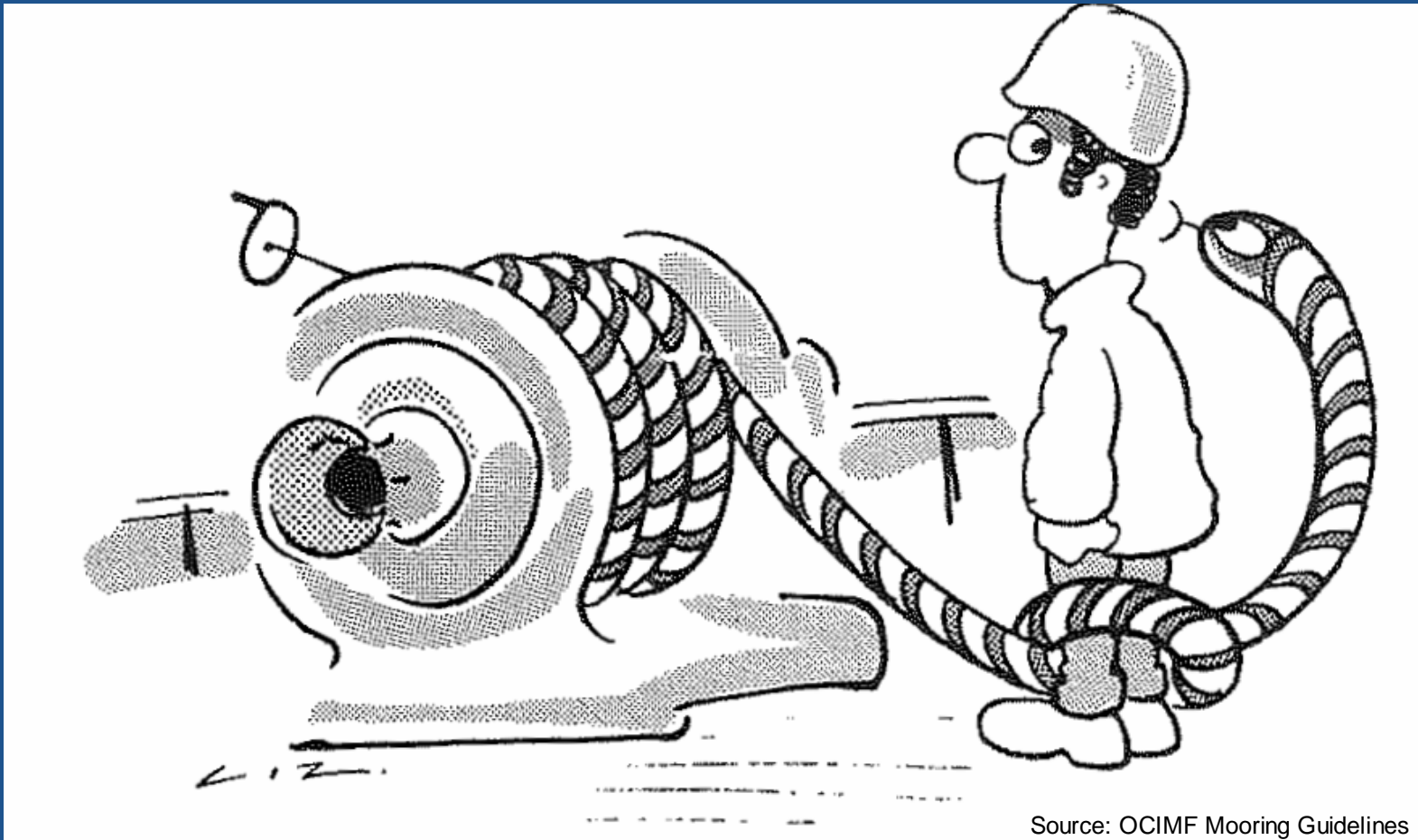
Source: OCIMF Mooring Guidelines

...we could still miss the right
spot...



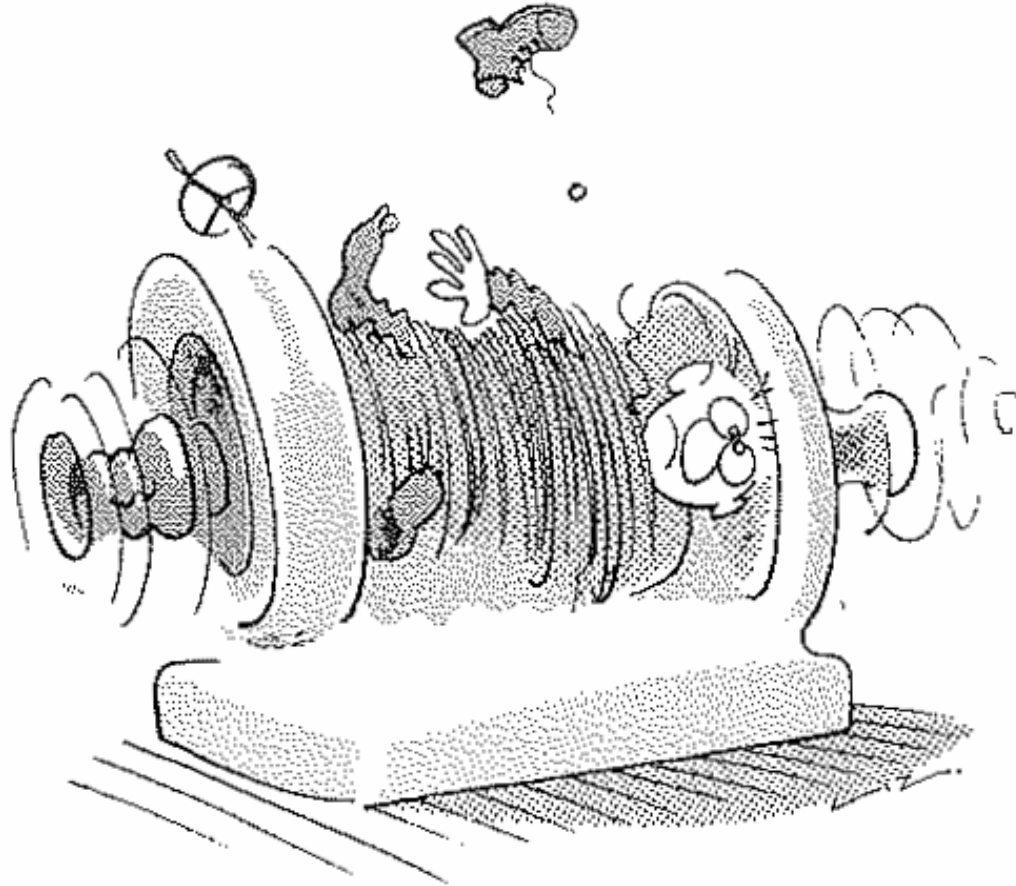
Source: OCIMF Mooring Guidelines

...get caught by surprise...



Source: OCIMF Mooring Guidelines

...or even find ourselves without
avenue...



Source: OCIMF Mooring Guidelines

...but the right plan will still lead us
to the right outcome!



Source: OCIMF Mooring Guidelines

QUESTIONS?

River - Creating Value and Inspiring Extraordinary Opportunities



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