

**KEMENTERIAN PERHUBUNGAN
BADAN PENELITIAN DAN PENGEMBANGAN
PUSLITBANG TRANSPORTASI LAUT, SDP**

**FGD Pemantapan TOR Basic Design
dan Key Plan MCB untuk Mengurangi
Beban Lalu Lintas Angkutan Jalan
Jakarta – Surabaya**



**PERSPEKTIF TEKNIK DAN EKONOMI PERANCANGAN
“*MOTORIZED CONTAINER BARGE (MCB)*”**

(Syamsul Asri)

Jakarta, 1 April 2019

MOTORIZED CONTAINER BARGE; gagasan kearifan teknologi rancang bangun kapal



Kontainerisasi

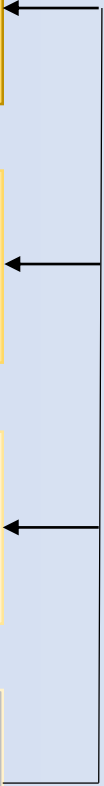
Goal-Based Ship
Design, Construction and
Operation

SP-KARo-Barge

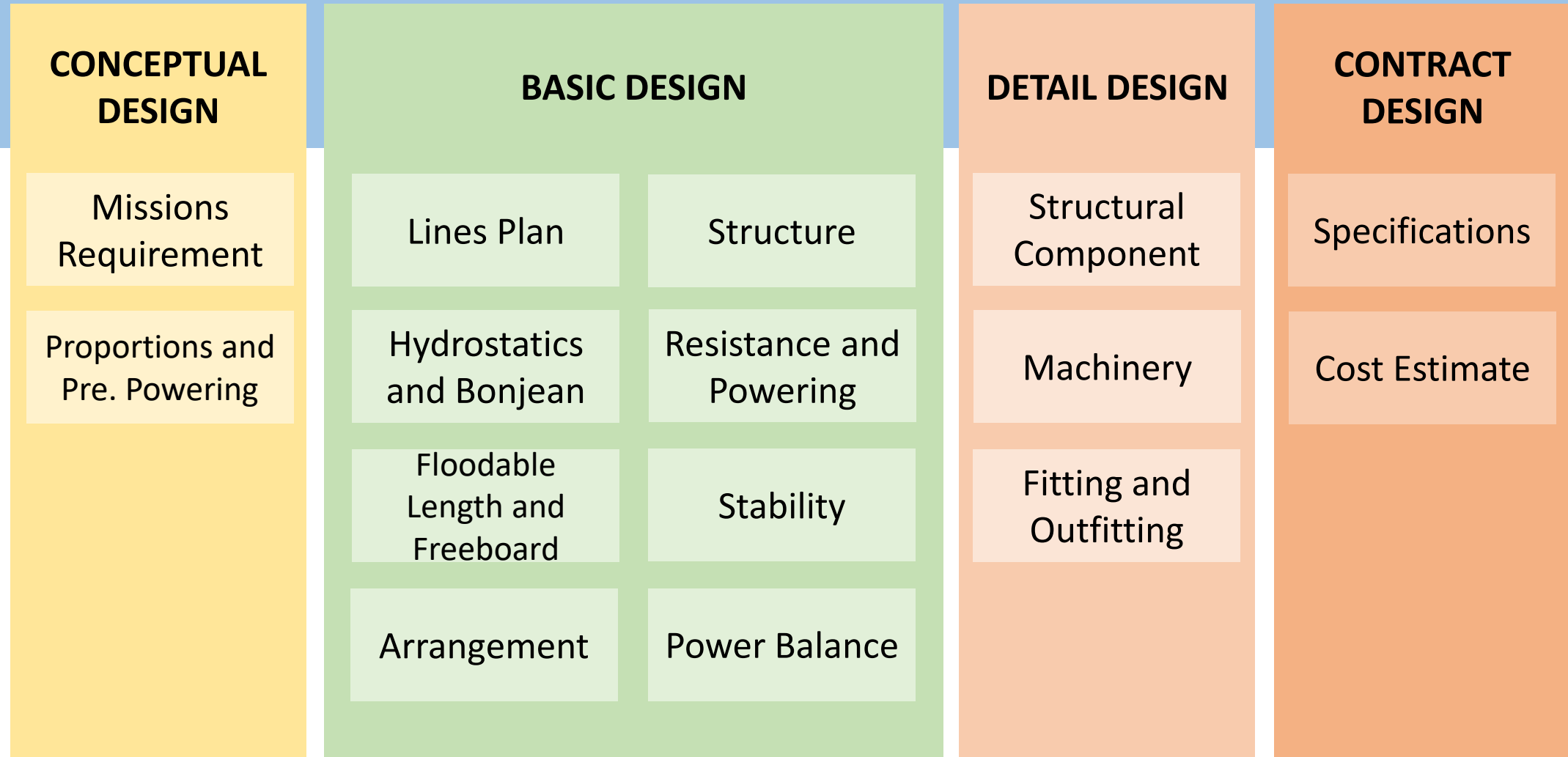
SP-ConRo-Barge

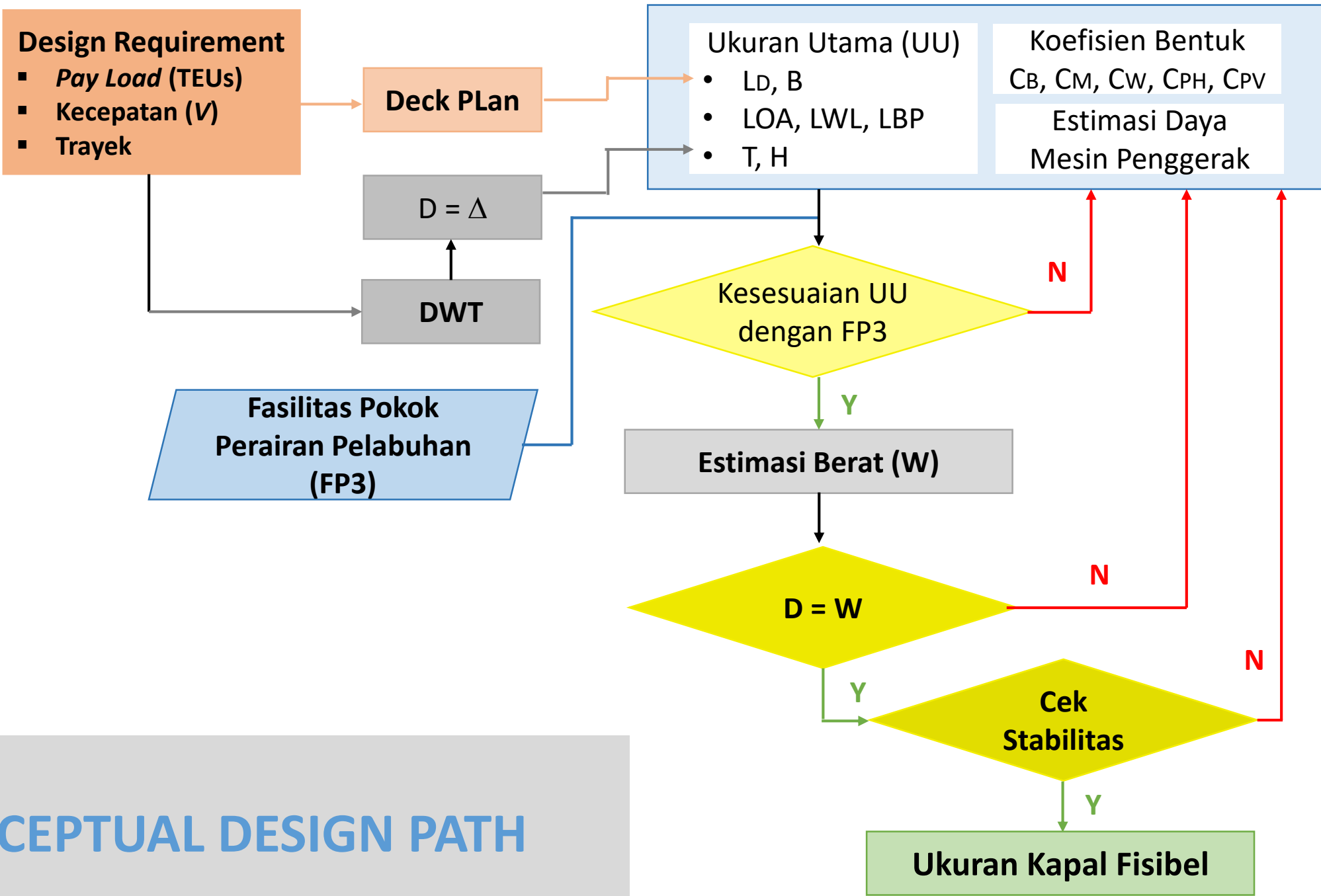
MCB/SPCB

Deck Barge ...?



SHIP DESIGN PROCESS





CONCEPTUAL DESIGN PATH

BASIC DESIGN

MCB;
Ruang lambungnya
kebanyakan berupa ruang
kosong

Freeboard

Stabilitas

Floodable Length

Kebocoran



BASIC DESIGN

Arrangement

General Arrangement

- Tata letak dan fungsi ruang
- Sistem dan perlengkapan kapal

Deck Plan;

Rencana tata letak dan fungsi ruang



BASIC DESIGN

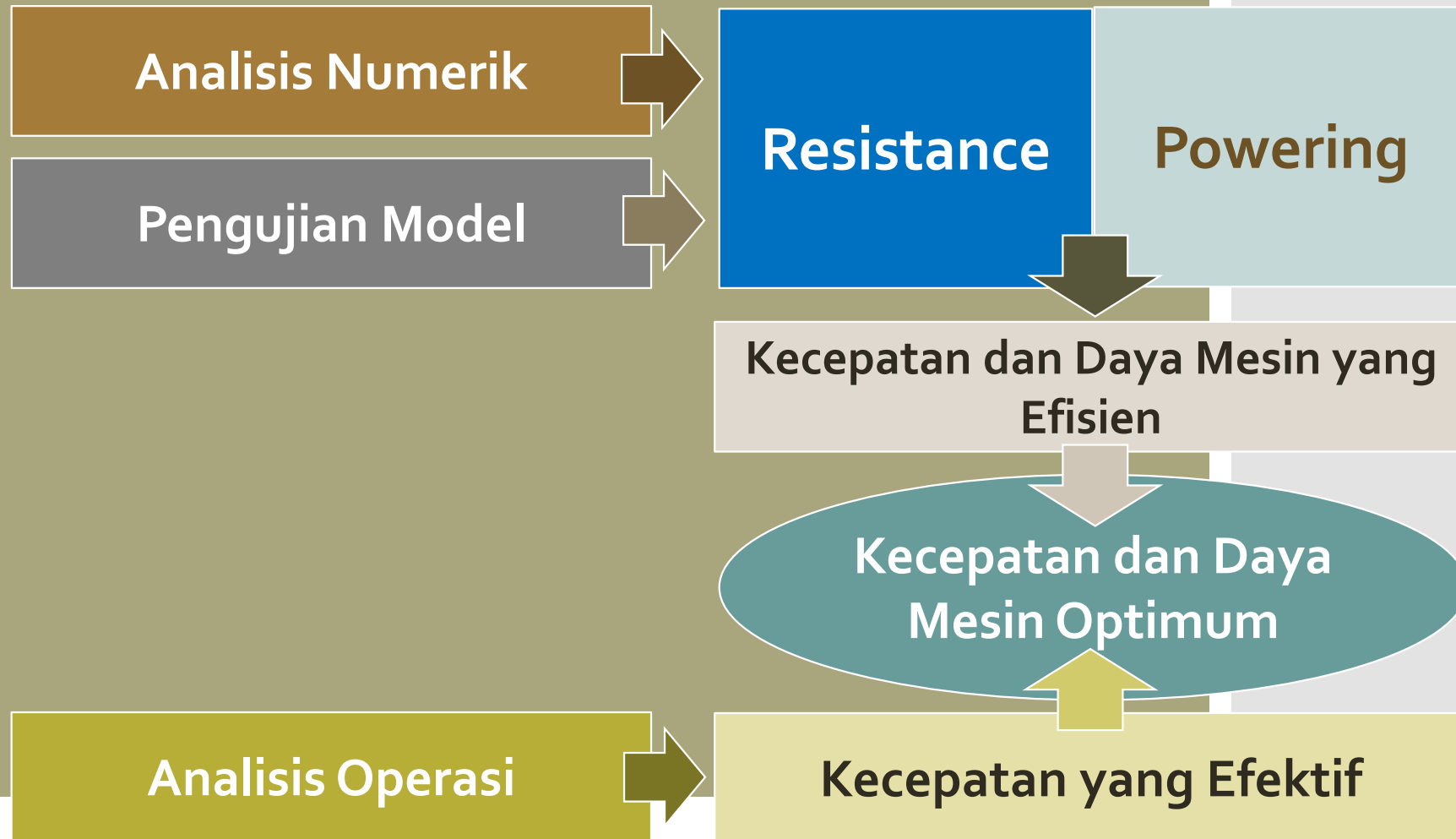
MCB;
Rasio panjang-tinggi (L/H)
besar

Structure

Sistem
Konstruksi

Analisis
Kekuatan

BASIC DESIGN



BASIC DESIGN

MCB;
Muatan di atas
geladak, KG
besar

Stability

- = f (ukuran bentuk, KG actual)

Preliminary Stability

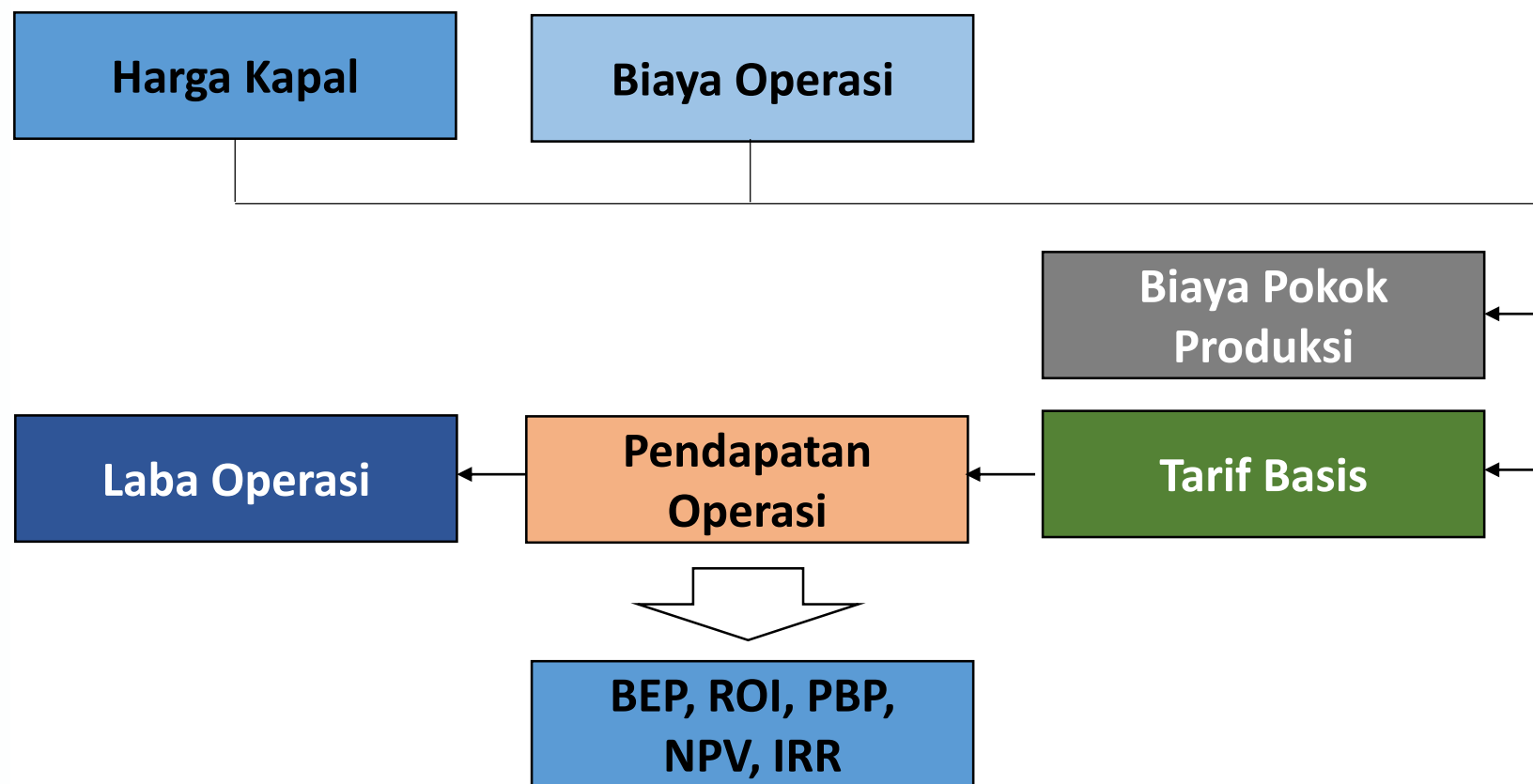
- = f (ukuran, bentuk, FB)
- Limiting KG



Intact Stability

Damaged Stability

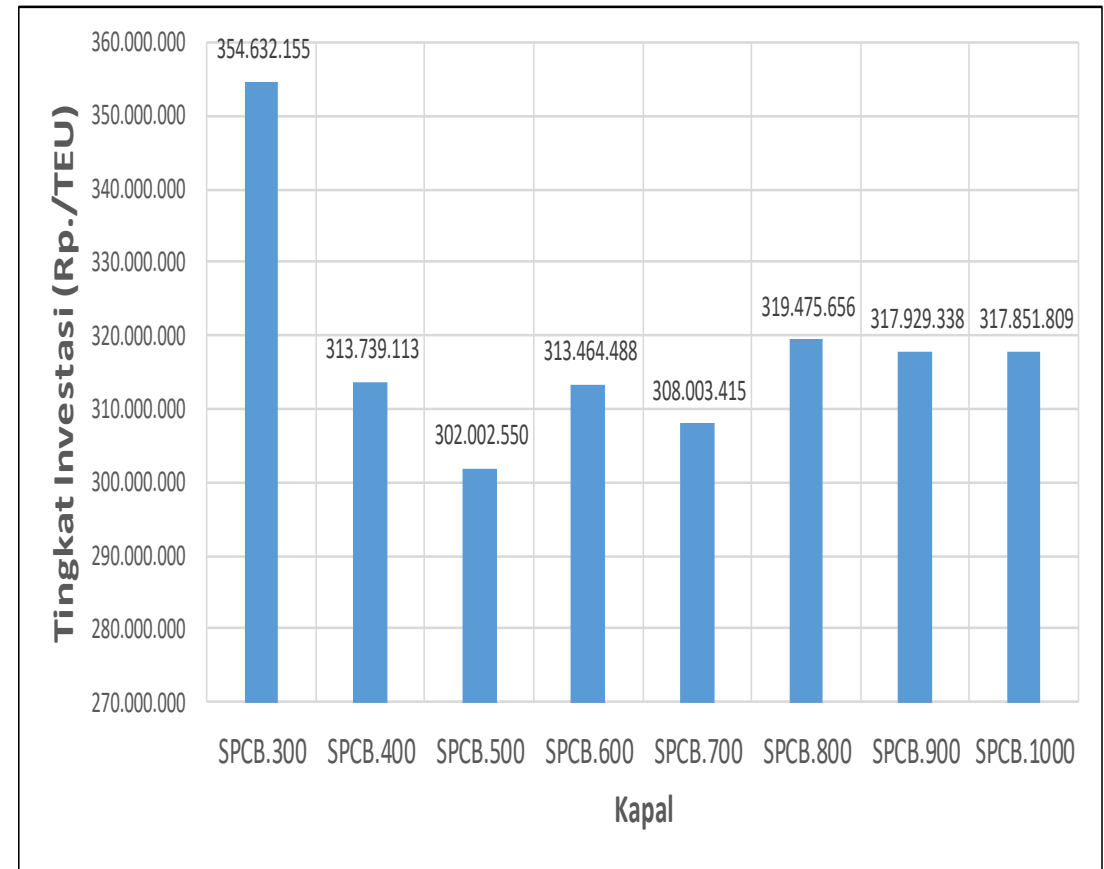
KERANGKA ANALISIS KELAYAKAN OPERASI



HARGA DAN TINGKAT INVESTASI 1

NOMOR	KAPAL	HARGA (Rp.)	TONASE KOTOR (GT)	KAPASITAS MUAT (TEUs)	TINGKAT INVESTASI	
					(Rp./GT)	(Rp./TEU)
1	SPCB.300	106.389.646.386	5.220	300	20.381.158	354.632.155
2	SPCB.400	125.495.645.029	6.194	400	20.260.840	313.739.113
3	SPCB.500	151.001.275.026	7.203	500	20.963.664	302.002.550
4	SPCB.600	188.078.692.910	9.597	600	19.597.655	313.464.488
5	SPCB.700	215.602.390.203	11.116	700	19.395.681	308.003.415
6	SPCB.800	255.580.524.754	14.246	800	17.940.511	319.475.656
7	SPCB.900	286.136.404.181	15.713	900	18.210.170	317.929.338
8	SPCB.1000	317.851.809.038	17.405	1.000	18.262.098	317.851.809

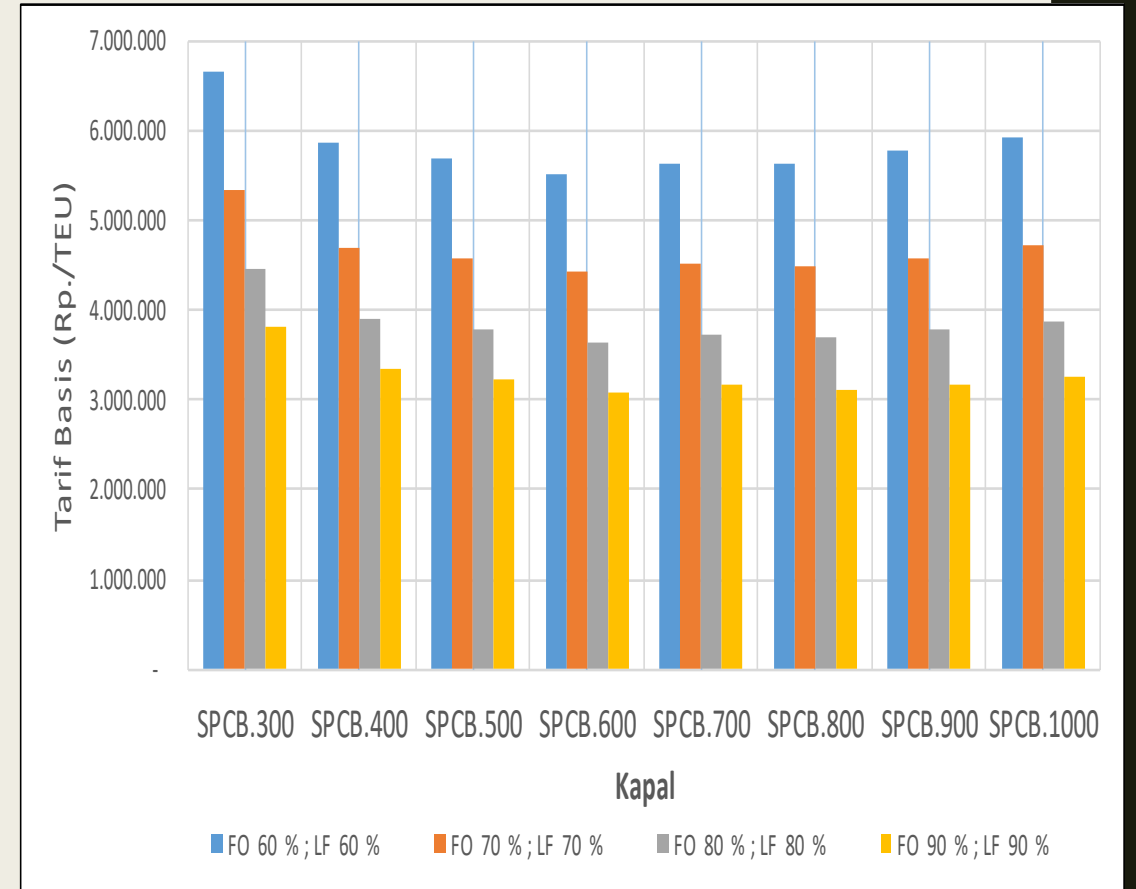
TINGKAT INVESTASI 1



TARIF BASIS

NOMOR	KAPAL	TARIF BASIS (Rp./TEU)				
		FO (%)	60	70	80	90
		LF (%)	60	70	80	90
1	SPCB.300		6.666.369	5.353.991	4.466.641	3.806.790
2	SPCB.400		5.868.192	4.711.489	3.914.342	3.335.851
3	SPCB.500		5.695.307	4.582.418	3.796.147	3.239.637
4	SPCB.600		5.533.146	4.427.024	3.645.770	3.097.680
5	SPCB.700		5.644.383	4.510.366	3.730.647	3.166.382
6	SPCB.800		5.651.674	4.501.602	3.689.024	3.123.914
7	SPCB.900		5.798.401	4.596.080	3.776.147	3.186.901
8	SPCB.1000		5.947.664	4.737.740	3.878.266	3.264.608

TARIF BASIS



PENILAIAN EKONOMI

		ANGKUTAN LAUT	ANGKUTAN DARAT
MANFAAT	Pemilik <ul style="list-style-type: none">○ Investasi○ Tingkat keuntungan		
	Masyarakat <ul style="list-style-type: none">○ Lapangan kerja○ Kelancaran distribusi○ Tarif		
	Negara <ul style="list-style-type: none">○ Investasi dan pemeliharaan infrastruktur○ Penerimaan negara		
	DAMPAK LINGKUNGAN		

Terima kasih

