



IMPROVING HANDLING OF TRANSPORTATION OF DANGEROUS AND TOXIC GOODS AND OVER DIMENSION ODERLOAD RO RO SHIP (MERAK-BAKAHUHENI)



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PRELIMINARY

- **The carrier has the obligation and responsibility to protect and guarantee the safety and safety of the cargo while in its power**
- **Transportation of dangerous goods by sea requires special handling, such as from packaging, storage and the requirements for the type of vessel to transport dangerous goods.**
- **If in transporting goods, especially dangerous goods cargo by sea, an accident occurs due to the burning of the cargo of dangerous goods, then problems will arise which**
- **should be responsible for the loss / damage to the cargo and the ship. In determining who should be responsible must be seen whether the carrier has fulfilled all its obligations or not and to be able to know it must first look at the regulations governing these responsibilities**

REGULATION/RULES ON RORO SHIP

1. SOLAS - International Convention for the Safety of Life at Sea - Chapter II-1 - Construction - Structure, subdivision and stability, machinery and electrical installations - Part B-1 - Stability - Regulation 8 - Special requirements concerning passenger ship stability;
2. SOLAS - International Convention for the Safety of Life at Sea - Chapter II-2 - Construction - Fire protection, fire detection and fire extinction - Part G - Special requirements - Regulation 20 - Protection of vehicle, special category and ro-ro spaces;
3. Code for Lifting Appliances in a Marine Environment, July 2016, incorporating Notice No. 1 & 2 - Chapter 6 Ro-Ro Access Equipment - Section 2 Loading and design criteria;
4. IMO Resolution A.581(14) – Guidelines for Securing Arrangements for the Transport of Road Vehicles on Ro-Ro Ships – (Adopted 20 November 1985) Amended by MSC/Circular.812 Amended by MSC.1/Circular.1355 - Annex - Guidelines for Securing Arrangements for the Transport of Road Vehicles on Ro-Ro Ships - 6 Lashings;
5. Minister of Transportation Regulation number 104 of 2017 concerning the Implementation of Crossing Transportation;
6. Minister of Transportation Regulation number 39 of 2016 concerning Load and Loading Lines;
7. SK. Director General NO. HK.103-1-3-DJPL_17 About Ship Drafting (Pelimbangan) Procedure Indonesian flag Date January 17, 2017;
8. Circular Letter Number UM. 003/5/10 / DK-16 concerning Vehicle Transport Safety Standards on Ro Ro Passenger Ships;

PROBLEMS

- **The problem of enforcing the transportation of dangerous and toxic goods and Odol through ro-ro ships in Merak Port is still low**
- **regulations related to the transportation of dangerous and toxic goods and Odol have not been optimally implemented**

PURPOSE AND OBJECTIVES

- evaluating the handling conditions of transporting dangerous and toxic goods and Over Dimension Oderload via current ro ro ships.
- the concept of increasing the handling of dangerous and toxic goods and Over Dimension Oderload

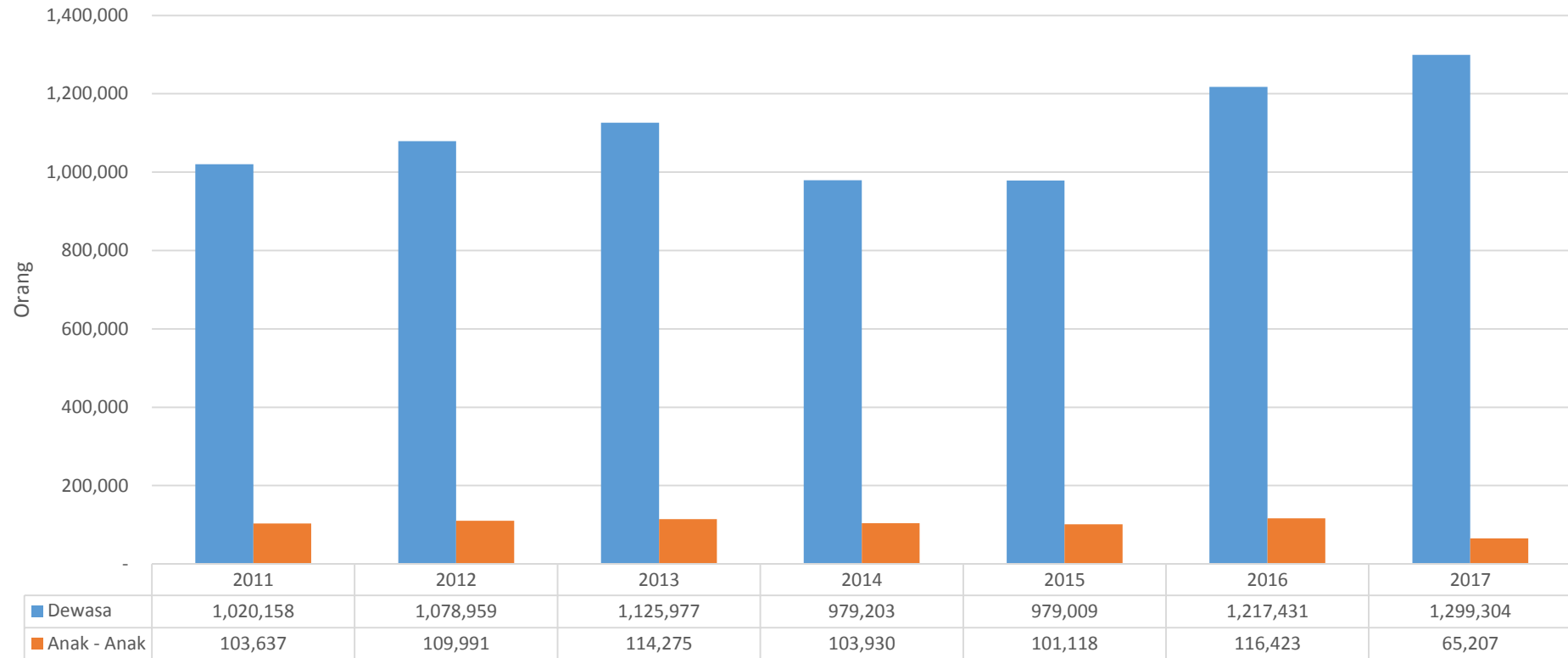
METHOD OF COLLECTING DATA

1. The process of secondary data collection based on taken from the library and PT. ASDP
2. The process of collecting primary data uses questionnaires against respondents selected at the Merak ferry port, including:
 - GAP Handling B3 and ODOL on KSOP or BPTD (with respondents 10 Nakhoda or Crews Ship)
 - GAP Handling B3 and ODOL on Service Users / Truck Drivers (with KSOP Banten respondents, BPTD Banten, Banten Transportation Agency, ASDP Merak, ASDP Bakauheni and Gapasdap)
 - GAP Handling B3 and ODOL to PT. ASDP Cab. Merak (with respondents of 10 Nakhoda or Crews Ship)
 - GAP Handling B3 and ODOL to the skipper / mualim (with KSOP Banten respondents, BPTD Banten, Banten Transportation Agency, ASDP Merak, ASDP Bakauheni and Gapasdap;

ANALYSIS METHOD

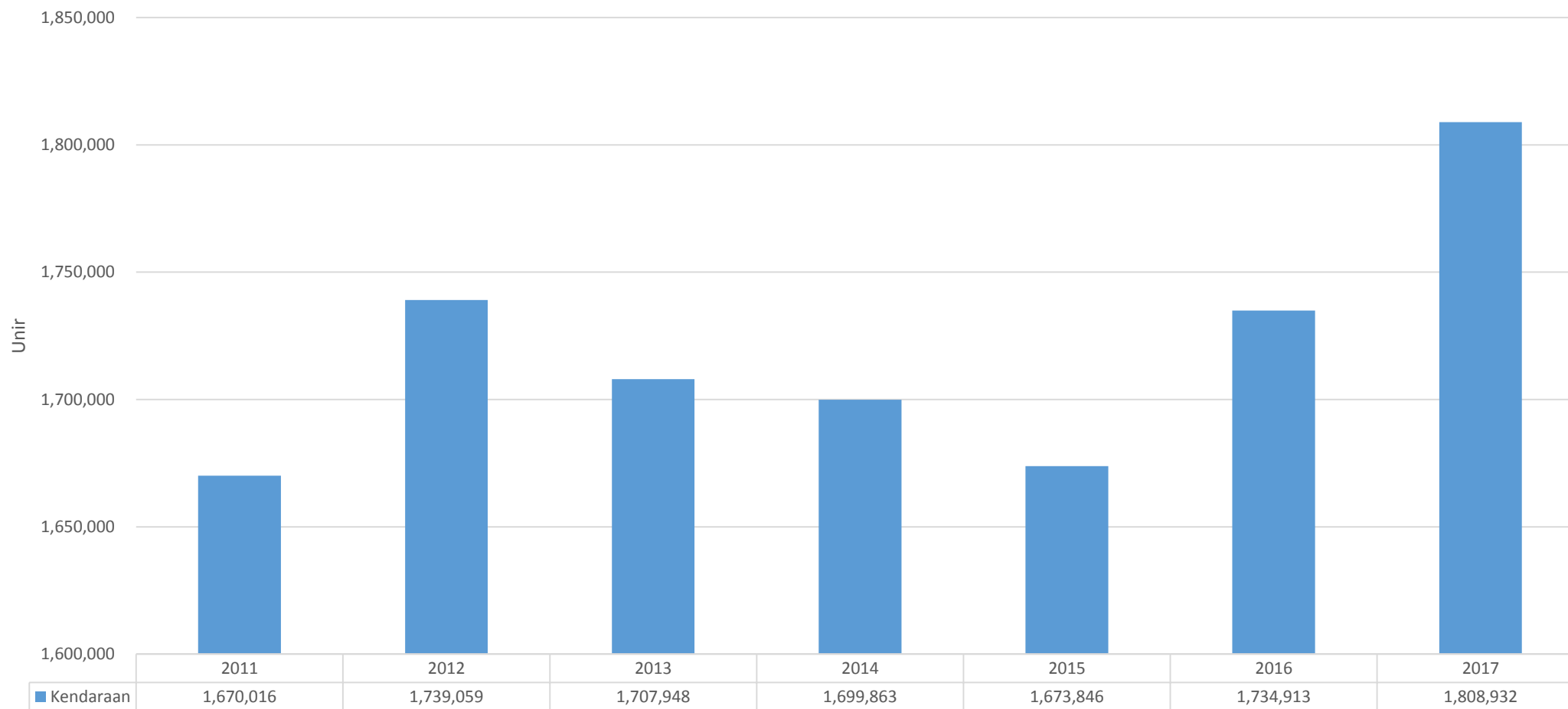
- 1. The analysis used in this study will be used by gap analysts, namely comparing the actual conditions with the desired conditions.**
- 2. An assessment of the conditions of shipping safety facilities is stated on a scale, where:**
 - Value 1 = Less**
 - Value 2 = Medium**
 - Value 3 = Good**
- 3. After a gap analysis, the gap value for each indicator is known. The categories given for each indicator are as follows:**
 - The gap value is 0% - 60% included in the less good category;**
 - The gap value of 61% - 80% belongs to the fairly good category**
 - Value gap between 81% - 100% including good category;**

Data Penumpang Pelabuhan Merak Tahun 2011 - 2017



Sumber, PT.ASDP Cab.Merak Tahun 2018

Data Kendaraan Pelabuhan Merak Tahun 2011 - 2017

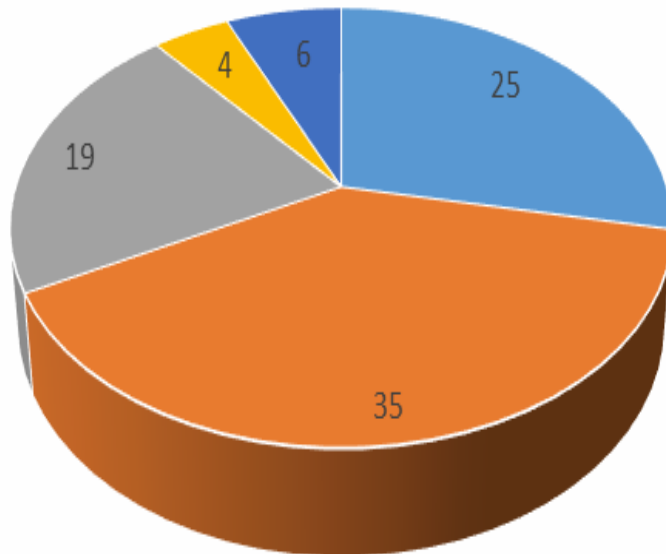


Sumber, PT.ASDP Cab.Merak Tahun 2018

DATA KECELAKAAN KAPAL TAHUN 2007 - 2018

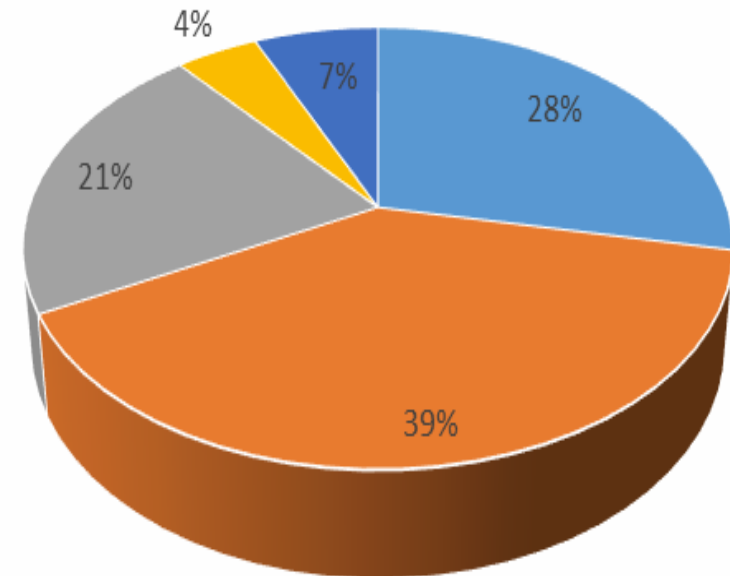
Sumber : http://knkt.dephub.go.id/knkt/ntsc_maritime/maritime.htm

JENIS KECELAKAAN KAPAL 2007-2018 (JUMLAH)



■ TENGCELAM ■ TERBAKAR/ MELEDAK ■ TUBRUKAN ■ KANDAS ■ LAIN-LAIN

JUMLAH KECELAKAAN KAPAL 2007-2018 (%)

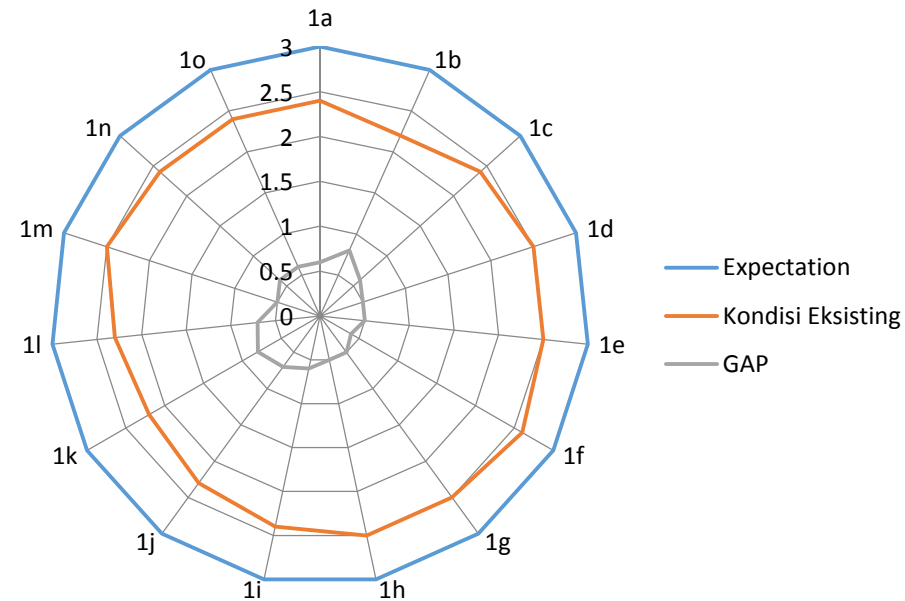


■ TENGCELAM ■ TERBAKAR/ MELEDAK ■ TUBRUKAN ■ KANDAS ■ LAIN-LAIN

KSOP/BPTD

NO	URAIAN	Kode	Expectation	Kondisi Eksisting	GAP / %
1	Kesyahbandaran sudah memberikan informasi peraturan pengangkutan barang berbahaya kepada operator terminal, nakhoda kapal dan penyedia jasa angkutan truk	1a	3	2,4	0,6 / 80 %
2	Peraturan dan ketentuan penanganan barang-barang berbahaya yang berlaku selalu disampaikan secara rutin	1b	3	2,2	0,8 / 73 %
3	Sanksi terhadap pelanggar peraturan dan ketentuan penanganan barang-barang berbahaya sudah dilaksanakan sesuai aturan	1c	3	2,4	0,6 / 80 %
4	Pelatihan/ training atas penanganan barang-barang berbahaya sudah pernah dilakukan	1d	3	2,5	0,5 / 83 %
5	Pelatihan penanganan barang-barang berbahaya dilaksanakan secara berkala dengan jangka waktu tertentu	1e	3	2,5	0,5 / 83 %
6	Pelatihan penanganan barang-barang berbahaya dapat meningkatkan kompetensi SDM yang menangani barang berbahaya	1f	3	2,6	0,4 / 87 %
7	Apakah petugas operasional kesyahbandaran sudah mempunyai sertifikasi/ lisensi resmi IMO/ IMDG Code	1g	3	2,5	0,5 / 83 %
8	Petugas kesyahbandaran yang sudah berlisensi mempunyai buku panduan checklist penanganan barang-barang berbahaya sesuai dengan regulasi UU/ IMO/ IMDG Code	1h	3	2,5	0,5 / 83 %
9	Fasilitas pelatihan penanganan barang-barang berbahaya untuk petugas operator terminal, nakhoda kapal dan penyedia jasa angkutan truk sudah tersedia	1i	3	2,4	0,6 / 80 %
10	Jembatan timbang yang ada di pintu masuk dermaga pelabuhan sudah difungsikan dengan baik	1j	3	2,3	0,7 / 77 %
11	Petugas sudah melaksanakan pengawasan pelabelan, penanda, pengepakan barang berbahaya telah sesuai dengan ketentuan	1k	3	2,2	0,8 / 73 %
12	Selaku regulator sudah memberikan pelayanan yang maksimal kepada pelanggan dalam hal penanganan barang-barang berbahaya	1l	3	2,3	0,7 / 77 %
13	Perusahaan penyedia jasa angkutan truk memiliki SDM yang sudah memahami dalam penanganan barang berbahaya	1m	3	2,5	0,5 / 83 %
14	Pengurusan dokumen untuk barang-barang berbahaya sudah bisa dilaksanakan dengan cepat dan sesuai dengan IMDG (International Maritime Dangerous Goods) Code	1n	3	2,4	0,6 / 80 %
15	Sanksi terhadap truk yang melebihi muatan pada jembatan timbang di pintu masuk dermaga pelabuhan apakah sudah dilaksanakan sesuai	1o	3	2,4	0,6 / 80 %

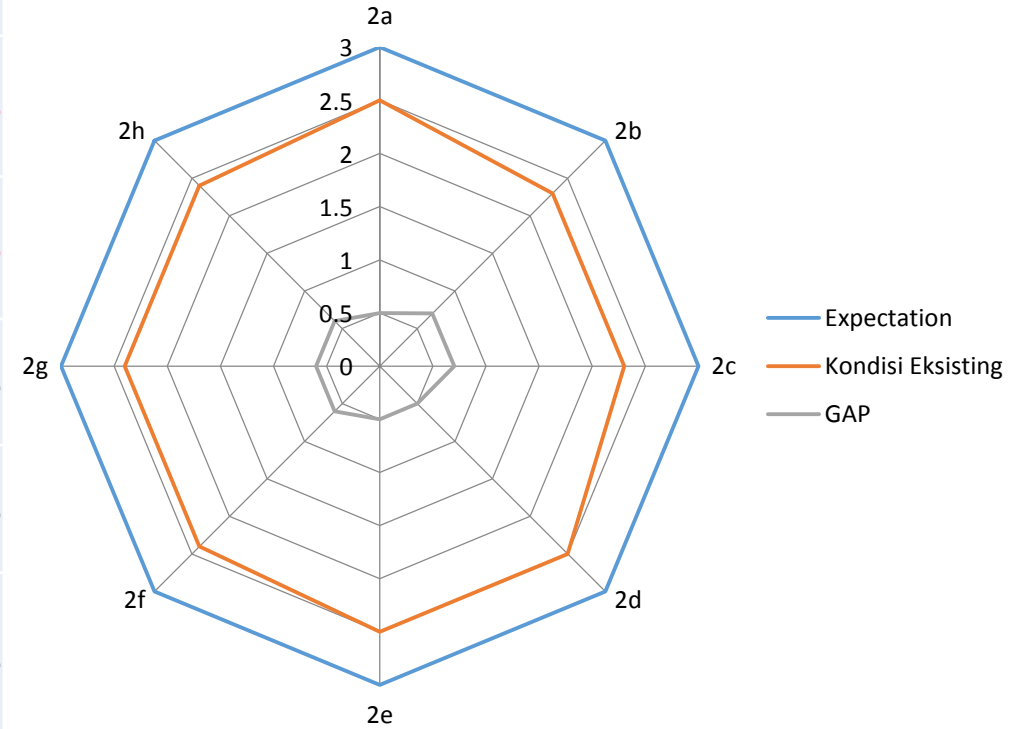
GAP Handling B3 and ODOL against KSOP or BPTD



Pengguna jasa/Sopir Truk

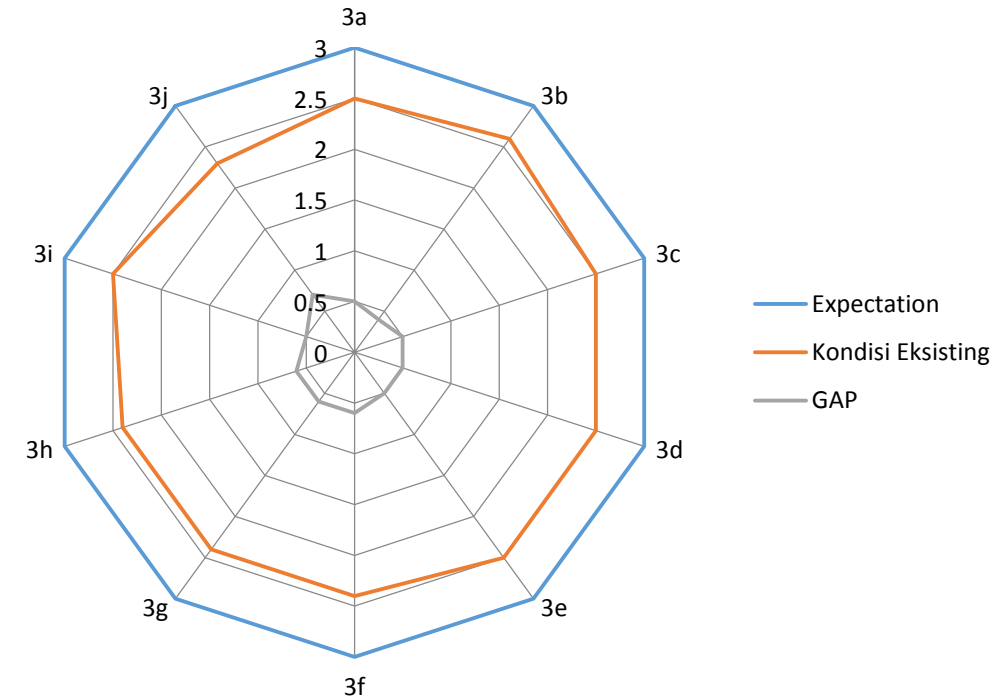
NO	URAIAN	Kode	Expectation	Kondisi Eksisting	GAP / %
1	Perusahaan jasa pengiriman barang apakah sudah ada yang mengikuti pelatihan penanganan barang berbahaya	2a	3	2,5	0,5/ 83 %
2	Pemilik barang apakah melaksanakan pelabelan, penanda, pengepakan barang berbahaya telah sesuai dengan ketentuan	2b	3	2,3	0,7/ 77 %
3	Selaku Perusahaan pengiriman barang sudah memberikan pelayanan yang maksimal kepada pelanggan dalam hal penanganan barang -barang berbahaya	2c	3	2,3	0,7/ 77 %
4	Apakah ada Petugas yang berkompetensi / sudah bersertifikasi dalam penanganan barang berbahaya dip perusahaan	2d	3	2,5	0,5/ 83 %
5	Sebagai perusahaan pengiriman barang sudah mempunyai petunjuk pelaksanaan dalam penanganan barang - barang berbahaya	2e	3	2,5	0,5/ 83 %
6	Selaku perusahaan pengiriman barang apakah cepat dalam hal mendapatkan jadwal keberangkatan setelah surat instruksi pengapalan (shipping instruction) dikonfirmasi	2f	3	2,5	0,5/ 83 %
7	Pengurusan dokumen untuk barang - barang berbahaya sudah bisa dilaksanakan dengan cepat dan sesuai dengan IMDG (International Maritime Dangerous Goods) Code	2g	3	2,5	0,5/ 83 %
8	Jenis barang yang ada di dalam truk yang akan di muat kedalam kapal Ro Ro apakah selalu di informasikan kepada regulator dan operator terminal	2h	3	2,4	0,6/ 80 %

GAP Handling B3 and ODOL for Service Users / Truck Drivers



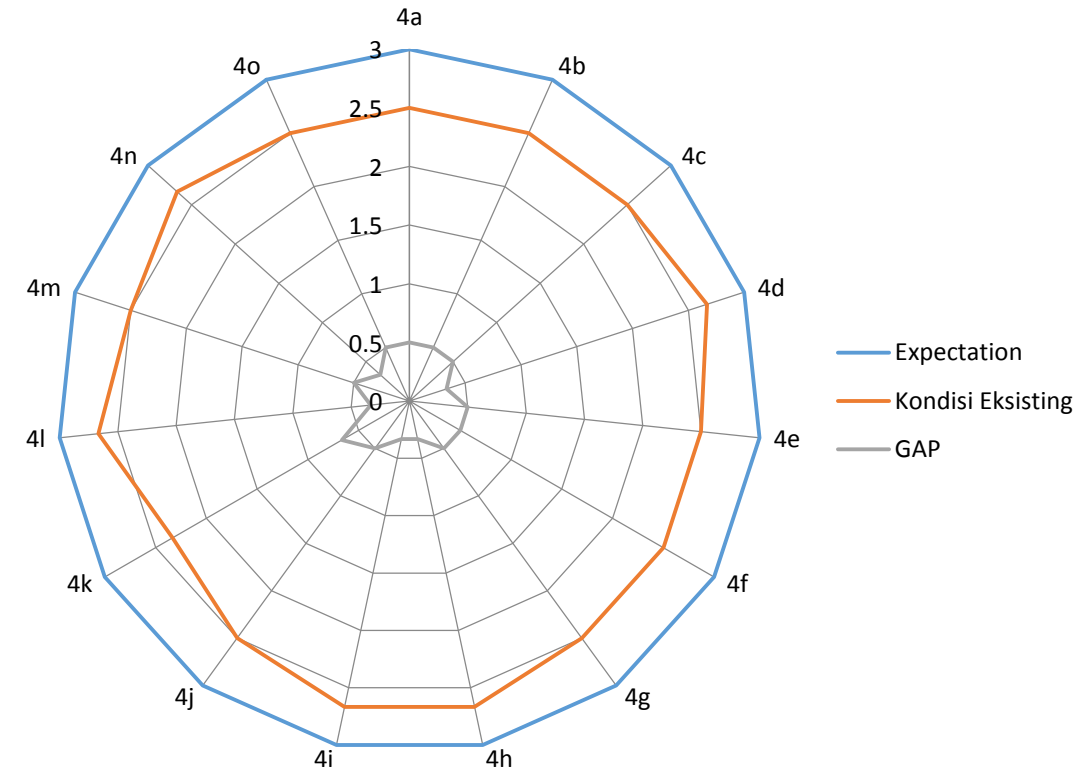
ASDP					
NO	URAIAN	Kode	Expectation	Kondisi Eksisting	GAP / %
1	Sebagai operator terminal dalam penanganan barang-barang berbahaya apakah SDM pernah mengikuti pelatihan penanganan barang berbahaya	3a	3	2,5	0,5/ 83 %
2	Pelatihan / training atas penanganan barang-barang berbahaya menambah keterampilan dan profesionalisme dalam bekerja atau mampu meningkatkan kinerja karyawan	3b	3	2,6	0,4/ 87 %
3	Sebagai operator terminal sudah memahami mengenai penanganan barang-barang berbahaya yang akan di angkut	3c	3	2,5	0,5/ 83 %
4	Sebagai operator terminal dalam penanganan barang-barang berbahaya di atas kapal berupa truk tangki BBM apakah sudah ditempatkan terpisah dengan kendaraan lain	3d	3	2,5	0,5/ 83 %
5	Pelanggan sering berdiskusi dengan bapak/ ibu selaku operator terminal mengenai pengaturan penanganan barang-barang berbahaya	3e	3	2,5	0,5/ 83 %
6	Fasilitas yang dimiliki sebagai operator terminal seperti jembatan timbang apakah sudah difungsikan secara optimal	3f	3	2,4	0,6/ 80 %
7	Sebagai jasa operator terminal beroperasi sesuai dengan jadwal yang telah ditentukan untuk pengiriman barang-barang berbahaya	3g	3	2,5	0,5/ 83 %
8	Muatan kendaraan dalam kapal ro ro apakah sudah dilakukan lashing secara teratur	3h	3	2,4	0,6/ 80 %
9	Sebagai operator terminal apakah sudah melakukan sosialisasi kepada pengguna jasa dalam memahami pengangkutan barang berbahaya	3i	3	2,5	0,5/ 83 %
10	Apakah truk yang akan masuk ke kapal ro ro dilakukan pemeriksaan terhadap isi muatan nya dan kalau melanggar sudah diberikan sanksinya	3j	3	2,3	0,7/ 77 %

GAP Handling B3 and ODOL to PT. ASDP Cab. Merak



Nakhoda/Mualim					
NO	URAIAN	Kode	Expectation	Kondisi Eksisting	GAP / %
1	Sebagai captain in command memberikan brifing /instruktur peraturan yang menyangkut tentang keselamatan pelayaran kepada awak kapal	4a	3	2,5	0,5/83 %
2	Sebagai captain in command memberikan brifing /instruktur peraturan tentang tata cara penanganan pengangkutan barang barang berbahaya kepada awak kapal	4b	3	2,5	0,5/83 %
3	Peraturan dan ketentuan penanganan barang barang berbahaya tersedia di atas kapal	4c	3	2,4	0,6/80 %
4	Peraturan dan ketentuan penanganan barang barang berbahaya yang berlaku selalu disampaikan secara berkala kepada awak kapal	4d	3	2,7	0,3/89 %
5	Awak kapal yang menangani barang barang barang berbahaya mempunyai sertifikat lisensisesuai IMO/IMDG Code	4e	3	2,5	0,5/83 %
6	Awak kapal anda memahami dan mampu menangani penanganan barang barang berbahayadi dalam kapal	4f	3	2,5	0,5/83 %
7	Pelatihan penanganan barang barang berbahaya diberikan juga kepada awak kapal	4g	3	2,5	0,5/83 %
8	Pelatihan penanganan barang barang berbahaya dilakukan secara berkala dengan jangka waktu dijadwalkan untuk awak kapal	4h	3	2,7	0,3/89 %
9	Pelatihan penanganan barang barang berbahaya dapat meningkatkan ketrampilan kopetensi awak kapal	4i	3	2,7	0,3 89 %
10	Barang barang berbahaya yang diterima dan akan dimuat diatas kapal diadakan pengecekan dengan buku panduan dan melakukan chek lis tsesuai ketentuan IMO/IMDG Code	4j	3	2,4	0,6/80 %
11	Pekerjaan di nomor 10 secara administrasi dibukukan secara tertib	4k	3	2,3	0,7/78 %
12	Tersedia fasilitas pelatihan B3 di atas kapal	4l	3	2,6	0,4/80 %
13	Tersedia peralatan keselamatan pelayaran berupa liaf jaket dll	4m	3	2,5	0,5/83 %
14	Setiap muatan truk yang teridentifikasi bermuatan barang berbahaya apakah sudah di atur penempatannya di atas kapal	4n	3	2,7	0,3/89 %
15	Apakah penumpang dan awak kendaraan sudah tidak ada lagi yang berada dalam kendaraan selama dalam pelayaran	4o	3	2,5	0,5/83 %

GAP Handling B3 and ODOL to the Nakhoda / Crew Ship



CONCLUSION

1. KSOP/BPTD

- Kesyahbandaran has not provided training on the transportation of dangerous goods to terminal operators, ship captains and trucking service providers on a regular basis (quite a good value of 80)
- Regulations and conditions for handling dangerous goods that have not been routinely delivered (good value 73)
- Sanctions against violators of regulations and provisions for handling dangerous goods have not been implemented according to the rules (quite a good value of 80)
- Training facilities for handling dangerous goods for terminal operator officers, boat masters and trucking service providers are not yet available (quite a good value of 80)

- **The weigh bridge at the port dock entrance has not been properly functioning (quite a good value of 73)**
- **The officer has not carried out labeling supervision, marking, packing dangerous goods in accordance with the provisions (quite a good value of 73)**
- **As a regulator, it has not provided maximum service to customers in terms of handling dangerous goods (quite a good value of 77)**
- **Arranging documents for dangerous goods cannot be carried out quickly and in accordance with the IMDG (International Maritime Dangerous Goods) Code (quite a good value of 80)**
- **the sanction for the truck exceeds the load on the weigh bridge at the port dock entrance whether it has been implemented according to the rules (quite a good value of 80)**

2. Pengusaha Angkutan Darat /Truk

- The owner of the goods whether carrying out labeling, marking, packing dangerous goods in accordance with the provisions (quite good value 77)**
- As a freight forwarding company / truck has not provided maximum service to customers in terms of handling dangerous items (quite a good value of 77)**
- The type of goods in the truck that will be loaded into the ro ro ship is always informed to the regulator and terminal operator (quite a good value of 80)**

3. PT.ASDP

- Facilities owned as terminal operators such as weigh bridges whether it has been functioned optimally (quite a good value of 80)**
- Loading the vehicle into a ro ro vessel whether welding has been done (quite a good value of 80)**

- **Is the truck going to enter the ro roaming vessel an inspection of the contents of the cargo and if the violation has already been given (quite a good value of 77)**

4. Nakhoda/ Mualim

- **Rules and conditions for handling dangerous goods are available on board (quite a good value of 80)**
- **Goods of dangerous goods received and will be loaded on the ship are checked with a guidebook and check the list according to the provisions of the IMO / IMDG Code (quite a good value of 80)**
- **Training facilities for handling dangerous goods on board (quite a value of 80)**

SUGGESTION

- **It is necessary to disseminate regulations relating to handling dangerous goods transport to regulators, terminal operators, shipbuilders, land / trucking entrepreneurs and other stockholders.**
- **Circulars need to be issued regarding the handling of dangerous goods, so that implementation in the field or operation will be more clear, especially for ro ro ships.**
- **Need to prepare training facilities for handling dangerous goods for Kesyahbandaran officers, ferry terminal operators, land / trucking companies and Nakhoda / Crew ship**

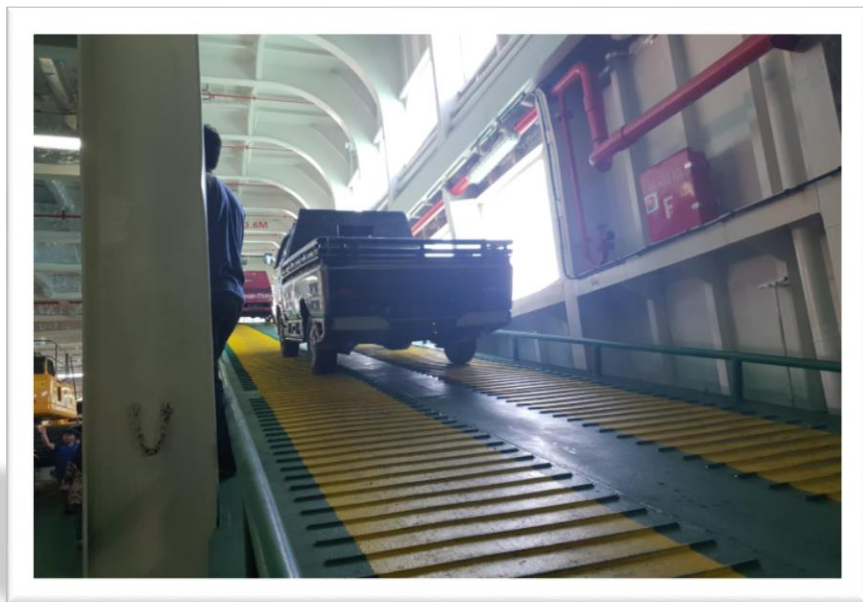
- **It is necessary to set standard operating procedures and remind officers of the importance of work safety in handling dangerous goods.**
- **Strong sanctions must be given to the owner of dangerous goods with incomplete identification, documentation, packaging and violations of other applicable provisions.**
- **Ship crew training and crisis management / Crowd Management are needed. Preventive training needs to be done.**
- **Fire prevention and prevention training needs to be carried out on board**

DAFTAR PUSTAKA

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Proses di Jembatan Timbang



Proses Muat



Di Dalam Kapal

SEKIAN TERIMA KASIH