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Implementation of the EQSHA BBKK Tanjung Priok Application to Support Official Ship Boarding Activities

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Abstract− The application of digital technology in the port health quarantine sector is a strategic step in increasing the effectiveness of official ship boarding activities. This research aims to analyze the implementation of the EQSHA (Electronic Quarantine Sanitation Health and Assessment) application at the Tanjung Priok Health Quarantine Center (BBKK) and measure the improvement in service performance after implementing the system. The research method used is a quantitative and qualitative descriptive method with a case study approach. Data collection was carried out through observation, interviews, documentation studies, and distributing questionnaires to operational officers using the EQSHA application. Data analysis was carried out by comparing service performance indicators before and after application implementation. The research results show that implementing the EQSHA application provides a very high increase in service performance. Based on the evaluation results, the level of service effectiveness increased by 89%, the speed of the official ship inspection and boarding process increased by 87%, the accuracy of recording health data reached 92%, and the efficiency of real-time reporting and monitoring increased by 90%. Apart from that, the EQSHA application is able to reduce the use of manual documents and speed up the data validation process between work units. This system also supports service transparency and makes decision making easier in port health quarantine activities. Even though there are still obstacles in the form of limited internet networks and user adaptation to the new system, overall the implementation of the EQSHA application has proven to be able to significantly improve the quality and performance of services in supporting official ship boarding activities at BBKK Tanjung Priok.

Keywords: EQSHA, Official Boarding, Health Quarantine, Digitalization, BBKK Tanjung Priok

1. INTRODUCTION

Official ship boarding activities are an important part of port health supervision which aims to prevent the entry and exit of infectious diseases through sea routes (Zhang et al., 2021). Digital transformation in the health sector has become a major factor in increasing the effectiveness and efficiency of public services. The application of digital technology can improve service quality and patient safety through structured and sustainable integration of information technology (Hu et al., 2025).

The use of digital technology in health monitoring has been proven to be able to increase the accuracy and speed of decision making in port health services. Digital technology-based interventions are also able to significantly improve the safety and efficiency of health services (Insani et al., 2025).

In the context of biosecurity, digital systems have an important role in supporting early detection and control of transregional infectious diseases. Digital technology is becoming a major element in the modern global health security system (Liu & Qian, 2025).

The implementation of the health quarantine information system at ports is starting to develop to improve coordination between related agencies. A centralized information system is able to increase the effectiveness of data management and ship health services (Pratama et al., 2022). Digitalization of the ship health inspection process also has an impact on increasing the operational efficiency of port services. The use of analytical technology can improve the quality of ship health monitoring more quickly and accurately (Sandra et al., 2025).

Application-based digital systems enable administrative processes to be more transparent and integrated. Implementing a digital system can make it easier to issue ship health documents quickly and accurately (Situmorang et al., 2025). The use of a single submission system in ship health quarantine services is also able to simplify the administration process and speed up data validation between work units (Wau et al., 2025).

The development of artificial intelligence technology in the health sector is increasingly developing and is being used to support early warning systems for infectious diseases. AI technology can help increase the effectiveness of digital health monitoring (El Morr et al., 2024).

In addition, the digital twin concept is starting to be applied in modern health systems to increase the ability to simulate and predict health conditions more accurately (Katsoulakis et al., 2024). Global biosecurity efforts are also being strengthened through the integration of digital technology in health systems. Technology-based biosecurity systems can increase preparedness for global health threats (Militzer et al., 2023).

Surveillance of infectious diseases requires a strong and integrated surveillance system to be able to increase early detection of potential disease spread (Hao et al., 2022). The COVID-19 pandemic has become a momentum for

accelerating digital transformation in the health sector in various countries. Digital technology plays an important role in supporting global pandemic management (Ting et al., 2021).

The concept of digital health includes various aspects of technology that support health services, such as information systems, mobile applications, and data-based technology (Fatehi et al., 2020).

The development of digital technology has also had a significant impact on the international travel health monitoring system. Digital technology helps track and control the spread of disease more effectively (Whitelaw et al., 2021). The use of digital technology in public health is increasingly widespread because it is able to support data-based decision making in public health services (Budd et al., 2021). The COVID-19 pandemic has also accelerated the adoption of digital systems in global health services, thereby encouraging a digital revolution in the modern health sector (Keesara et al., 2021).

The implementation of digital technology in the health sector cannot be separated from various challenges, such as limited infrastructure, user readiness, and adaptation of technology-based work systems (Kruse et al., 2021). The use of digital technology in the context of biological risk must also be accompanied by good risk management so that its application can run safely and optimally (Sandbrink, 2023). Digitalization of health services as a whole can increase the effectiveness and efficiency of services so that the quality of health services becomes better and more responsive (Iyengar et al., 2022).

Based on this description, the implementation of the EQSHA (Electronic Quarantine Sanitation Health and Assessment) application at BBKK Tanjung Priok is a form of digital innovation in supporting official ship boarding activities. This application is expected to be able to increase service effectiveness, speed up the ship health inspection process, increase data accuracy, and support the port health quarantine service system

2. RESEARCH METHODOLOGY

This research uses a mixed descriptive approach (mixed-method), namely a combination of qualitative and quantitative with case studies. This approach was chosen to get a comprehensive picture of the performance of implementing the EQSHA application in supporting official ship boarding activities.

2.1 Population and Sample

The research population includes all health quarantine operational officers who use the EQSHA application in official ship boarding activities, namely 42 officers.

a. Quantitative questionnaire sample: All operational officers (n = 42) were used as the full sample because the number was relatively small.
b. Qualitative interview sample: A total of 10 officers were selected purposively, based on experience and intensity of application use.

2.2 Research Variables

The research variables focus on the performance of health quarantine services, including:

a. Service effectiveness: speed of the ship inspection and boarding process.
b. Data recording accuracy: manual vs digital recorded data errors.
c. Reporting efficiency: time required for real-time validation and reporting.
d. Data transparency and integration: level of coordination between work units.

2.3 Data Collection Procedures

Data collection carried out includes:

a. Quantitative collection: Officers complete a questionnaire regarding perceptions of performance, speed, and efficiency of using EQSHA.
b. Qualitative collection: In-depth interviews were conducted to identify obstacles, experiences and suggestions for improving the system.
c. Observations: The research team observed the ship boarding process for a full month to record service times, recording accuracy and digital data flow.

2.4 Data Analysis

To determine the results, data analysis was conducted, including:

a. Quantitative Data

Processed using descriptive statistics (average, percentage, and performance improvement) to compare indicators before and after the EQSHA implementation. For example, the percentage increase in service speed was calculated from the average ship boarding time before and after the application was implemented.

b. Qualitative Data

Processed using thematic analysis to identify key themes related to experiences, challenges, and recommendations for application improvements. The results of the qualitative analysis were then used to explain and complement the quantitative findings.

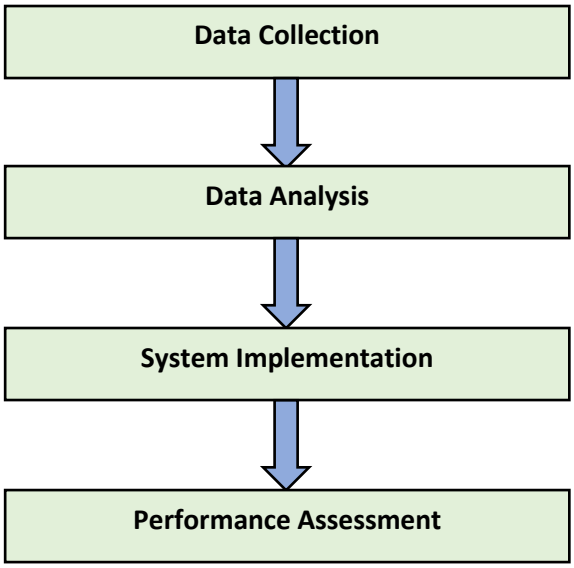


Figure 1. Research Stage

Figure 1 The following is a picture of the research flow that will be carried out at each stage of the research.

3. RESULTS AND DISCUSSION

After going through several stages of collecting data, analyzing data in the field, then implementing the system, the resulting model is as follows:

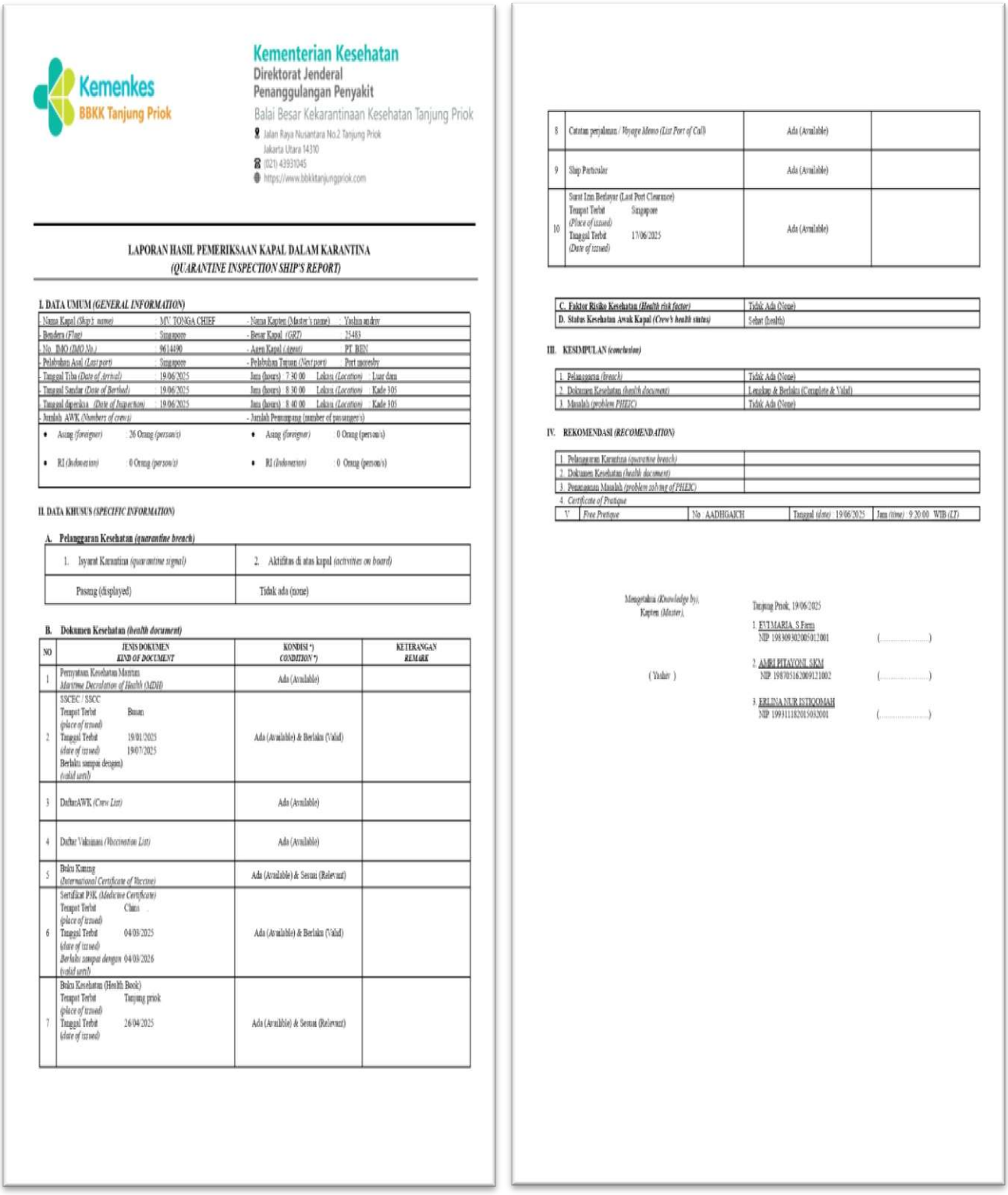
3.1 Implementation of the EQSHA Application in Official Ship Boarding Activities

The EQSHA (Electronic Quarantine Sanitation Health and Assessment) application is implemented at the Tanjung Priok Port Authority (BBKK) as a digital system that supports integrated ship quarantine health services. This system is used for inputting ship health data, checking sanitation documents, validating crew health, and reporting test results in real-time.

Figure 2. EQSHA (Electronic Quarantine Sanitation Health and Assessment) Application

Figure 2 Menu display on the front page of the EQSHA (Electronic Quarantine Sanitation Health and Assessment) Application at Tanjung Priok Port Authority (BBKK)

The Ship Inspection in Quarantine menu is used to support the implementation of ship inspections for health quarantine. At this stage, officers verify the ship's identity, shipping history, ship health documents, the ship's general condition, and health risk factors that could potentially pose a threat to public health. Inspection results are recorded digitally through the EQSHA application, facilitating the decision-making process regarding necessary quarantine measures.



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LAPORAN HASIL PEMERIKSAAN KAPAL DALAM KARANTINA
(QUARANTINE INSPECTION SHIP'S REPORT)

I. DATA UMUM *(GENERAL INFORMATION)*

- Nama Kapal *(Ship's name)*	: MV. TONGA CHIEF	- Nama Kapten *(Master's name)*	: Yoshin andrw
- Bendera *(Flag)*	: Singapore	- Besar Kapal *(GRT)*	: 25483
- No. IMO *(IMO No.)*	: 9614490	- Agen Kapal *(Agent)*	: PT. BEN
- Pelabuhan Asal *(Last port)*	: Singapore	- Pelabuhan Tujuan *(Next port)*	: Port moresby
- Tanggal Tiba *(Date of Arrival)*	: 19/06/2025	Jam (hours) : 7.30.00	Lokasi *(Location)* : Luar dana
- Tanggal Sandar *(Date of Berthed)*	: 19/06/2025	Jam (hours) : 8.30.00	Lokasi *(Location)* : Kade 105
- Tanggal diperiksa *(Date of Inspection)*	: 19/06/2025	Jam (hours) : 8.40.00	Lokasi *(Location)* : Kade 105
- Jumlah AWK *(Numbers of crew's)*		- Jumlah Penumpang *(number of passengers's)*	
• Asing *(foreigner)* : 26 Orang *(person's)*		• Asing *(foreigner)* : 0 Orang (person's)	
• RI *(Indonesian)* : 0 Orang *(person's)*		• RI *(Indonesian)* : 0 Orang (person's)	

II. DATA KHUSUS *(SPECIFIC INFORMATION)*

A. Pelanggaran Kesehatan *(quarantine breach)*

1. Isyarat Karantina *(quarantine signal)*	2. Aktifitas di atas kapal *(activities on board)*
Pasang (displayed)	Tidak ada (none)

B. Dokumen Kesehatan *(health document)*

NO	JENIS DOKUMEN *KIND OF DOCUMENT*	KONDISI *) *CONDITION *)*	KETERANGAN *REMARK*
1	Pernyataan Kesehatan Maritim *Maritime Decralation of Health (MDH)*	Ada (Available)	
2	SSCEC / SSCC Tempat Terbit *(place of issued)* : Busan Tanggal Terbit *(date of issued)* : 19/01/2025 Berlaku sampai dengan *(valid until)* : 19/07/2025	Ada (Available) & Berlaku (Valid)	
3	DafterAWK *(Crew List)*	Ada (Available)	
4	Daftar Vaksinasi *(Vaccination List)*	Ada (Available)	
5	Buku Kuning *(International Certificate of Vaccine)*	Ada (Available) & Sesuai (Relevant)	
6	Sertifikat P3K *(Addictive Certificate)* Tempat Terbit *(place of issued)* : Chaos Tanggal Terbit *(date of issued)* : 04/03/2025 Berlaku sampai dengan *(valid until)* : 04/03/2026	Ada (Available) & Berlaku (Valid)	
7	Buku Kesehatan (Health Book) Tempat Terbit *(place of issued)* : Tanjung priok Tanggal Terbit *(date of issued)* : 26/04/2025	Ada (Available) & Sesuai (Relevant)	

8	Catatan perjalanan / *Voyage Memo (List Port of Call)*	Ada (Available)	
9	Ship Particular	Ada (Available)	
10	Surat Izin Berlayar (Last Port Clearance) Tempat Terbit *(Place of issued)* : Singapore Tanggal Terbit *(Date of issued)* : 17/06/2025	Ada (Available)	

C. Faktor Risiko Kesehatan *(Health risk factor)*	Tidak Ada (None)
D. Status Kesehatan Awak Kapal *(Crew's health status)*	Sehat (health)

III. KESIMPULAN *(conclusion)*

1. Pelanggaran *(breach)*	Tidak Ada (None)
2. Dokumen Kesehatan *(health document)*	Lengkap & Berlaku (Complete & Valid)
3. Masalah *(problem PHEIC)*	Tidak Ada (None)

IV. REKOMENDASI *(RECOMENDATION)*

1. Pelanggaran Karantina *(quarantine breach)*	
2. Dokumen Kesehatan *(health document)*	
3. Penanganan Masalah *(problem solving of PHEIC)*	
4. *Certificate of Pratique*	

V	*Free Pratique*	No AADHGAJCH	Tanggal *(date)* : 19/06/2025	Jam *(time)* : 9:20:00 WIB *(LT)*

Mengetahui *(Knowledge by)*,
Kapten *(Master)*,

(Yoshin)

Tanjung Priok, 19/06/2025

1. EVI MARIA, S.Farm
NIP. 198309302005012001 (.....)

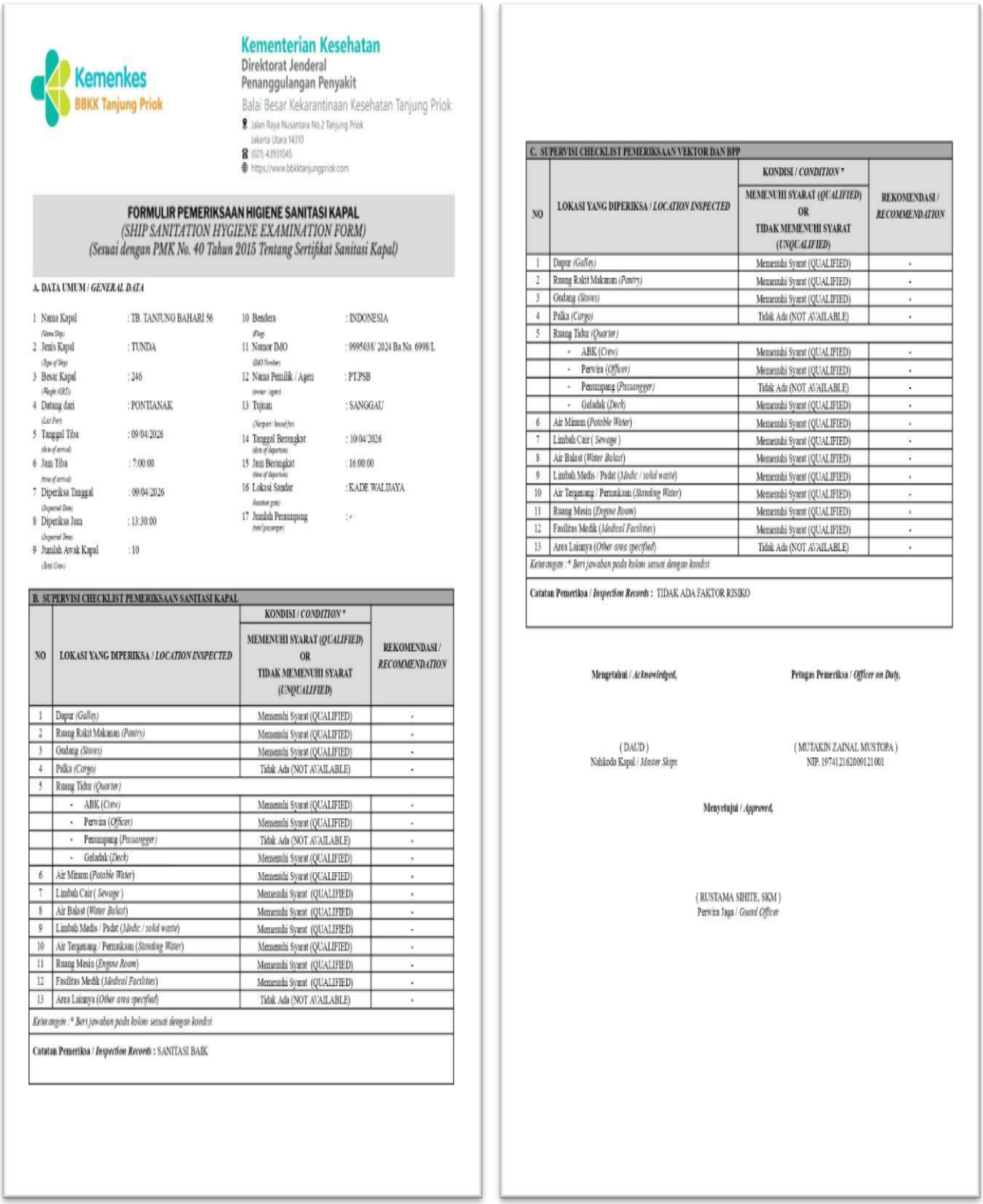
2. AMBI PITAYONI, SKM
NIP. 198705162009121002 (.....)

3. ERLINA NUR ISTIQOMAH
NIP. 199311182015032001 (.....)

Figure 3. BO 1 Ship Inspection in Quarantine

Figure 3 The following is a display of the input results from the BO 1 Ship Inspection in Quarantine menu

The Ship Hygiene and Sanitation Inspection menu is used to inspect the ship's hygiene and sanitation aspects. The inspection includes the condition of the ship's galley, food storage areas, clean water supply system, waste management, sanitation facilities, and disease vector control. The primary objective of this inspection is to ensure the ship meets health and sanitation standards as stipulated in national regulations and the International Health Regulations (IHR).



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FORMULIR PEMERIKSAAN HIGIENE SANITASI KAPAL
(SHIP SANITATION HYGIENE EXAMINATION FORM)
(Sesuai dengan PMK No. 40 Tahun 2015 Tentang Sertifikat Sanitasi Kapal)

A. DATA UMUM / *GENERAL DATA*

1	Nama Kapal *(Name Ship)*	: TB. TANJUNG BAHARI 56	10	Bendera *(Flag)*	: INDONESIA
2	Jenis Kapal *(Type of Ship)*	: TUNDA	11	Nomor IMO *(IMO Number)*	: 9995038/ 2024 Ba No. 6998/L
3	Besar Kapal *(Wegte (GRT))*	: 246	12	Nama Pemilik / Agen *(owner / agent)*	: PT.PSB
4	Datang dari *(Last Port)*	: PONTIANAK	13	Tujuan *(Navigate bound for)*	: SANGGAU
5	Tanggal Tiba *(date of arrival)*	: 09/04/2026	14	Tanggal Berangkat *(date of departure)*	: 10/04/2026
6	Jam Tiba *(time of arrival)*	: 7:00:00	15	Jam Berangkat *(time of departure)*	: 16:00:00
7	Diperiksa Tanggal *(Inspected Date)*	: 09/04/2026	16	Lokasi Sandar *(location gate)*	: KADE WALIAYA
8	Diperiksa Jam *(Inspected Time)*	: 13:30:00	17	Jumlah Penumpang *(total passenger)*	: -
9	Jumlah Awak Kapal *(Total Crew)*	: 10			

B. SUPERVISI CHECKLIST PEMERIKSAAN SANITASI KAPAL

NO	LOKASI YANG DIPERIKSA / *LOCATION INSPECTED*	KONDISI / *CONDITION* * MEMENUHI SYARAT (*QUALIFIED*) OR TIDAK MEMENUHI SYARAT (*UNQUALIFIED*)	REKOMENDASI / *RECOMMENDATION*
1	Dapur *(Galley)*	Memenuhi Syarat (QUALIFIED)	-
2	Ruang Rakit Makanan *(Pantry)*	Memenuhi Syarat (QUALIFIED)	-
3	Gudang *(Stores)*	Memenuhi Syarat (QUALIFIED)	-
4	Palka *(Cargo)*	Tidak Ada (NOT AVAILABLE)	-
5	Ruang Tidur *(Quarter)*		
	- ABK *(Crew)*	Memenuhi Syarat (QUALIFIED)	-
	- Perwira *(Officer)*	Memenuhi Syarat (QUALIFIED)	-
	- Penumpang *(Passangger)*	Tidak Ada (NOT AVAILABLE)	-
	- Geladak *(Deck)*	Memenuhi Syarat (QUALIFIED)	-
6	Air Minum *(Potable Water)*	Memenuhi Syarat (QUALIFIED)	-
7	Limbah Cair (*Sewage*)	Memenuhi Syarat (QUALIFIED)	-
8	Air Balast *(Water Balast)*	Memenuhi Syarat (QUALIFIED)	-
9	Limbah Medis / Padat *(Medic / solid waste)*	Memenuhi Syarat (QUALIFIED)	-
10	Air Tergenang / Permukaan *(Standing Water)*	Memenuhi Syarat (QUALIFIED)	-
11	Ruang Mesin *(Engine Room)*	Memenuhi Syarat (QUALIFIED)	-
12	Fasilitas Medik *(Medical Facilities)*	Memenuhi Syarat (QUALIFIED)	-
13	Area Lainnya *(Other area specified)*	Tidak Ada (NOT AVAILABLE)	-

*Keterangan : * Beri jawaban pada kolom sesuai dengan kondisi*

Catatan Pemeriksa / *Inspection Records* : SANITASI BAIK

C. SUPERVISI CHECKLIST PEMERIKSAAN VEKTOR DAN BPP

NO	LOKASI YANG DIPERIKSA / *LOCATION INSPECTED*	KONDISI / *CONDITION* * MEMENUHI SYARAT (*QUALIFIED*) OR TIDAK MEMENUHI SYARAT (*UNQUALIFIED*)	REKOMENDASI / *RECOMMENDATION*
1	Dapur *(Galley)*	Memenuhi Syarat (QUALIFIED)	-
2	Ruang Rakit Makanan *(Pantry)*	Memenuhi Syarat (QUALIFIED)	-
3	Gudang *(Stores)*	Memenuhi Syarat (QUALIFIED)	-
4	Palka *(Cargo)*	Tidak Ada (NOT AVAILABLE)	-
5	Ruang Tidur *(Quarter)*		
	- ABK *(Crew)*	Memenuhi Syarat (QUALIFIED)	-
	- Perwira *(Officer)*	Memenuhi Syarat (QUALIFIED)	-
	- Penumpang *(Passangger)*	Tidak Ada (NOT AVAILABLE)	-
	- Geladak *(Deck)*	Memenuhi Syarat (QUALIFIED)	-
6	Air Minum *(Potable Water)*	Memenuhi Syarat (QUALIFIED)	-
7	Limbah Cair (*Sewage*)	Memenuhi Syarat (QUALIFIED)	-
8	Air Balast *(Water Balast)*	Memenuhi Syarat (QUALIFIED)	-
9	Limbah Medis / Padat *(Medic / solid waste)*	Memenuhi Syarat (QUALIFIED)	-
10	Air Tergenang / Permukaan *(Standing Water)*	Memenuhi Syarat (QUALIFIED)	-
11	Ruang Mesin *(Engine Room)*	Memenuhi Syarat (QUALIFIED)	-
12	Fasilitas Medik *(Medical Facilities)*	Memenuhi Syarat (QUALIFIED)	-
13	Area Lainnya *(Other area specified)*	Tidak Ada (NOT AVAILABLE)	-

*Keterangan : * Beri jawaban pada kolom sesuai dengan kondisi*

Catatan Pemeriksa / *Inspection Records* : TIDAK ADA FAKTOR RISIKO

Mengetahui / *Acknowledged,*
(DAUD)
Nahkoda Kapal / *Master Ships*

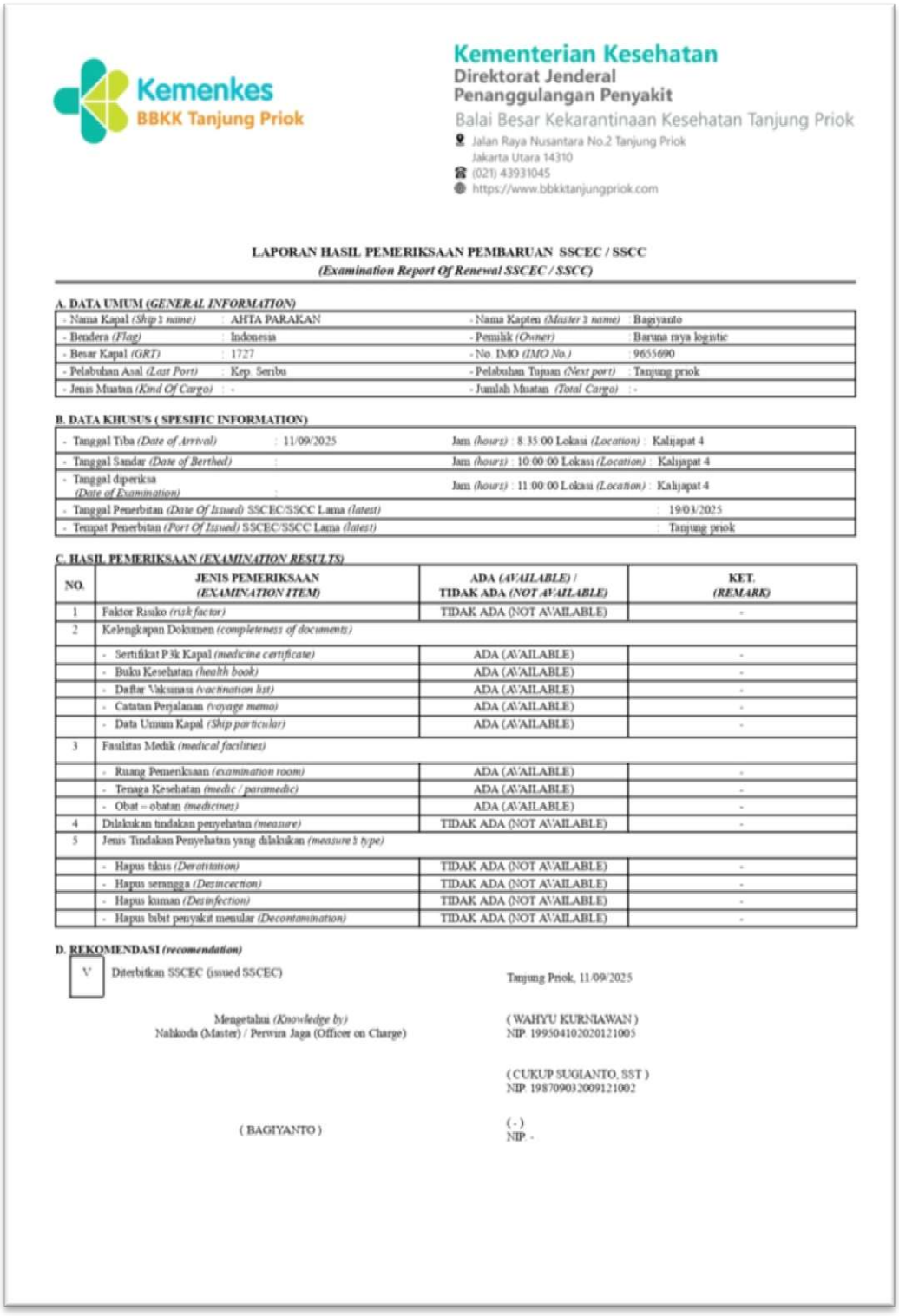
Petugas Pemeriksa / *Officer on Duty,*
(MUTAKIN ZAINAL MUSTOPA)
NIP. 197412162009121001

Menyetujui / *Approved,*
(RUSTAMA SIHITE, SKM)
Perwira Jaga / *Guard Officer*

Figure 4. BO 2 Ship Hygiene and Sanitation Inspection

Figure 4 The following is a display of the input results from the BO 2 Ship Hygiene and Sanitation Inspection Ship Inspection menu

The Ship Renewal SSCEC / SSCC menu is used for the issuance or renewal of ship sanitation certificates in the form of a Ship Sanitation Control Exemption Certificate (SSCEC) or Ship Sanitation Control Certificate (SSCC). These certificates are issued based on the results of sanitation inspections conducted by officers. The EQSHA application facilitates data verification, documentation of inspection results, and electronic certificate issuance, ensuring faster, more accurate, and well-documented data.



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LAPORAN HASIL PEMERIKSAAN PEMBARUAN SSCEC / SSCC
(Examination Report Of Renewal SSCEC / SSCC)

A. DATA UMUM *(GENERAL INFORMATION)*

- Nama Kapal *(Ship's name)*	: AHTA PARAKAN	- Nama Kapten *(Master's name)*	: Bagiyanto
- Bendera *(Flag)*	: Indonesia	- Pemilik *(Owner)*	: Baruna raya logistic
- Besar Kapal *(GRT)*	: 1727	- No. IMO *(IMO No.)*	: 9655690
- Pelabuhan Asal *(Last Port)*	: Kep. Seribu	- Pelabuhan Tujuan *(Next port)*	: Tanjung priok
- Jenis Muatan *(Kind Of Cargo)*	: -	- Jumlah Muatan *(Total Cargo)*	: -

B. DATA KHUSUS (SPESIFIC INFORMATION)

- Tanggal Tiba *(Date of Arrival)*	: 11/09/2025	Jam *(hours)* : 8.35.00 Lokasi *(Location)*	: Kalijapat 4
- Tanggal Sandar *(Date of Berthed)*	:	Jam *(hours)* : 10.00.00 Lokasi *(Location)*	: Kalijapat 4
- Tanggal diperiksa *(Date of Examination)*	:	Jam *(hours)* : 11.00.00 Lokasi *(Location)*	: Kalijapat 4
- Tanggal Penerbitan *(Date Of Issued)* SSCEC/SSCC Lama *(latest)*			: 19/03/2025
- Tempat Penerbitan *(Port Of Issued)* SSCEC/SSCC Lama *(latest)*			: Tanjung priok

C. HASIL PEMERIKSAAN *(EXAMINATION RESULTS)*

NO.	JENIS PEMERIKSAAN *(EXAMINATION ITEM)*	ADA *(AVAILABLE)* / TIDAK ADA *(NOT AVAILABLE)*	KET. *(REMARK)*
1	Faktor Risiko *(risk factor)*	TIDAK ADA (NOT AVAILABLE)	-
2	Kelengkapan Dokumen *(completeness of documents)*		
	- Sertifikat P3k Kapal *(medicine certificate)*	ADA (AVAILABLE)	-
	- Buku Kesehatan *(health book)*	ADA (AVAILABLE)	-
	- Daftar Vaksinasi *(vaccination list)*	ADA (AVAILABLE)	-
	- Catatan Perjalanan *(voyage memo)*	ADA (AVAILABLE)	-
	- Data Umum Kapal *(Ship particular)*	ADA (AVAILABLE)	-
3	Faualitas Medik *(medical facilities)*		
	- Ruang Pemeriksaan *(examination room)*	ADA (AVAILABLE)	-
	- Tenaga Kesehatan *(medic / paramedic)*	ADA (AVAILABLE)	-
	- Obat – obatan *(medicines)*	ADA (AVAILABLE)	-
4	Dilakukan tindakan penyehatan *(measure)*	TIDAK ADA (NOT AVAILABLE)	-
5	Jenis Tindakan Penyehatan yang dilakukan *(measure's type)*		
	- Hapus tikus *(Deratization)*	TIDAK ADA (NOT AVAILABLE)	-
	- Hapus serangga *(Desincection)*	TIDAK ADA (NOT AVAILABLE)	-
	- Hapus kuman *(Desinfection)*	TIDAK ADA (NOT AVAILABLE)	-
	- Hapus bibit penyakit menular *(Decontamination)*	TIDAK ADA (NOT AVAILABLE)	-

D. REKOMENDASI *(recomendation)*

V Diterbitkan SSCEC (issued SSCEC)

Tanjung Priok, 11/09/2025

Mengetahui *(Knowledge by)*
Nahkoda (Master) / Perwira Jaga (Officer on Charge)

(WAHYU KURNIAWAN)
NIP. 19950410202012100 5

(CUKUP SUGIANTO, SST)
NIP. 19870903200912100 2

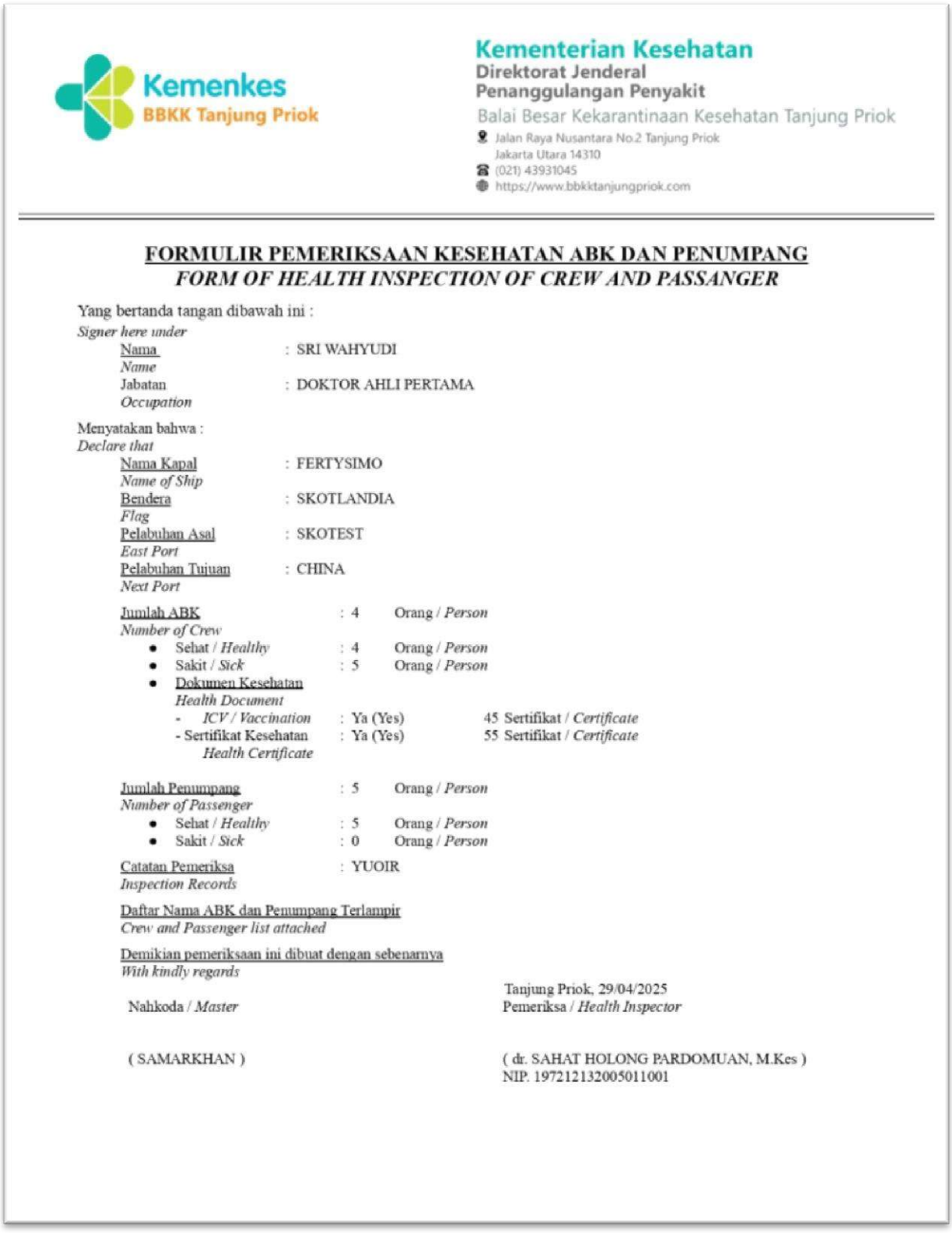
(BAGIYANTO)

(-)
NIP. -

Figure 5. BO 2 Ship Renewal SSCEC / SSCC

Figure 5 The following is a display of the input results from the BO 2 Ship Renewal SSCEC / SSCC Ship Inspection menu

The Ship Health Inspection on Crew and Passengers menu is used to conduct health checks on crew members and passengers. The examination includes identifying symptoms of infectious diseases, travel health history, vaccination status, and other health risk factors. The examination data is recorded in the EQSHA system to support surveillance activities and early detection of potential public health incidents.



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FORMULIR PEMERIKSAAN KESEHATAN ABK DAN PENUMPANG
FORM OF HEALTH INSPECTION OF CREW AND PASSANGER

Yang bertanda tangan dibawah ini :
Signer here under
Nama : SRI WAHYUDI
Name
Jabatan : DOKTOR AHLI PERTAMA
Occupation

Menyatakan bahwa :
Declare that
Nama Kapal : FERTYSIMO
Name of Ship
Bendera : SKOTLANDIA
Flag
Pelabuhan Asal : SKOTEST
East Port
Pelabuhan Tujuan : CHINA
Next Port

Jumlah ABK : 4 Orang / *Person*
Number of Crew
- Sehat / *Healthy* : 4 Orang / *Person*
- Sakit / *Sick* : 5 Orang / *Person*
- Dokumen Kesehatan
  Health Document
  - *ICV / Vaccination* : Ya (Yes) 45 Sertifikat / *Certificate*
  - Sertifikat Kesehatan : Ya (Yes) 55 Sertifikat / *Certificate*
    Health Certificate

Jumlah Penumpang : 5 Orang / *Person*
Number of Passenger
- Sehat / *Healthy* : 5 Orang / *Person*
- Sakit / *Sick* : 0 Orang / *Person*

Catatan Pemeriksa : YUOIR
Inspection Records

Daftar Nama ABK dan Penumpang Terlampir
Crew and Passenger list attached

Demikian pemeriksaan ini dibuat dengan sebenarnya
With kindly regards

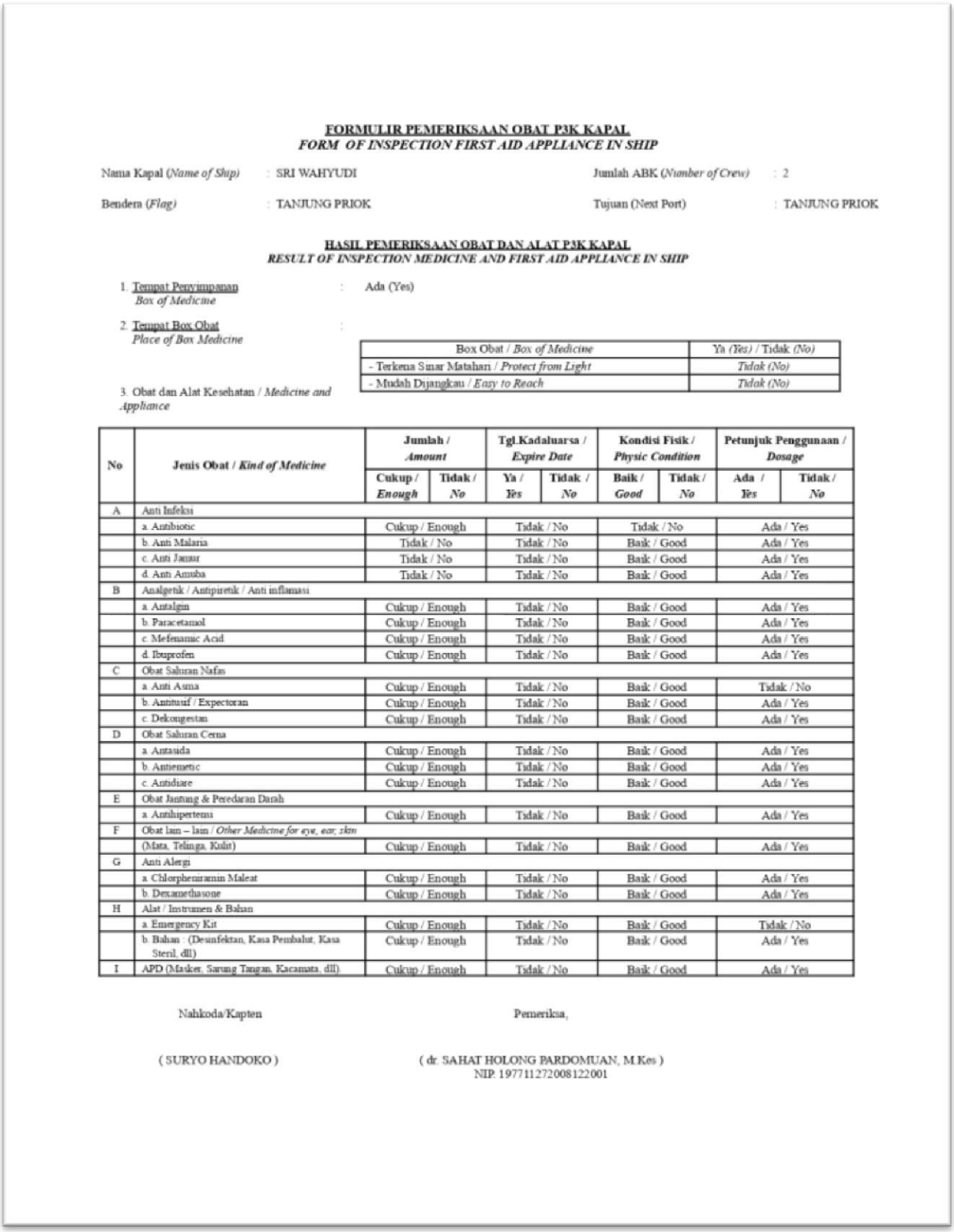
Tanjung Priok, 29/04/2025
Nahkoda / *Master* Pemeriksa / *Health Inspector*

(SAMARKHAN) (dr. SAHAT HOLONG PARDOMUAN, M.Kes)
NIP. 197212132005011001

Figure 6. BO 3 Ship Health Inspection menu on Crew and Passengers

Figure 6 The following is a display of the input results from the BO 3 Ship Health Inspection menu on Crew and Passengers

The Ship Medical Supplies Inspection menu is used to check the availability and suitability of medicines and medical equipment on board. Inspections cover the type of medication, quantity supplied, expiration date, storage conditions, and completeness of first aid equipment. This inspection aims to ensure the ship has adequate health facilities during the voyage and is capable of handling health emergencies on board.



FORMULIR PEMERIKSAAN OBAT P3K KAPAL
FORM OF INSPECTION FIRST AID APPLIANCE IN SHIP

Nama Kapal (*Name of Ship*) : SRI WAHYUDI — Jumlah ABK (*Number of Crew*) : 2

Bendera (*Flag*) : TANJUNG PRIOK — Tujuan (Next Port) : TANJUNG PRIOK

HASIL PEMERIKSAAN OBAT DAN ALAT P3K KAPAL
RESULT OF INSPECTION MEDICINE AND FIRST AID APPLIANCE IN SHIP

1. Tempat Penyimpanan / *Box of Medicine* : Ada (Yes)

2. Tempat Box Obat / *Place of Box Medicine* :

Box Obat / *Box of Medicine*	Ya *(Yes)* / Tidak *(No)*
- Terkena Sinar Matahari / *Protect from Light*	*Tidak (No)*
- Mudah Dijangkau / *Easy to Reach*	*Tidak (No)*

3. Obat dan Alat Kesehatan / *Medicine and Appliance*

No	Jenis Obat / *Kind of Medicine*	Jumlah / *Amount*		Tgl.Kadaluarsa / *Expire Date*		Kondisi Fisik / *Physic Condition*		Petunjuk Penggunaan / *Dosage*	
		Cukup / *Enough*	Tidak / *No*	Ya / *Yes*	Tidak / *No*	Baik / *Good*	Tidak / *No*	Ada / *Yes*	Tidak / *No*
A	Anti Infeksi								
	a. Antibiotic	Cukup / Enough		Tidak / No		Tidak / No		Ada / Yes	
	b. Anti Malaria	Tidak / No		Tidak / No		Baik / Good		Ada / Yes	
	c. Anti Jamur	Tidak / No		Tidak / No		Baik / Good		Ada / Yes	
	d. Anti Amuba	Tidak / No		Tidak / No		Baik / Good		Ada / Yes	
B	Analgetik / Antipiretik / Anti inflamasi								
	a. Antalgin	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	b. Paracetamol	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	c. Mefenamic Acid	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	d. Ibuprofen	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
C	Obat Saluran Nafas								
	a. Anti Asma	Cukup / Enough		Tidak / No		Baik / Good		Tidak / No	
	b. Antitusif / Expectoran	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	c. Dekongestan	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
D	Obat Saluran Cerna								
	a. Antasida	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	b. Antiemetic	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	c. Antidiare	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
E	Obat Jantung & Peredaran Darah								
	a. Antihipertensi	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
F	Obat lain – lain / *Other Medicine for eye, ear, skin*								
	(Mata, Telinga, Kulit)	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
G	Anti Alergi								
	a. Chlorpheniramin Maleat	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
	b. Dexamethasone	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
H	Alat / Instrumen & Bahan								
	a. Emergency Kit	Cukup / Enough		Tidak / No		Baik / Good		Tidak / No	
	b. Bahan : (Desinfektan, Kasa Pembalut, Kasa Steril, dll)	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	
I	APD (Masker, Sarung Tangan, Kacamata, dll)	Cukup / Enough		Tidak / No		Baik / Good		Ada / Yes	

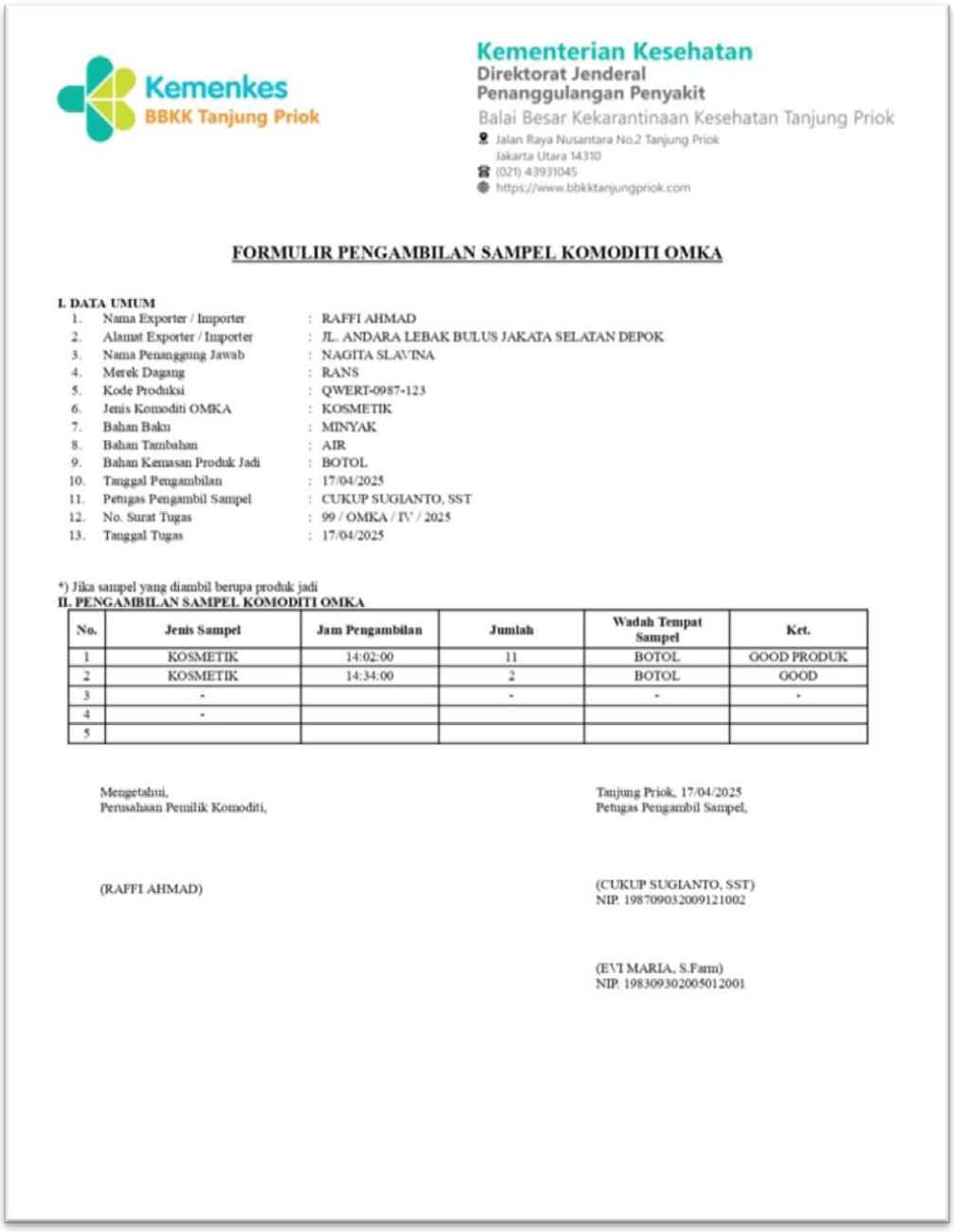
Nahkoda/Kapten — Pemeriksa,

(SURYO HANDOKO) — (dr. SAHAT HOLONG PARDOMUAN, M.Kes)
NIP. 19771127200812001

Figure 7. BO 3 Ship Medical Supplies Inspection

Figure 7 The following is a display of the input results from the BO 3 Ship Medical Supplies Inspection menu

The Commodity Sample Collection (If Required) menu is used to support commodity sampling activities if indications of health risk factors requiring further laboratory testing are found. Samples that can be collected include clean water, food, beverages, waste, or other commodities that have the potential to transmit disease. The entire sampling process is recorded in the EQSHA application, facilitating tracking, laboratory testing, and follow-up on inspection results.



Kementerian Kesehatan
Direktorat Jenderal
Penanggulangan Penyakit
Balai Besar Kekarantinaan Kesehatan Tanjung Priok
Jalan Raya Nusantara No.2 Tanjung Priok
Jakarta Utara 14310
(021) 43931045
https://www.bbkktanjungpriok.com

FORMULIR PENGAMBILAN SAMPEL KOMODITI OMKA

I. DATA UMUM

1.	Nama Exporter / Importer	:	RAFFI AHMAD
2.	Alamat Exporter / Importer	:	JL. ANDARA LEBAK BULUS JAKATA SELATAN DEPOK
3.	Nama Penanggung Jawab	:	NAGITA SLAVINA
4.	Merek Dagang	:	RANS
5.	Kode Produksi	:	QWERT-0987-123
6.	Jenis Komoditi OMKA	:	KOSMETIK
7.	Bahan Baku	:	MINYAK
8.	Bahan Tambahan	:	AIR
9.	Bahan Kemasan Produk Jadi	:	BOTOL
10.	Tanggal Pengambilan	:	17/04/2025
11.	Petugas Pengambil Sampel	:	CUKUP SUGIANTO, SST
12.	No. Surat Tugas	:	99 / OMKA / IV / 2025
13.	Tanggal Tugas	:	17/04/2025

*) Jika sampel yang diambil berupa produk jadi

II. PENGAMBILAN SAMPEL KOMODITI OMKA

No.	Jenis Sampel	Jam Pengambilan	Jumlah	Wadah Tempat Sampel	Ket.
1	KOSMETIK	14:02:00	11	BOTOL	GOOD PRODUK
2	KOSMETIK	14:34:00	2	BOTOL	GOOD
3	-		-	-	-
4	-				
5					

Mengetahui,
Perusahaan Pemilik Komoditi,

(RAFFI AHMAD)

Tanjung Priok, 17/04/2025
Petugas Pengambil Sampel,

(CUKUP SUGIANTO, SST)
NIP. 198709032009121002

(EVI MARIA, S.Farm)
NIP. 198309302005012001

Figure 8. Commodity Sample Collection (If Required)

Figure 8 The following is a display of the input results from the Commodity Sample Collection menu (If Required)

This form process occurs because officers record digitally through the EQSHA application, including inputting the officer's email so that the data will be automatically entered into the officer's email to facilitate the data collection process in the field and decision-making regarding the necessary quarantine measures. These six menus form an integrated Boarding Official service flow within the EQSHA application. The process begins with ship quarantine inspections, hygiene and sanitation inspections, issuance of ship sanitation certificates, crew and passenger health checks, medication and medical equipment checks, and commodity sampling if necessary. Integrating all processes within a single digital platform improves service effectiveness, data accuracy, reporting speed, inspection process transparency, and supports real-time decision-making within the Tanjung Priok BBKK.

3.2 Service Performance Measurement Results

Based on the analysis of quantitative data from 42 operational staff respondents, the following results indicate improvements in service performance after implementing the EQSHA application:

Table 1. Service Performance Measurement

Performance Indicators	Before EQSHA	After EQSHA	Percentage Improvement
Speed of the ship boarding process	65%	87%	22%
Service effectiveness	67%	89%	22%
Accuracy of health data recording	70%	92%	22%
Reporting and monitoring efficiency	68%	90%	22%
Data transparency and integration	66%	88%	22%

The research results showed that the highest performance indicator was health data recording accuracy, reaching 92%. This demonstrates that the use of a digital system can minimize data recording errors that were previously common in manual processes. Furthermore, reporting and monitoring efficiency increased to 90% because examination data can be directly monitored by officers and management through the EQSHA system. The speed of the ship's official boarding process also increased to 87% because document validation was carried out digitally and integrated.

4. CONCLUSION

Based on research results, the implementation of the Electronic Quarantine Sanitation Health and Assessment (EQSHA) application at the Tanjung Priok Health Quarantine Center (BBKK) has proven to be able to support the implementation of ship boarding officials more effectively, efficiently, and integratedly. The digitization of the inspection process through the Ship Inspection in Quarantine, Ship Hygiene and Sanitation Inspection, Ship Renewal SSCEC/SSCC, Ship Health Inspection on Crew and Passengers, Ship Medical Supplies Inspection, and Commodity Sample Collection menus has improved the quality of port health quarantine services. The study results show that the implementation of the EQSHA application has significantly improved performance, marked by an 89% increase in service effectiveness, an 87% increase in official boarding process speed, a 92% increase in health data recording accuracy, a 90% increase in reporting efficiency and real-time monitoring, and an 88% increase in data transparency and integration. These achievements demonstrate that the digital system is able to reduce manual administrative processes, minimize data recording errors, and accelerate decision-making by officers. In addition to improving operational performance, the EQSHA application also supports strengthening port health monitoring functions through centralized, documented, and easily accessible data management. This system facilitates real-time monitoring, evaluation, and reporting of ship inspection results, thus supporting efforts to prevent and control public health risks in port areas. Although some challenges remain, such as limited internet access and the need to improve user competency, overall, the EQSHA application has made a significant contribution to the digital transformation of health quarantine services. Therefore, further development through technological infrastructure enhancements, integration with the national health system, and ongoing training for officers is necessary to optimize the use of the EQSHA application as a modern, responsive, and sustainable port health service system.

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