

MARITIME SAFETY : A STUDY ON PENANG FERRIES

MUGESWARAN A/L MUTHAIAH

FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU
2011

1100085150



LP 26 FMSM 1 2011



1100085150
Maritime safety : a study on Penang ferries / Yugeswaran
Muthaiah.

PERPUSTAKAAN SULTANAH NUR ZAHIRAH
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

1100085150

| | | |
|------------|--|--|
| 1100085150 | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Lihat sebelah

HAK MILIK
PERPUSTAKAAN SULTANAH NUR ZAHIRAH UMT



**DEPARTMENT OF NAUTICAL SCIENCE AND MARITIME
TRANSPORTATION
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE**

**DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled: **Maritime Safety: A Study On Penang Ferries** by **Yugeswaran A/L Muthaiah**, Matric No. **UK 15357** have been examined and all errors identified have been corrected. This report is submitted to the Department of Nautical Science and Maritime Transportation as partial fulfillment towards obtaining the Degree **B. Sc. Nautical Science and Maritime Transportation**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

Verified by:

Principal Supervisor

TN. HJ. ABDUL RAHIM IBRAHIM
Lecturer
Department of Maritime Management
Faculty of Maritime Studies and Marine Science
Universiti Malaysia Terengganu (UMT)
21030 Kuala Terengganu.

Name:

Official stamp:

Date: 21-4-2011

Second Supervisor (where applicable)

Name:

Official stamp:

Date:

Head of Department of Nautical Science and Maritime Transportation

Name:


Official stamp:

CAPT. BOND RAIH BIN FADEL, CMILT
Ketua
Jabatan Sains Nautik dan Pengangkutan Maritim
Fakulti Pengajian Maritim dan Sains Nautik
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

Date: 26/4/2011

DECLARATION

I hereby declare that this thesis entitled **Maritime Safety: A Study On Penang Ferries** is a result of my own research except as cited in the references.

Signature : 

Name : Yugeswaran A/L Muthaiah

Matrix No. : UK 15357

Date : 21 April 2011

ACKNOWLEDEMENTS

First and foremost, I would like to express my gratitude to God, as without His blessings I would not have done my final year project successfully and complete my requirement for Bachelor's Degree in Science (Nautical Science and Maritime Transportation). I would like express my love and appreciation to my family members, especially my parents for their moral and financial support to make this thesis a success.

Secondly, is to my supervisor, Tuan Haji Abdul Rahim Ibrahim, for his invaluable advice, comments, guidance and encouragement throughout this final year project. His comments and advices played a very important role in the success of this thesis and also my academic performance. Not also forgetting Captain Mohd Naim bin Fadzil, Captain Noor Apandi Osnin, Mr. Ahmad Faizal bin Ahmad Fuad and Mr. Juhaizi Mohd Yusof, who gave me lots of advices and guidelines during my project. Without their help and guidance, I would have not been done my project on my own.

My special thanks go to the Penang Port Sdn. Bhd. staffs especially Captain Ruslan bin Aziz (Head of Marine Operations Unit), Mr. Fisnol Aion bin Mahmud (Head of Ferry Services Unit), Mr. Mohd Shahar bin Rashid (Manager Administration of Ferry Services Unit), and Mr. Abdul Rahim bin Zainol Abidin (Technical Executive of Ferry Services Unit) who helped me during my data collection for my project. In addition, I would like to thank my beloved friends especially Kalaivani Varadarajan who have helped me in many ways and encouraged me throughout my project.

Finally, I would like to take this opportunity to express my heartfully thanks to everyone that has helped me directly and indirectly to fulfill my Final Year Project.

Thank you everyone for all the supports.

TABLE OF CONTENTS

| | Page |
|--|---|
| Thesis Qualification and Verification Form | i |
| Declaration | ii |
| Acknowledgements | iii |
| Table of Contents | iv |
| List of Figures | vii |
| List of Appendices | viii |
| Abstract (in English) | ix |
| Abstrak (in Bahasa Malaysia) | x |
| | |
| CHAPTER 1 | INTRODUCTION AND OBJECTIVES |
| 1.1 | Background of the Research 1 |
| 1.2 | Brief Background of Penang Ferries 2 |
| 1.3 | Location of Research 3 |
| 1.4 | Definition of Ferry 4 |
| 1.5 | Definition of Safety 4 |
| 1.6 | Problem Statements 5 |
| 1.7 | Objectives 6 |
| 1.8 | Scope of Research 6 |
| 1.9 | Significances of Research 6 |
| 1.10 | Research Framework 7 |
| | |
| CHAPTER 2 | LITERATURE REVIEW |
| 2.1 | Introduction 8 |
| 2.2 | Ferry safety in developing countries 8 |
| 2.3 | The Realm of Responsibility for Ferry Disasters in Developing Nations 10 |
| 2.4 | Safety Regulations For Non- Convention Vessels: The Imo Approach 12 |
| 2.5 | Safety of Passengers by Laws 13 |
| 2.6 | Safety of Passengers 13 |

| | | | |
|------------------|-------|---|----|
| | 2.7 | Life-saving appliances | 16 |
| | 2.8 | Fire Fighting Equipments | 16 |
| CHAPTER 3 | | METHODOLOGY | |
| | 3.1 | Introduction | 18 |
| | 3.1.1 | Data Collection Methodology | 19 |
| | 3.2 | Questionnaires | 20 |
| | 3.3 | Data Analysis | 22 |
| CHAPTER 4 | | RESULTS | |
| | 4.1 | Introduction | 23 |
| | 4.2 | Demographics Study | 24 |
| | 4.2.1 | Demography by Gender | 24 |
| | 4.2.2 | Demography by Race | 24 |
| | 4.2.3 | Demography by Age | 25 |
| | 4.2.4 | Demography by Frequency of Use of the Ferry | 25 |
| | 4.3 | Satisfactory of Passengers on Life Jackets, Fire Extinguisher and Ferry's Safety Features | 26 |
| | 4.3.1 | Life Jackets | 26 |
| | 4.3.2 | Fire Extinguisher | 32 |
| | 4.3.3 | Ferry's Safety Features | 34 |
| | 4.4 | Satisfactory of Passenger on Ferry Crew | 36 |
| | 4.5 | Satisfactory of Passenger on Safety Level of Ferry | 38 |
| | 4.6 | Interview Results | 40 |
| | 4.6.1 | Interview Session with Mr. Abdul Rahim bin Zainol Abidin (Technical Executive of Ferry Services Unit) | 40 |
| CHAPTER 5 | | DISCUSSION | |
| | 5.1 | Introduction | 43 |
| | 5.2 | Discussion on Demography Study | 43 |
| | 5.3 | Discussion on Satisfactory of Passengers on Life Jackets, Fire Extinguisher and Ferry's Safety Features | 44 |

| | | |
|------------------|---|----|
| 5.3.1 | Life Jackets | 44 |
| 5.3.2 | Fire Extinguishers | 45 |
| 5.3.3 | Ferry's Safety Features | 45 |
| 5.4 | Satisfactory of Passenger on Ferry Crews and Safety Level of Ferry | 46 |
| 5.5 | Results of Interview | 46 |
| CHAPTER 6 | CONCLUSION AND/OR RECOMMENDATIONS | |
| 6.1 | Introduction | 48 |
| 6.2 | Conclusion | 48 |
| 6.3 | Recommendations | 49 |
| | References | 50 |
| | Appendices | |
| | Curriculum Vitae | |

LIST OF FIGURES

| | Page | |
|-------------|--|----|
| Figure 1.0 | Research Framework | 7 |
| Figure 3.1 | Data Collection Methodology Flowchart | 19 |
| Figure 4.1 | Genders of the Respondents | 24 |
| Figure 4.2 | Races of the Respondents | 24 |
| Figure 4.3 | Age of the Respondents | 25 |
| Figure 4.4 | Frequency of Use of the Ferry | 25 |
| Figure 4.5 | Life Jackets | 26 |
| Figure 4.6 | Locations of the Life Jackets | 27 |
| Figure 4.7 | Life Jacket Conditions | 28 |
| Figure 4.8 | Numbers of Life Jacket | 28 |
| Figure 4.9 | Children's Life Jackets' Location | 29 |
| Figure 4.10 | Numbers of Children's Life Jacket | 30 |
| Figure 4.11 | Life Jacket Symbol | 30 |
| Figure 4.12 | Ability to Don Life Jacket | 31 |
| Figure 4.13 | Fire Extinguishers | 32 |
| Figure 4.14 | Condition of the Fire Extinguishers | 32 |
| Figure 4.15 | Numbers of Fire Extinguishers | 33 |
| Figure 4.16 | Condition of the Ferry | 34 |
| Figure 4.17 | Secured Feeling of Passengers | 34 |
| Figure 4.18 | Location of the Emergency Plan | 35 |
| Figure 4.19 | Congestion of Passengers | 36 |
| Figure 4.20 | Safety Measures | 36 |
| Figure 4.21 | Competency of Ferry Crews | 37 |
| Figure 4.22 | Crews Handling the Onboard Equipments | 38 |
| Figure 4.23 | Implementation of Safety Steps by Ferry Crew | 38 |
| Figure 4.24 | Seaworthiness of the Ferries | 39 |

LIST OF APPENDICES

Appendix

- A Questionnaires
- B Specifications of the Ferries
- C Annual Docking Schedule of *Pulau Undan* ferry
- D Passenger Certificate
- E Application for Ferry Inspection to Marine Department

ABSTRACT

This research is conducted onboard the ferries at Sultan Abdul Halim Jetty at Pulau Pinang and Ferry Services Unit office of Penang Port Sdn. Bhd. This research mainly focuses on perception of passengers on safety onboard the Penang ferries and the ferries' safety status. Safety is the most important matter in marine transportation. To get the research data, 150 questionnaires were given to the passengers of the ferries and researcher interviewed one, Technical Executive of the Ferry Services Unit staff. Questionnaires results analysed using Google Document form. Passengers within age group of 20-30 years old were the majority of the respondents of the questionnaires. Most of the passengers showed their dissatisfaction on the location of the children's life jackets and they stated that the ferry crew did not brief them on safety measures to be taken when onboard the ferries. The interview results with Ferry Services Unit staff showed that they implemented standard safe practices and all safety features for passenger ships as required by *Merchant Shipping Ordinance, 1952* and by the Marine Department of Peninsula Malaysia. It can be concluded that the ferries that are operating in Penang are safe but at the same time they can still be improved in certain aspects for the safety and the convenience of the passengers.

Keselamatan Marin: Kajian Terhadap Feri Pulau Pinang

ABSTRAK

Kajian ini dilakukan di atas feri penumpang di Terminal Sultan Abdul Halim di Pulau Pinang dan pejabat Unit Perkhidmatan Feri, Penang Port Sdn. Bhd. Penyelidikan ini tertumpu kepada perspektif penumpang terhadap keselamatan feri Pulau Pinang dan status keselamatan feri tersebut. Keselamatan adalah perkara yang paling penting dalam pengangkutan laut. Untuk mendapatkan data kajian, 150 set borang soal selidik diberikan kepada para penumpang feri dan penyelidik juga menemu ramah salah seorang kakitangan Unit Perkhidmatan Feri, iaitu Eksekutif Teknikal. Keputusan borang soal selidik dianalisis menggunakan "Google Document Form". Penumpang dalam kumpulan umur 20-30 tahun adalah majoriti responden kajian tersebut. Sebahagian besar penumpang menunjukkan ketidakpuasan mereka kepada lokasi jaket keselamatan kanak-kanak dan mereka menyatakan krew feri tidak menerangkan tentang langkah keselamatan yang perlu diambil ketika berada di atas feri. Keputusan temu ramah dengan staf Unit Perkhidmatan Feri menunjukkan bahawa mereka mengamalkan *standard safe practices* dan semua ciri keselamatan untuk sesebuah kapal penumpang seperti yang termaktub di dalam *Ordinan Kapal Saudagar, 1952* dan peraturan Jabatan Laut Semenanjung Malaysia. Kesimpulannya, feri Pulau Pinang yang beroperasi berada dalam keadaan selamat dan memuaskan tetapi pada masa yang sama masih boleh dipertingkatkan dalam aspek tertentu untuk keselamatan dan keselesaan penumpang.