



**DEPARTMENT OF BUILDING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

**RENOVATION IN CONSTRUCTION:
DEFECT LIABILITY PERIOD**

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STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references stated herein, prepared during a practical training session that I underwent at MAJLIS BANDARAYA JOHOR BAHRU for duration of 20 weeks starting from 23 August 2021 and ended on 7 January 2022. It is submitted as one of the prerequisite requirements of BGN310 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building.

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I want to thank Him for gifting me with patience and tenacity of mind to complete the Internship report. It is certainly a prerequisite for me to receive my Diploma in Building with flying colors, and I have gotten amazing assistance from many sources, which I would want to acknowledge here with great joy and thanks.

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Furthermore, I would like to thank my wonderful family and friends who supports me through thick and thin, help me to get through my internship with flying color and ease.

Thank you for all the contribution and may Allah SWT grant His blessing.

ABSTRACT

This industrial training report of Muhammad Afif Akmal bin Mohd Shafiee to undergo an industrial training for duration of 4 month which consist of 20 weeks before completing the Diploma in Building. Student are required to do practical training from 23rd August to 7th January 2022. The purpose of this program is to fulfill the course to complete the Diploma in Building in order to graduate from Universiti Teknologi MARA (UiTM). The training refers to work experience that is relevant to professional development prior to graduate. In the first chapter of this report, is an overview explained about what tasks that have been given and the flow of work. It describes the summary of the duties and various tasks in weekly of industrial training activities that carried out. In the next chapter, it is about the company profile where contains the company background, organization structure, nature of business and the administration area.

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CHAPTER 1.0

INTRODUCTION

1.1 BACKGROUND STUDY

Renovation is the process of improving or modernizing an old, damaged, or defective building in the construction industry. This contrasts with 'retrofitting,' which is the addition of a component or feature that was not originally installed, or 'refurbishment,' which is the process of improving something by cleaning, decorating, or re-equipping. Renovation is quite popular this day because it is one of the efficient ways to preserve old and worn building. So, that's why it popular for people to buy run-down properties, typically houses, and renovate them to increase their worth. Renovation work can be divided into two categories, which is cosmetic and structural. For structural, it consists of extensions, loft conversions, construction of a basement, redesign of floor plans, re-wiring, and re-plumbing. For cosmetic, it consists of painting and other forms of decoration and minor repair such as flooring, updating fixtures and fittings and light landscaping

Defect Liability Period is defined as the period from the date you receive delivery of vacant possession and keys to your property, where the developer is responsible to fix any defects. It's crucial to understand that the Housing Development Act (HDA) only covers buildings and developments with a Residential title, therefore not all new developments come with a DLP. The DLP is 24 months under HDA Malaysia, starting on the day you receive your keys. During this time, the homeowner must inspect the property for any damage, faults, or poor or faulty workmanship. Any problems should be reported to the developer so that they can be fixed for free.

1.2 OBJECTIVE

There are some objectives Defect Liability period, which is

- To able to understand what defect liability period all is about.
- To solve the problem associated to defect
- To understand the process of renovation in construction

These are some of the main objectives of conducting a renovation. Thus, it is important to know the main purpose of renovation and understand the pros and cons of it.

1.3 SCOPE OF STUDY

The case study been carried out on site located on Menara Majlis Bandaraya Johor Bahru. This was due to the building fully constructed on 1 January 2020. After the tower fully constructed, the developer who is Astaka Padu Sdn Bhd together with Facility Management, Lubuk Permata Sdn bhd and Department of Building project need to conduct an inspection. The purpose of this inspection is to search for any defect on the tower due to Defect Liability Period. Defect Liability Period is the period from the date you receive delivery of vacant possession and keys to your property, where the developer is responsible to fix any defects. Under House Development act (HAD), Defect Liability Period is 24 months long.

During this time, department of building together with facility management will need to check for any damage, defects, as well as poor or faulty workmanship need to be reported back to the developer to get them repaired for free. My targets on these studies are to learn how to fix any defect on a building and how it will affect the building for a long time. I also get to explore the proper way to do renovation or rectification that follow rules and regulation.

1.4 METHOD OF STUDY

There are 3 types of method that been used in these studies which are observation, document reviews and interviews. Each of them makes useful information on describing on the details for **Renovation in Construction: Defect Liability Period.**

I. Observation

The observation was carried out at Menara Majlis Bandaraya Johor Bahru. The observation took around 4 months since the Defect liability Period took 6 to 24 months to complete. I observed the maintenance and installation that occur on Menara MBBB. There are some maintenance works that I can do and some I don't. During my observation, there's a lot of things that I've learn like basic skills on doing construction work that I can applied in life.

II. Document review

For document reviews, there are documents that been provided as a reference on installations, maintenance, and repairs on defect liability period. While in office, there is document such as architectural drawing, tender and contract, and engineering drawing that can be use a reference to understand the terms.

III. Interview

As for interview part, practical student was exposed on-site inspection. So, practical student could ask the workers about defect and how to solve it using proper method. They do share a lot of information and the explanation were written in notes for further references.

CHAPTER 2.0

COMPANY BACKGROUND

2.1 INTRODUCTION TO COMPANY

Majlis Bandaraya Johor Bahru (MBJB) is a local council in Johor, Malaysia that administers the Johor Bahru city centre and other areas of the Iskandar Malaysia area. This agency reports to the Johor state government. MBJB oversee public health and sanitation, waste removal and management, town planning, environmental protection and building control, social and economic development, and general urban infrastructure maintenance.

On January 1, 1896, Johor Bahru was named the capital and administrative center of the Johor Darul Ta'zim State Government. The Majlis Bandaraya Johor Bahru (MBJB) was founded in 1933 as the Lembaga Bandaran, which was then elevated to the Majlis Bandaraya in 1950. Majlis Bandaraya Johor Bahru was elevated to Majlis Perbandaran Johor Bahru in April 1977, and on January 1, 1994, it was upgraded to Majlis Bandaraya Johor Bahru.

Apart from Kuala Lumpur, Kuching, and Kota Kinabalu, Johor Bahru is witnessing significant economic development and has been named one of the most competitive cities in Malaysia. The establishment of the Iskandar Region has resulted in several development benefits, particularly in terms of local and foreign investors' confidence in the city to undertake a variety of high-impact ventures. Public health and sanitation, garbage removal and management, town planning, environmental protection and building control, social and economic development, and general infrastructure maintenance are all MBJB responsibilities. The MBJB's main headquarters are in Johor Bahru's Jalan Dato' Onn.

2.2 COMPANY PROFILE



Figure 2.2.1 Official Logo of MBBJ

I. SYMBOLS MEANING OF SYMBOLS

- **Tiger** - Symbol of courage and firmness in terms of law constitution.
- **Moon and Stars** - Represents Islam as an official religion in the country.
- **Leaves of Gambier and Black Pepper** - Represents economic history of Johor Bahru as the major manufacturer of gambier and black pepper.
- **Circle** - Represents the administration area of Majlis Bandaraya Johor Bahru.
- **State Flag of Johor** - Represents Johor Bahru as the capital and administration centre of state of Johor.
- **Certificate Scroll** - Represents the importance of knowledge in developing the city of Johor Bahru.
- **6 Three Lines in Gold** - Represents the comprehensive control system to achieve brilliance towards one insight.
- **Dark Blue** - Represents Johor Bahru as the centre of industrial that is based on science and modern technology.
- **Green** - Represents the green and beauty of the city of Johor Bahru.
- **Structure** - Represents the strong financial position of MBBJ and its capabilities to provide socioeconomic facilities to the community

TABLE 1.1 SUMMARY OF THE COMPANY

| | |
|------------------|---|
| COMPANY NAME | MAJLIS BANDARAYA JOHOR BAHRU |
| MAYOR NAME | DATO' HAJI MOHD NOORAZAM BIN DATO' HAJI OSMAN |
| ADDRESS | MENARA MBBJ, NO. 1, JALAN LINGKARAN DALAM, BUKIT SENYUM, 80300 JOHOR BAHRU, JOHOR. |
| NO. TEL | 07-219 8000 |
| ESTABLISHED DATE | 1933 |
| TYPE OF SERVICES | Administers the Johor Bahru city centre and other areas of the Iskandar Malaysia area |



Figure 2.2.2 Front & side view of Menara MBBJ

II. Function and Roles

- Planning and controlling the urban development.
- Build and maintain roads in the city.
- Enforcement of municipal legislation.
- Provides health services and control health of the city.
- Landscape for the city.
- Manage eco-friendly channel system.
- Manage traffic and public transport in the city.
- Manage property taxes and support resources.
- Socioeconomic development of the city.
- Control business activities in the city through the issuance of business license.
- Community development.

III. Vision

- Johor Bahru an International, Cultured and Sustain City

IV. Mission

- To establish the organization's role as a strategic driver and facilitator to all the people of interest.
- To ensure a development that is sustainable, prosperous, and strong in cultural identity.
- To prepare an efficient delivery system, high credibility management, efficient resource management and innovated technology for the people of this city.

V. Objective

- High quality, high integrity governance and competent model for human.
- Strengthening the financial and sustainability of the economy of the city.
- Implementing the use of new technology through continuous innovation.
- Services, facilities, and infrastructure that are high in quality.
- Well-being and prosperity are based on high spiritual and social values.
- Encouraging interactive and inclusive public participation in empowering development.
- Balance in the development and environmental sustainability



Figure 2.2.3 MJB Official Portal

2.4 List of Projects

2.4.1 Completed Projects

| No. | Project Titles | Project Value | Start Date | Completion Date | Project Duration | Client |
|-----|--|---------------|------------|-----------------|------------------|--------|
| 1 | Cadangan Membina Dan Meyiapkan Dewan Serbaguna Di Jalan Nibong | - | - | 15.11.2016 | - | |
| 2 | Cadangan Membina Semula Pasar Awam Kg Melayu Majidee | - | - | 10.9.2017 | - | |
| 3 | Cadangan Membina Gelanggang Futsal Di Taman Austin Height | - | - | 31.5.2018 | - | |
| 4 | Cadangan Membina Dewan Serbaguna Di Taman Kobena | - | - | 26.4.2017 | - | |
| 5 | Cadangan Membina Sebuah Gymnasium Satu Tingkat Di Jalan Seri Gelam | - | - | | - | |
| 6 | Cadangan Membina Kendang Simpanan Anjing Dan Kucing | - | - | 6.11.2017 | - | |

CHAPTER 3.0

CASE STUDY

3.1 INTRODUCTION TO CASE STUDY

This chapter is a synopsis of the overall weekly activities carried out during the industrial training. The chapter covering the tasks assigned by the supervisor will be briefly described based on the activities performed written in the reflection journal book. Each activity or task completed will be documented in a daily report book. As a result, this section will provide a brief overview of the activities and tasks that I completed during my 20-week semester of industrial training. All activities will be described from week to week to complete the work completed in a week and to facilitate the review process. The trainees have been exposed to a wide range of new experiences because of their industrial training. In addition to practicing what they learned at university, the trainees have been exposed to the company's rules and ethics, which should be followed every time the trainee is in the company where the trainee is undergoing industrial training.

For the project that I get involved was in Menara Majlis Bandaraya Johor Bahru (MBJB) that was located at No. 1, Jalan Lingkaran Dalam, Bukit Senyum, 80300 Johor Bahru, Johor. During internship program, I get to learn about Defect Liability Period. Defect Liability Period is defined as the period from the date you receive delivery of vacant possession and keys to your property, where the developer is responsible to fix any defects. It's crucial to understand that the Housing Development Act (HDA) only covers buildings and developments with a Residential title, therefore not all new developments come with a DLP. The DLP is 24 months under HDA Malaysia, starting on the day you receive your keys. During this time, the homeowner must inspect the property for any damage, faults, or poor or faulty workmanship. Any problems should be reported to the developer so that they can be fixed for free.

BORANG LAPORAN KEKACATAN/ KEROSAKAN

No. DPA : [] (jika ada)

No. Pukulan : _____ Tanggal : _____

Nama Proyek : _____

No. Kontrak : _____

Skop Kerja : Awam/ Andak/ Ekstak/ Merembul/ Lati – lain*

| No. | Laporan/Kerosakan/ Kekacatan | | Tindakan Pihak Pelaksana/ Agensi Teknikal/ Agensi Khusus | |
|-----|------------------------------|-------------------------------|--|------------------------|
| | Bahan Kerosakan | Lokasi dan Kod DAK (jika ada) | Tindakan dan Tarikh Laporan | Uraian dan Tarikh Siap |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Catatan: _____

Agensi Pihak Pelaksana / Agensi Teknikal / Agensi Khusus : _____

Wakil Kementerian / Jabatan / Agensi / Pelajar : _____

(Cap nama & jawatan) _____

Tarikh : _____

(Cap nama & jawatan) _____

Tarikh : _____

Nota:
 * Pusing mana tidak terkandung
 * Guna borang tambahan/ lampiran (jika perlu)

Figure 3.1.1 Example of Defect Form



BAH C - PENERIMAAN DAN PENYATAAN/SETIA JKR.PATA.F54

BORANG LAPORAN KEKACATAN / KEROSAKAN

No. DPA : [] (jika ada)

No. Pukulan : 215_04_701001 Tanggal : 21/10/2017

Nama Proyek : KEM. JKR. TIK. HIK. BANG. PBT. P. 12. 2017. 000000

No. Kontrak : _____

Skop Kerja : Awam/ Andak/ Ekstak/ Merembul/ Lati – lain*

| No. | LAPORAN KEROSAKAN / KEKACATAN | | TINDAKAN PIHAK PELAKSANA / AGENSI / TEKNIKAL AGENSI KHUSUS | |
|-----|-------------------------------|---|--|------------------------|
| | Bahan Kerosakan | Lokasi dan Kod DAK (jika ada) | Tindakan dan Tarikh Laporan | Uraian dan Tarikh Siap |
| 1. | Kerosakan Tiar | Koridor Selangor Tingkat 3 UB basement Koridor No. 11 | | |
| | | | | |
| | | | | |
| | | | | |

Catatan: _____

Agensi Pihak Pelaksana / Agensi Teknikal / Agensi Khusus : _____

Wakil Kementerian / Jabatan / Agensi / Pelajar : _____

(Cap nama & jawatan) _____

Tarikh : 20/10/2017

(Cap nama & jawatan) _____

Tarikh : 20/10/2017

Nota:
 * Pusing mana tidak terkandung
 * Guna borang tambahan/ lampiran (jika perlu)




Figure 3.1.2 Example of Filled Defect Form

3.2 To able to understand what defect liability period all is about.

During my internship program, I have learned so many things which include about defect liability period. Defect Liability Period is defined as the period from the date you receive delivery of vacant possession and keys to your property, where the developer is responsible to fix any defects. The period of DLP is 6 to 24 months depends on developer and the project itself. When your new property is ready for key collection, the developer will provide a "warranty" for it in case of defects. But, unlike a new TV, you cannot exchange the property for a new one if something goes wrong. Instead, what you must do is to conduct a thorough inspection of your new property. Mark out any issues and get the developer to fix them before the warranty period runs out. This warranty period is commonly known as the 'Defect Liability Period' (DLP).

Based on what I've learned and observed defect liability period on Menara MBBJ, it can be classified into 4 scope of work which consist of civil & structure, mechanical, electrical and houskeeping.

| FCA Work | Electrical | Mechanical | Civil & Structure | Housekeeping | Total | Percentage |
|--------------------|------------|------------|-------------------|--------------|------------|----------------|
| Completed | 135 | 54 | 198 | 0 | 387 | 49.36% |
| Pending Validation | 0 | 0 | 0 | 0 | 0 | 0.00% |
| Not Completed | 0 | 30 | 26 | 0 | 56 | 7.14% |
| Out of DLP Scope | 3 | 311 | 12 | 15 | 341 | 43.49% |
| Total | 138 | 395 | 236 | 15 | 784 | 100.00% |

Table 3.2.1 Analysis of the Closing Summary of the FCA 2021 Report

| | Electrical | Mechanical | Civil & Structure | Housekeeping | Total | Percentage |
|---------------------|------------|------------|-------------------|--------------|-------|------------|
| Out of DLP Scope | 3 | 311 | 12 | 15 | 341 | 100.00% |
| Design | 0 | 308 | 4 | 0 | 312 | 91.50% |
| Vandalism | 3 | 1 | 8 | 2 | 14 | 4.11% |
| Facility Management | 0 | 2 | 0 | 13 | 15 | 4.40% |

Table 3.2.2 Analysis of the Closing Summary of the FCA 2021 Report

For complain that out of DLP scope, consist of 3 scopes of work under scope of design, vandalism, and facility management. All this defect scope will be inspected by Department of Building, Facility management and other department that are involve. This inspection will be held every week to classified and do the rectification before the DLP period end.



Figure 3.2.1 Example of Defect on parking ramp



Figure 3.2.2 Example of Defect on Parking Spot

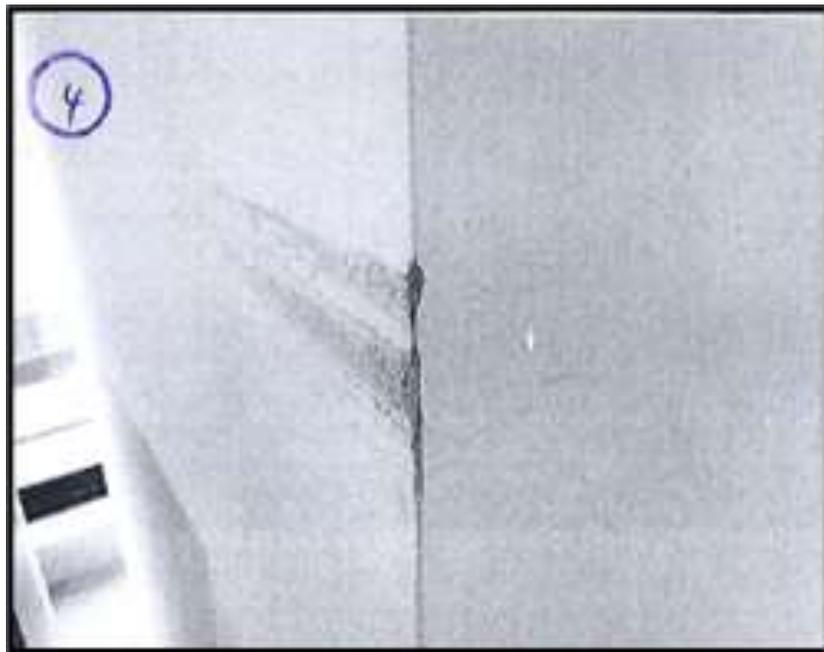


Figure 3.2.3 Example of Defect on Wall

3.3 To solve the problem associated to defect

During the rectification phase, some defects are unpredictable happen and need a good and proper way to fix the problem. This is the important step to make sure that the procedure will keep going without any difficulties, as any defect or delay could affect the project. Thus, any defect will be rectification during the Defect Liability Period for free and handle by the pros.

On-site inspection at Menara Majlis Bandaraya Johor Bahru (MBJB) were made weekly to classify the type of defect based on the scope of work. It can be classified into 4 scope of work which consist of civil & structure, mechanical, electrical and houskeeping.



Figure 3.3.1 Example of Defect on Vandalisme Scope

For the procedure of rectification, as the inspection were made weekly, the selected worker will first determine the main problem and will issue the defect to supervisor in charge. Then, MBBJ admin will held a meeting with the contractor, facility management and department of building to discuss the method statement on fixing the defect. For example, there are a major issue that have been voice which is The Replacement of Broken Windows on Level 15. This method statement and procedure of replacement are discussed together with the party involve ensuring that the replacement will be smooth and ease.

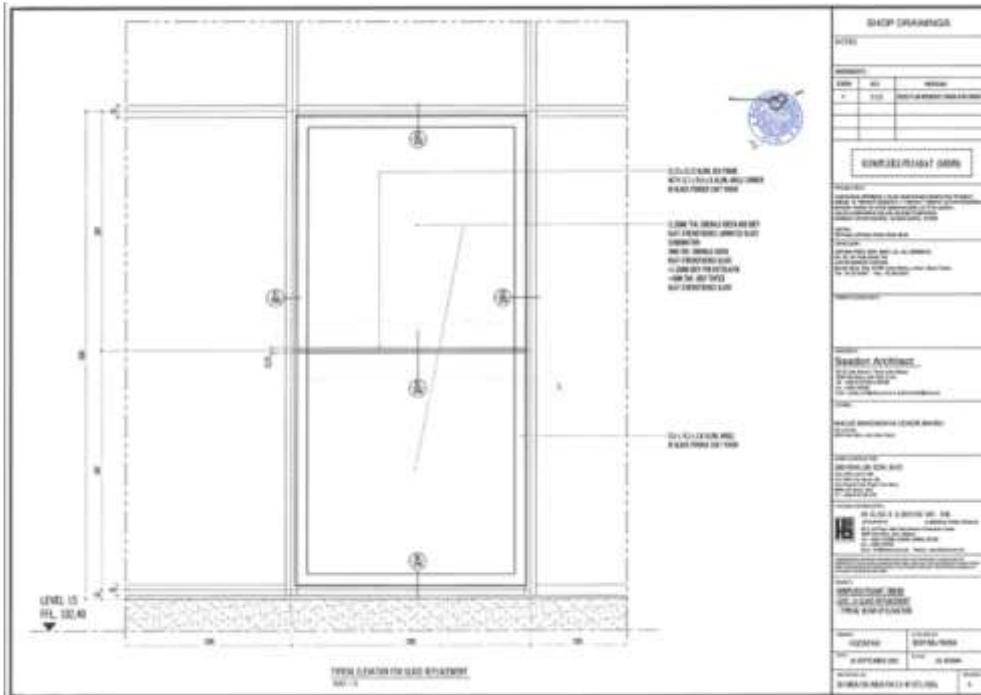


Figure 3.3.2 Drawing proposal of cross section of the glass

To avoid the unavoidable issue, suitable construction stage planning was created. There was a list of jobs that could be completed. As for the defect's rectification, the process will be made by the professional works ensuring the replacement were done successfully

3.4 • To understand the process of renovation in construction

I've learned the process of renovation to reconstruct old buildings. Renovations are typically either commercial or residential. Additionally, renovation can refer to making something new, or bringing something back to life and can apply in social contexts. For example, a community can be renovated if it is strengthened and revived. The renovation process can usually be broken down into several processes: which is planning, set a budget, hire a contractor, start to break down the walls, work on rebuilding and install finishes.

For the first phase which is planning. This is a major step on doing renovation. That includes deciding where to start and making sure you have the time and budget needed to get the work done. First you need to make plan on deciding to rebuild a new one.



Figure 3.4.1 AutoCAD plan of building

Next, you can hire contractor to do your renovation. You need to make search and select a contractor with whom you feel comfortable. If you enter a contract that clearly defines the scope of work up front, it can serve as a useful reference point for you and your contractor throughout the renovation process. Contractor will prepare materials and permit that will follow latest regulation since inspection rules change and vary in different location.

It's demolition time once all your items have arrived at the construction site and have been examined. If more space is being added, framing is usually done. If interior walls are being relocated, this is a good opportunity to install any new windows and doors. Work like plumbing, electrical, heating and air conditioning rough-ins, subfloors, and insulation are often done behind walls, below floors, and above ceilings at this time. For smooth external surfaces, repair, hang drywall, tape, and sand.

After all the work is completed, it's time to put the finishing touches on the room, such as flooring, painting, tiling, and cabinetry, if any are present. Some contractors prefer to finish the flooring first, while others prefer to prime and paint the floor before starting. Finally, final touches and decorations such as final painting, backsplashes, floor sealing, light fixtures, hardware, and any other touch-ups are required. When a remodel is finished, take a minute to relax and appreciate your new surroundings, and perhaps even start planning your next job.

CHAPTER 4.0

CONCLUSION

The overall input of the research concludes the detailed of Defect Liability Period based on the case study. The scope of work for the defect liability period can be divided into four categories: mechanical, electrical, civil and structural, and housekeeping. On the basis of various types of information collection, some scopes of work were thoroughly investigated. This case study provides the most appropriate and straightforward explanation of what the faulty liability period entails. The procedure of defect rectification was outlined step by step, including how to conduct inspections, install equipment, and use appropriate materials and machinery to correct the problem. Defect resolution is a team effort that requires everyone to work together to ensure that things are done correctly.

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