REPUBLIKA NG PILIPINAS
PAMAHALAAN LUNGSOD NG MUNTINLUPA
KALAKHANG MAYNILA
Telephone no. 861-0181/Fax: 862-6473
Email address: sangguniangpanlungsod2k19@gmail.com

RESOLUTION NO. 2020-398

A RESOLUTION REQUIRING SAN MIGUEL CORPORATION (SMC) AND THE ENGINEERING EQUIPMENT INCORPORATED (EEI) TO SUBMIT A COMPLETE INVESTIGATION REPORT ON THE INCIDENT THAT TRANSPIRED ON NOVEMBER 21, 2020 AT THE SKYWAY EXTENSION PROJECT, EAST SERVICE ROAD IN BARANGAY CUPANG, MUNTINLUPA CITY.

****

Sponsored by: ***Hon. Coun. Atty. Raul R. Corro***
Hon. Coun. Alexson V. Diaz
Hon. Coun. Paty Katy C. Boncayao
Hon. Coun. Louisito A. Arciaga
Hon. Coun. Allan Rey A. Camilon
Hon. Coun. Ting Niefes
Hon. Coun. Stephanie G. Teves
Hon. Coun. Ivee Rhia A. Tadefa
Hon. Coun. Engr. Marissa C. Rongavilla
Hon. Coun. Francis Ian T. Bagatsing
Hon. Coun. Mark Lester M. Baes
Hon. Coun. Engr. Mamerto T. Sevilla, Jr.
Hon. Coun. Engr. Arlene D. Hilapo
Hon. Coun. Cornelio M. Martinez
Hon. Coun. Walter A. Arcilla
Hon. Coun. Kenichi D. Takagi, Jr.

****

WHEREAS, SEC. 458 of Republic Act 7160, also known as the Local Government Code of 1991 (Code) provides that, ***"the sangguniang panlungsod, as the legislative body of the city, shall enact ordinances, approve resolutions and appropriate funds for the general welfare of the city and its inhabitants pursuant to Section 16 of the Code and in the proper exercise of the corporate powers of the city as provided for under Section 22 of the Code, adopt measures to protect the inhabitants of the city from the harmful effects of man-made or natural disasters and calamities, and to provide relief services and assistance for victims during and in the aftermath of said disasters or calamities and their return to productive livelihood following said events"***;

WHEREAS, on November 21, a steel bar from a portion of the Skyway Extension project crashed onto passing vehicles in Muntinlupa City, leaving a motorcycle rider dead and at least six others injured;

WHEREAS, the incident happened along East Service Road in Barangay Cupang around 8:50 a.m., where seven (7) vehicles were damaged, including a taxi, van, SUV, and four motorcycles, which were traversing northbound;

WHEREAS, San Miguel Corporation (SMC), the developer of the Skyway Extension Project under a ***Public Private Partnership Scheme*** with the National Government, secured the services of **EEI Corporation** and the latter procured the **Mayon Machineries Inc.,** as its subcontractor/operator of the crane/machine;

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WHEREAS, it is imperative that an investigation should be done to determine whether there is failure of the involved parties to exercise due care in performing such acts or omissions resulting to the mishap/injury;

NOW THEREFORE RESOLVED AS IT IS HEREBY RESOLVED to require San Miguel Corporation (SMC) And The Engineering Equipment Incorporated (EEI) To Submit a Complete Investigation Report On the Incident That Transpired On November 21, 2020 At The Skyway Extension Project, East Service Road In Barangay Cupang, Muntinlupa City.

RESOLVED FURTHER, that SMC and EEI Corporation shall submit the construction/service agreements that they have entered into with the operator/provider of machineries/equipment.

RESOLVED FINALLY, that the written report of SMC and EEI shall be evaluated vis-à-vis with the investigation made by the City Government of Muntinlupa.

ADOPTED, by the **9th Sangguniang Panlungsod of Muntinlupa** this **23rd** day of **November, 2020,** on its **72nd Regular Session**.

CONCURRED:

DISTRICT 1:

COUN. ATTY. RAUL R. CORRO
Member

COUN. ALEXSON V. DIAZ
Member

COUN. PATY KATY C. BONCAYAO
Member

COUN. LOUISITO A. ARCIAGA
Member

COUN. ALLAN REY A. CAMILON
Member

COUN. TING NIEFES
Member

COUN. STEPHANIE G. TEVES
Member

COUN. IVEE RHIA A. TADEFA
Member

DISTRICT 2:

COUN. ENGR. MARISSA C. RONGAVILLA
Member

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Email address: sangguniangpanlungsod2k19@gmail.com

COUN. FRANCIS IAN T. BAGATSING
Member

COUN. MARK LESTER M. BAES
Member

(MATERNITY LEAVE)
COUN. MA. DHESIREE G. AREVALO
Member

COUN. ENGR. MAMERTO T. SEVILLA, JR.
Member

COUN. ENGR. ARLENE D. HILAPO
Member

COUN. CORNELIO M. MARTINEZ
Member

COUN. WALTER A. ARCILLA
President
Sectoral Representative
Association of Barangay Chairman

COUN. KENICHI D. TAKAGI, JR.
President
Sectoral Representative
Federation of Sangguniang Kabataan

I HEREBY CERTIFY, as to the correctness of the foregoing **Resolution.**

CECILIA C. LAZARTE
Secretary to the Sanggunian

ATTESTED:

ARTEMIO A. SIMUNDAC
City Vice-Mayor/Presiding Officer

APPROVED:

ATTY. JAIME R. FRESNEDI
City Mayor

Date: 09 DEC 2020

EEI CORPORATION

A YGC Member
The Power of Synergy

EEI/OP-7255/LGU-L-009-20

25 November 2020

OFFICE OF THE CITY MAYOR
2nd Floor Main Bldg., Muntinlupa City Hall
Manila South Road, Brgy. Putatan
Muntinlupa City

Attention : **HON. JAIME DELA ROSA FRESNEDI**
City Mayor

Subject : METRO MANILA SKYWAY STAGE 2 Upgrade – Sucat – Alabang Viaduct Project
Required documents for November 21, 2020 Incident

Dear Sir :

This is in compliance to your required documents during our meeting on 23 November 2020.

We are submitting herewith **the Certificate of Employment and resume of Crane Operator, Incident Schematic Diagram and Accident Report.** We hope you find everything in order.

We will continue to update you on the investigation and inform you of our actions relating to this incident.

Very truly yours,
EEI CORPORATION

DANTE G. DESEMBRANA
Vice President

Attachment: 1. COE & Resume of Crane Operator – 15 sheets
2. Incident Schematic Diagram – 4 sheets
3. Accident Report - 7 sheets

cc: **ENGR. DYNADELLE N. ARANDA**/Office of City Engineer

Corporate Office & Construction Division:
12 Manggahan St., Bagumbayan
Quezon City 1110, Philippines
Trunkline: (63-2) 634-2677 / (63-2) 635-0351
Fax No.: (63-2) 635-0861

Fabrication Shop:
Barangay Sta. Maria, Bauan,
Batangas, Philippines
Tel. Nos.: (63-43) 727-1601 to 03 / (63-43) 727-1271
Fax No.: (63-43) 727-1721

Email Address: eeicmd@eei.com.ph
Website Address: http://www.eei.com.ph
Mailing Address:
P.O. Box 257 ACPO Cubao, Quezon City, Philippines
P.O. Box 7150 Domestic Airport Post Office, Pasay City 1300, Philippines

November 25, 2020

TO: **Hon. JAIME DELA ROSA FRESNEDI**
City Mayor of Muntinlupa

FROM: **DANTE G. DESEMBRANA**
Project Director, EEI Corporation

SUBJECT: **CRANE ACCIDENT AT SKYWAY SUCAT-ALABANG EXPANSION PROJECT**

1.0 Accident Detailed:

Date: November 21, 2020
Time: Approximately 0850 Hours
Location: Pier 10, East Service Road, Alabang, Muntinlupa City, M.M.

1.1 What happened:

In the morning of Saturday, 21 November 2020, a Telescopic Boom Crawler Crane (130 Ton, Tadano GTC-1200) was to be transported from Pier 10 to its next task location, when it tilted to its side, causing its extended boom to hit a steel girder which crashed onto vehicles on the road below, leaving one dead and injured at least five (5) persons who were rushed to Alabang Medical Center (AMC) and Asian Hospital and Medical center (AHMC).

1.2 Consequences

1 fatality, 5 injuries (2 serious and needing hospitalization plus 3 minor)
6 vehicles (1 taxi, 1 van, 1 utility vehicle, 3 motorcycles)
Fatality of motorcycle rider, two (2) serious and three (3) minor injuries
Heavy traffic along the East Service Road

1.3 Potential Consequences

More minor injuries, unreported property damage.

1.4 Incident Description

On November 21, 2020, a crawler crane owned by Mayon Machinery Rentrade Inc. was parked (facing north) near Pier 10 at the center portion of the East Service Road. The crane, owned by Mayon Machinery Rentrade Inc. and rented out to EEI Corporation, was scheduled to assist in the installation of a pre-cast slab at Pier 25 likewise along East

Service Road. Mr. Enrico N. Gregorio, a Mayon Machinery crane operator, was tasked to transport the crane to the new work location.

As Mr. Gregrio swiveled the crane's cabin counter-clockwise with boom extended, the crane tilted eastward causing the boom to hit the installed uni-bridge steel girder. The steel girder fell onto 6 northbound vehicles traversing the East Service Road, resulting to multiple injuries and property damage. The lone fatality was DOA at the Alabang Medical Clinic, where 3 slightly injured motorists were also brought. Two (2) males with more serious injuries were brought to the Asian Hospital & Medical Center.

2.0 Details of Investigation

2.1 What was different / what had changed from what they normally do?

The crane would have normally been brought to and re-positioned in the next work location at the end of the previous (night) shift instead of the start of the next (morning) shift.

2.2 Similar events

There have not been any similar events in the past.

2.3 Sequence of events

Date / Time	Events
0400 Saturday 21th November 2020	Crawler crane is parked near Span 10 after ended lifting operations at Span 9
0700 Saturday 21th November 2020	Change of shift. A fresh operator (E. N. Gregorio) is tasked to transport the crawler crane to new work location
0840 Saturday 21th November 2020	Crane operator starts-up and prepares crane for transport to PS-25
0848 Saturday 21th November 2020	Crane operator maneuvers backward (2-3 meters) and swivels the cabin in counter-clockwise direction with boom extended
0850 Saturday 21th November 2020	Crane tilts eastward athe uni-bridge girder (span 10). The girder crashes onto vehicles below, leaving at least one person dead and five (5) injured
0855 Saturday 21th November 2020	On site personnel initiates immediate response and rushes the victims to nearby hospitals

3.0 Through interviews and inspections conducted in the course of the investigation, we have gathered the following information:

3.1 This is the first time that Skyway Expansion Project experienced an accident of this nature.

3.2 The crane was used in Uni-bridge installation (Span 9, PS-09 & PS-10) the night before the accident occurred.

3.3 The crane operation ended at 0400 hours, but no evidence of hand-over process before the next shift was found.

3.4 The crane was parked at the pier 10 after the lifting activity. The boom was fully retracted at an extended angle while at rest.

3.5 The load chart prescribes fully extended tracks at boom angle of 76 degrees and fully retracted boom at 42.1 feet.

3.6 The Tadano, GTC-1200 telescopic boom crawler crane was tested and certified (June 3, 2020) by First Philippine Skills and Equipment Testing Corp. (FPSETC).

4.0 Direct / Immediate Cause

The crane cabin swiveled to its side (counter-clockwise) with the boom at an overextended angle and with tracks unextended, causing the crane and boom to tilt, thus hitting the steel girder along the North-bound service road. The girder fell due to the excessive force from the telescopic boom of the crane.

5.0 Indirect / Underlying / Contributing Cause

5.1 People – Crane operator (Day shift duty) failed to extend the crane's tracks before rotating the crane's cabin.

5.2 Equipment – Load chart indicator and alarm system are present and visible in the cabin. By-pass mode can be activated. Fail-safe feature to shut-down the operation in case of load chart deviation was absent.

5.3 Environment – Work area between Pier 10 and Pier 11 was very narrow to maneuver heavy equipment, particularly crawler cranes with wide bodies.

5.4 System – Based on lifting plan and work permit process, the assessment of hazards was focused on critical lifting or main work activity but not on routine activities as proper parking protocol, environment conditions and crane extraction from obstructed work area.

6.0 Immediate Action Taken

6.1 Immediately initiated clearing operation and secured areas exposed to hazards associated with crane and girder.

6.2 Work suspension of all lifting activities to review risk assessment until specific controls are established.

6.3 Re-orientation of all workers in OSH / Job hazard Analysis and proper execution of any work activity.

6.4 Company-wide inspection / surveillance to ensure safety measures and proper work execution.

6.5 Initiated safety alert to all projects through site safety regarding strict compliance to construction lifting requirements

6.6 Administer daily breathalyzer tests on all heavy equipment operators and drivers prior to at the start of their shift.

7.0 Corrective and Preventive Action

No.	PLAN	By who	Why	When	Check
8.1	Modification of load chart indicator (operator's cabin) to install fail-safe device activating shut-off instead of merely alarming crane operator	EJR Vistro, ESG-Logistics /Project Management Team	To ensure proper execution of crane operation based on crane configuration or by-passing load chart	12/18/20	Monthly SHES committee minutes of meeting. Periodic ROA status review.
8.2	Improve site OSH training field competency verification a. Behavior-based safety b. Refresher on Crane safety c. Refresher on Job Hazard Analysis (JSA)/OSH orientation	L. Familaran, Site Safety In-charge /JMV Muyot, Corporate SHES Department (Training)	2.1 To increase OSH awareness and understanding of workplace safety 2.2 Establish Behavior-based Safety program and to address common unsafe act due to individual unsafe behavior	a. 12/04/20 b. 12/01/20 c. 11/25/20	OSH Training records; site competency verification through on-site interview /observation
8.3	Review all lifting activities to exclusively isolate lifting or any movement of equipment during night shift.	RL Garcia, over-all coordinator/Rigging Manager/ J L Ilagan, Project Manager	To ensure public safety and reduce exposure of external party; to eliminate high risk activities during day shift	12/08/20	Monthly SHES committee minutes of meeting/Daily Job Production Schedule
8.4	Revise procedure on Crane lifting (EC-AP-0); To include crane extraction (as post lifting plan) as part of lifting plan	RV Escarmosa, Safety Group Manager / Project	To provide adequate check list and ensure strict OSH compliance on crane	12/01/20	Revised Crane lifting procedures to be approved

	requirements	Management Team	operation		by corporate SHES and management
8.5	Conduct HIRAC (Hazard Identification, Risk Assessment and Control) meeting with Project Management Team (Skyway Expansion Project) to review and update the specific hazards associated with crane accident during construction operation	JQ Ilagan, Project Manager / WP Sison, Manager-Corporate SHES	To ensure that all hazards associated with critical activity are properly identified, assessed and controlled	11/27/20	Monthly SHES committee minutes of meeting / Periodic HIRAC status review
8.6	Provide monthly safety surveillance from corporate SHES department	Corporate SHES Department / site Safety Team	To provide assistance from corporate SHES department in strict compliance and close-out of corrective and preventive action (issued NCR) due to accident	Every 27th of the month	Verify accomplished Safety Evaluation Report (SER) by corporate department to ensure OSH compliance of the project
8.7	Re-organize SHES Committee to strictly require participation of project head and subcontractors (including rental equipment	Project head / Corporate SHES department	To ensure site management and subcon participation in site SHES program	12/02/20	Approved SHES committee TO; Monthly SHES committee minutes of meeting
8.8	Improve lifting plan requirements / checklist, particularly foot print provision for crane movement (with or without load)	Site Safety Department / RL Garcia, Over-all coordinator / Rigging group	To ensure site compliance based on lifting plan and properly inspected by competent crane/rigging engineer; ensure compliance with minimum	01/23/14	Documented Crane Lifting procedures to be approved by PMT and corporate SHES department

			requirements (OSHS)		
8.9	Consistent reporting of Unsafe act and Unsafe Condition / Near-miss	Site Safety Department	To provide daily inspection and surveillance of unsafe act / unsafe condition; Strict implementation of report a near-miss program	01/17/14	Verify daily safety inspection report through Safety Deviation Report to be accomplished by workers / safety engineers
8.10	Increase frequency of site joint safety walk-throughs by site PMT and subcontractors	Site Safety Department / Project Management Team	To ensure strict adherence of site management including subcontractors in safety commitment and increase workers involvement in safety observation during operation	12/02/20	Verify Weekly safety inspections through Area Safety Assessment Process (ASAP) procedure to be accomplished by management including subcontractor
8.11	To amend contract agreement on rental equipment service provider that should require specific safety provisions based on D.O. 13 requirements	EP Constantino, SCM / DG Desembrana, Project Management Team	To ensure competency of crane operators and equipment certification/testing prior to mobilization	01/15/21	
8.12	Increase safety signages in all sites where workers are exposed to hazardous conditions; Include emotional	Site Safety Department / Project Management	To provide safety reminders and provide directional guidelines for	12/15/20	Actual site verification against minimum

	signs and infographics	Team	workers exposed to hazardous condition		requirements (OSHS / DO 13)

MAYON
MACHINERY RENTRADE, INC.

CERTIFICATE OF EMPLOYMENT

This is to certify that **Mr. Enrico N. Gregorio** is employee of Mayon Machinery Rentrade, Inc. from September 11, 2017 up to present. Mr. Gregorio is a regular employee of the company as Crane Operator.

This certification is being issued upon the request of Mr. Gregorio for whatever legal purposes it may serve.

Given this 23rd day of November 2020, Taguig City, Philippines.

NANCY A. BRETAÑA
Administrative Manager

3rd Floor P&J Building, Lot 32, Block 69, M. Roxas St., corner Bayani Road AFPOVAI Phase 4, Bonifacio, Taguig City
Telephone No.: +63 2 776 0254

ENRICO NAVORA GREGORIO

Vizcarra Compound Molino III, Bacoor City, Cavite
Contact # : 09956312635
Email : egregorio.79@gmail.com

Position Desired :Crane Operator

OBJECTIVE:

A position that have an extensive background in the crane operation, which gives an emphasis to the safety procedures and provides systematic way for heavy lift operation.

WORK SUMMARY:

In a hardworking and experience individual with 10 years experience on heavy industries like oil and gas project/mining, power plant project, port construction project bridge detour, enable me to perform jobs with high standard of safety with excellent skill in operating crawler crane and mobile crane, assembly and disassembly and have worked, in various countries Panama City Central America, and Zambia Africa, Republic of Iran and Philippines.

PERSONAL DATA:

Date of Birth	:	September 04, 1979
Place of Birth	:	Capoocan, Leyte
Height	:	5" 9'
Weight	:	160 Lbs
Civil Status	:	Single
Citizenship	:	Filipino
Religion	:	Catholic
Language	:	Tagalog and English
Father's Name	:	Ignacio Gregorio
Occupation	:	Heavy Equipment
Mother's Name	:	Elsa Gregorio
Occupation	:	Housewife

EDUCATIONAL ATTAINMENT:

Tertiary	:	IETI Las Piñas
Course	:	Local Area Networking (Under Grad.)
Secondary	:	Bacoor National High School 1993 – 1997
Primary	:	Ligas Elementary School 1988 – 1993

EMPLOYMENT RECORD:

Company	:	IPM Construction & Devt. Corp.
Address	:	No. 10 Brixton St. Kapitolyo, Pasig City
Project	:	Project Jumbo
Position	:	Crane Operator
Date	:	2017

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Hauling
- Unloading & Loading Materials.
- Erection of Pipe spool's and structural materials.
- Estimate load capacity and study rigging plan for safeoperation.
- Assign in heavy lifting operation of 65 sumotom and 55 kobelco crawler.

Company	:	First Quantum Materials Ltd.
Address	:	Donoso Colon Panama City
Project	:	Minera Panama
Position	:	Crane Operator
Date	:	2015 – 2016

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Hauling
- Unloading & Loading Materials.
- Erection of Pipe spool's and structural materials.
- Estimate load capacity and study rigging plan for safeoperation.
- Assign in heavy lifting operation of 300 tons Manitowoc and grove 130 tons.
- Terrex 75 tons.

Company	:	First Quantum Materials Ltd.
Address	:	Kansanshi (Zambia Africa)
Project	:	Smelter Mining
Position	:	Crane Operator
Date	:	2014 – 2015

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Hauling
- Unloading & Loading Materials.
- Erection of Pipe spool's and structural materials.
- Estimate load capacity and study rigging plan for safe operation.
- Assign in 120 manitowoc grove 75 ton and 55 ton.

Company	:	AG & P and GLNG BECHTEL (Phil.)
Address	:	AG & P Batangas
Project	:	GLNG Plant Project Module Yard
Position	:	Crane Operator
Date	:	2013 – 2014

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Assign in heavy lifting operation of Linkbelt RT, Terex RT, and grove RT.
- Estimate load capacity and study rigging plan for safe operation.
- Assist lifting activity such as erection of pipe spools.
- Assign in 75 ton terrex and grove 55 ton.

Company	:	DSCT DAELIM – SAZEH Construction Team
Address	:	Tombak Ghadim, Bushehr Province, Iran
Project	:	South Pars Gas Development, Phase 12 onshore
Position	:	Crane Operator
Date	:	2012 – 2013

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Assign in 50 ton crane Tadano.
- Assist lifting activity such as erection of pipe spools structural materials, installation / refinery machinery.
- Estimate load capacity and study rigging plan for safe operation.

Company	:	TCHAD CAMEROON
Address	:	Central Africa
Project	:	Oil Development
Position	:	Crane Operator
Date	:	2007 – 2008

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Assigned at maintenance and Transport Operation Dept.
- Loading and Unloading of container van to other delivery that came from port area.
- Estimate load capacity and study rigging plan for safe operation.

Company	:	TEC/IDRO/JGC/DIC Joint Venture
Address	:	Assaluyeh, Bushehr, Iran
Project	:	South Pars Gas Development, Phase 6, 7 & 8
Position	:	Crane Operator
Date	:	January 09, 2005 – October 29, 2006

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Assigned at maintenance and Transport Operation Dept., which operates Tadano Crane AR 50 with a capacity of 50 tons.
- Assist lifting activity such aserection of pipes spools structural materials, installation/refinery machinery transformer and vessels.
- Loading and Unloading of container van to other delivery that came from port area.
- Estimate load capacity and study rigging plan for safe operation.

Company	:	HUTAMA – RSEA J.O., Inc.
Address	:	C5 Junction East Service Rd. Taguig, Metro Manila
Project	:	Metro Manila Skyway Project
Position	:	Rigger
Date	:	1997 – 1999

JOB DESCRIPTION / DUTIES AND RESPONSIBILITIES

- Assigned in heavy lift operationas rigger of Tadano 50 ton Grove 150 ton.
- During that time I was responsible in the crane checking oil and water of the battery.

I hereby certify that the above information is true and correct to the best of my knowledge and ability. Hoping and praying that upon knowing my background, this can prove that I am capable on certain job that will give to me. Thank you and GOD BLESS.

ENRICO N. GREGORIO
Applicant's Signature

Republic of the Philippines
Department of Labor and Employment
TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

NATIONAL CERTIFICATE II

in

HEAVY EQUIPMENT OPERATION
(CRAWLER CRANE OPERATOR)

is awarded to

ENRICO N. GREGORIO

for having completed the competency requirements under the Philippine TVET Qualification and Certification System in the following unit's of competency:

UNIT CODE	UNIT TITLE
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
CON311201	Prepare Construction Tools and Tools
CON311201	Observe Occupational Health and Safety Procedures

UNIT CODE	UNIT TITLE
CON311203	Maintain Tools and Equipment
CON311205	Perform Mensuration and Calculation
CON312201	Operate Hand Tools
CON312204	Perform Pre-Start and Post Operation Procedures for Heavy Equipment
CON312207	Lifting and Transporting Equipment
CON312208	Perform Basic Preventive Maintenance Servicing for Heavy Equipment
CON312216	Perform Crawler Crane Operation

Signature of the certificate holder
Certificate No. 16110302071353

Issued on : September 02, 2016
Valid Until: September 02, 2021

RENE M. ISAAC
Director General

Serial no.: F-CO-2002824

First Philippine Skills & Equipment Testing Corp.

(Consultant for Inspection & Test of Construction Heavy Equipment)

DOLE/BWC Accreditation Certificate No. 1410-19102419-0004

CERTIFICATION

This is to certify that the EQUIPMENT described herein had passed the actual testing and thorough examination conducted by F P S E T Corp., and is recommended to be safe for operation. Detailed technical and testing inspection report is hereby attached.

Equipment Owner/User: MAYON MACHINERY RENTRADE INC.

Equipment Description: CRAWLER CRANE - TelescopicType, Diesel Driven

Brand: TADANO Model: GTC-1200-2 Cap.: 120.0 MT

Mfn. Ser. No.: 120-212 Owner's Markings: CC-120-001

Signed on (year/mm/dd): 2020/06/03

Validity: 2021/06/02

Mark Ian H. Aurestila	Emil John M. Alberto	Crescencio B. Marantag, Jr.
Equipment Inspector	Operations Manager	Attested By
RME-0103596	AVP for Operations	President

DISCLAIMER: F P S E T Corp. does not warrant the authenticity of any CERTIFICATION not bearing the [illegible]

F-051714 Branch MB

TO VERIFY THE AUTHENTICITY/VALIDITY OF THIS CERTIFICATE PLEASE EMAIL abmanci@firstphil.com

FIRST PHILIPPINES SKILLS & EQUIPMENT TESTING CORP.

A. SUPER STRUCTURE

MAIN HOIST:

a. PULLEY Condition: *(references: 1. No chips or cracks on the sheaves 2. No wobble or worn-out bearings, 3. Must have an equal sheave diameter, depth, properly matched rope and sheave groove, 4. No loose/worn-out pin. (Remark if in good or bad condition)*

MAIN HOOK BLOCK:

Pulley No. (1):	OK
Pulley No. (2):	OK
Pulley No. (3):	OK
Pulley No. (4):	N/A
Pulley No. (5):	N/A
Pulley No. (6):	N/A
Cable Keepers:	OK
Others:	

NOTE:

BOOM END PULLEY:

Pulley No. (1):	OK
Pulley No. (2):	OK
Pulley No. (3):	OK
Pulley No. (4):	OK
Pulley No. (5):	OK
Pulley No. (6):	OK
Main Guide Pulley:	OK
Aux. Guide Pulleys:	OK
Cable Keepers:	OK

b. HOOK Condition:

References:	MAIN HOOK	AUXILIARY HOOK
1. Swivel-free wheeling	OK	OK
2. Check for hook end "opening up"	OK	OK
3. Check for cracks, twists and wear	OK	OK
4. Safety latch condition	OK	OK

NOTE:

c. WIRE ROPE / CABLE Condition:

References:	MAIN HOIST	AUX HOIST
1. Cable diameter must not be more than 7% smaller than the designated size	OK, (23mm)	OK, (23mm)
2. No six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay	OK	OK
3. Must have no kinks, unraveled or un-oiled	OK	OK
4. Wire rope end dead line on wedge socket must be 6"- 9" long with bulldog grip clamp.	OK	OK
5. Other remarks on Boom/Jib Guy line	N/A	N/A
6. Remarks on Boom derricking cable	N/A	N/A

NOTE:

Legend:
OK- In good condition
N/A- Not Applicable
N/I- Not Installed
O/O- Out of Order

Wire rope conversion equivalents:		
Inches	-	Millimeter
5/16 - 3/8	-	8 – 10 mm
7/16 - 1/2	-	11 – 13 mm
9/16 - 5/8	-	14 – 16 mm
3/4 - 7/8	-	19 – 22 mm
1 - 1 1/8	-	26 – 29 mm
1 1/4 - 1 3/8	-	32 – 35 mm

Wear limit:
Millimeter
0.56 – 0.70
0.77 – 0.91
0.98 – 1.12
1.33 – 1.54
1.82 – 2.03
2.24 – 2.45

d. HOIST DRUMS Condition: *(references- 1. Minimum of 3 cable windings left on drum. 2. Cable-end well secured ant flange socket. 3. No abnormal sound detected and cable misalignments, during winding and unwinding. 4. Brake system must be in good working condition. 5. Brake band clearance at max 3 mm.)*

MAIN HOIST DRUM		AUXILIARY HOIST DRUM	
In good condition		In good condition	
Main Guide Roller:	OK	Auxiliary Guide Roller:	OK

NOTE: _____

e. BOOM SECTION Conditions: *(references – 1. Must be free from dents and deformations, 2. Must not be twisted, 3. No cracks on frames and weld joints, 4. Main pin must be well lubricated and not loose, 5. Bolted joints properly tightened, and 6. No loose pins)*

LATTICE BOOM		TELESCOPIC BOOM	
Segment No. (1):	N/A	Main Boom:	OK
Segment No. (2):	N/A	Telescope No. (1):	OK
Segment No. (3):	N/A	Telescope No. (2):	OK
Segment No. (4):	N/A	Telescope No. (3):	OK
Segment No. (5):	N/A	Telescope No. (4):	OK
Boom Angle Indicator:	None	Telescope No. (5):	N/A
Boom Stopper:	None	Boom Angle Indicator:	OK
Boom Limit Switch:	OK	Boom Sliding Plates:	OK

NOTE: _____

f. CABIN CONTROL ROOM:

1. Load Chart: Tabulated/Graphical	OK
2. Swing Lock	OK
3. Parking brakes / Slewing Brakes	OK

4. Control levers:	
a. Slewing left/right	OK
b. Boom Up/Down	OK
c. Hoist Up/Down	OK
d. Telescoping –Extend/Retract	N/A
5. Hoist speed control – High/Low	OK
6. Dash Board instruments:	
a. Engine oil pressure gauge	OK
b. Fuel gauge	OK
c. Water Temperature gauge	OK
d. Ampere gauge	None
e. Air pressure gauge	N/A
f. Hyd. Oil pressure gauge	OK
7. Power Take-Off control (PTO)	OK
8. Operator's seat; Adjustable/Recline	OK
9. Accelerator control	OK
10. Brake control	OK
11. Lights/ Signal lights	OK
12. Entry/ Exit door	OK
13. Windshield	OK
14. Others:	

NOTE: _____

g. ENGINE SYSTEM Condition	CARRIER ENGINE	CRANE ENGINE
1. Compressions	N/A	OK
2. Engine Blow-by	N/A	OK
3. Exhaust Smoke	N/A	OK
4. Fan Belts	N/A	OK
5. Alternator/Generator	N/A	OK
6. Cooling Fan	N/A	OK
7. Radiator	N/A	OK
8. Fuel Injection Pump	N/A	OK
9. Battery & connections	N/A	OK
10. Engine Oil	N/A	OK
11. Starter Motor	N/A	OK
12. Others		

NOTE: _____

h. COMPUTER & SAFETY DEVICE Condition: *(references – 1. Alarms and signals must be properly functioning when the condition reaches its safe limits 2. Digital figures in the computer must be clear and properly calibrated against load chart.)*

1. Over Hoisting Device	OK
2. Automatic Crane Stopper (ACS)	OK
3. Load Moment Indicator (LMI)	OK
4. Boom Length Indicator	OK
5. Working Radius Indicator	OK
6. By-Pass Switch	OK
7. Load Meter/Rigging Light	OK

NOTE: _____

i. HYDRAULIC SYSTEM Condition: *(references – 1.Hydraulic pumps and hydraulic motors must have no leaks, no abnormal sound detected and functions properly, 2. Hydraulic hoses/pipes must have no leaks, no peal offs, not twisted nor over bended 3. Hydraulic control levers must operate smoothly 4. Control valves must have no leaks 5. Cylinders must have no leaks, no dented rods and deformed cylinders.)*

1.Hydraulic Pumps:

a. Main Hoist Pump	OK
b. Auxiliary Hoist Pump	OK
c. Swing Pump	OK
d. Telescoping Pump	OK
e. Travel Pump	OK
f. Control & Aux. Equipt. (Counterweight)	N/A

2. Hydraulic Motors:

a. Main Hoist Motor	OK
b. Auxiliary Hoist Motor	OK
c. Swing Motor	OK
d. Travel Motor	OK

3. Hydraulic Cylinders:

a. Track Extension Cylinders	OK
b. Outrigger Cylinders	OK

NOTE: _____

4. Counterweight Cylinders	N/A

5. Hydraulic Hoses:

a. Boom	**OK**
b. Telescope	**OK**
c. Swing	**OK**
d. Stabilizer	**N/A**
e. Outrigger	**OK**
f. Suction Lines	**OK**
g. Track Extension	**OK**

NOTE: _____

6. Control Levers (Operational Mode)

a. Boom up / Boom down	**OK**
b. Hoist up / Hoist down	**OK**
c. Telescope Extend / Retract	**OK**
d. Slewing Left / Right	**OK**
e. Travel Forward / Reverse	**OK**

NOTE: _____

j. SLEWING RING Condition: *(references - 1. Bolts must be complete and properly tightened, 2. No cracks or chips in the ring gear teeth, 3. Must be well lubricated).*

Remarks: **In good condition**

B. UNDERCARRIAGE:

1. Track System Condition: *(references – All components below must be within the manufacturer's wear limit. In addition, 1. No loose track shoe and bolts, 2. No cracks on track link, 3. No loose pins and bushings, 4. The track and carrier rollers must have no leaks, missing or loose bolts, 5. No leaks on idler bushings.)*

a. Track Shoe and Bolts:	**In good condition**
b. Track Links:	**In good condition**
c. Link Pins & Bushings:	**In good condition**
d. Rollers, Track	**In good condition**
e. Rollers, Carrier:	**In good condition**
f. Idlers:	**In good condition**
g. Sprockets:	**In good condition**
h. Chain, Drive:	**N/A**
i. Roller guards:	**In good condition**

NOTE: _____

2. Underchassis Condition: *(references – 1. Clutch pedal must have proper free play clearance, 2. The Clutch and Torque Converter must have sufficient power to transmit to the transmission without slippage, 3. Transmissions must be able to operate on sequential gear shifts or speeds forward and reverse direction and the lever should not voluntarily disengage while on travel 4. Differential axle locks must function when engaged, 5. In addition to all above component parts, inspections for leaks and abnormal sounds should be made, 6. The leaf springs must be inspected for breaks or cracks including wear on leaf sliding pad, 7. Inspect the boogie axle rods and bushings for cracks or damages).*

a. Clutch Clearance	N/A
b. Clutch Power	N/A
c. Torque Converter Power	OK

d. Transmission: (HYDRAULIC CLOSED CIRCUIT TYPE)

1. Forward 1st speed	OK	**5. Forward 5th speed**	N/A
2. Forward 2nd speed	N/A	**6. Reverse 1st speed**	OK
3. Forward 3rd speed	N/A	**7. Reverse 2nd speed**	N/A
4. Forward 4th speed	N/A	**8. Reverse 3rd speed**	N/A

NOTE:

C. LOAD TESTING: ***Use Certificate and follow the Guidelines for Load Testing.***

The Crane was set at a boom length of 47.0 meters and test loaded with 11.7 tons and lifted up to a 20.0 meter radius. The load was slewed for 90 degrees over the side and the crane was found stable and FIT FOR OPERATION.

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D. EQUIPMENT EVALUATION & GENERAL COMMENTS:

After Thorough Examination & Test of the Equipment described above, the condition of the Crane is A - 1: FIT FOR OPERATION.

REMARKS: _____.

NOTE:

Note: Specify;
A-1 – *The Equipment is* **Fit for operation** *and has passed the Thorough Examination & Test.*
A-2 – *The Equipment is* **Fit for operation** *and has passed the Thorough Examination & Test but needs some minor repairs's (i.e. on minor leaks or adjustments as specified in the Standard Checklist) which will not in any way affect of fail the operation of the crane but must be repaired immediately after the operation.*
R-1 – *The Equipment is* **Not Fit for operation** *and has failed the Thorough Examination & Test for the reason/s that some major component/s of the machine needs immediate repair prior to being made to service again, with a reconfirmation from the competent Equipment Inspector.*

The Crane should be presented for Thorough Examination & Test on or before June 2, 2021.

DOLE TESTING ORGANIZATION
ACCREDITATION NO. 1410-19102419-0004

Attested by :

(Signature of Equipment Inspector)

Name & Qualification : **MARK IAN H. AURESTILA**
EQUIPMENT INSPECTOR –
ME PRC No. - 0103596

EMIL JOHN M. ALBERTO
Asst. Vice-President for Operations
DOLE-OSHP No. 1033-180614-0287

FIRST PHILIPPINES SKILLS & EQUIPMENT TESTING CORP.

TECHNICAL INSPECTION CHECKLIST AS PER ANSI/ASME STANDARD CRAWLER MOUNTED CRANE- TELESCOPIC/LATTICE BOOM

INSPECTION REPORT NO. F-CO-2002824

NAME & ADDRESS OF OWNER: MAYON MACHINERY RENTRADE INC.
MNA Bldg., Bonifacio Drive, Port Area, Manila

LOCATION OF CRANE: Mayon Machinery Rentrade Inc. Yard, Biñan, Laguna

TYPE OF CRANE: Crawler Crane – Telescopic Type, Diesel Driven

BRAND & MODEL: TADANO GTC-1200-2 (120.0 MT)

UNIT SERIAL NO.: 120-212

YEAR MANUFACTURED: 2017

DATE OF INSPECTION: June 3, 2020

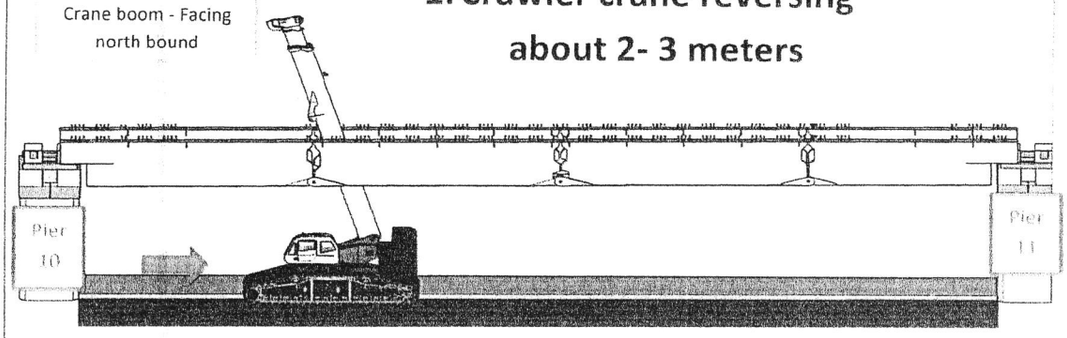
OTHER IDENTIFYING MARKS: CC-120-001

1. Safe working load or loads In case of a crane with variable operating radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the safe working load at various radii should be given in column (4) and in the case of a safe working load which has been calculated without the application of a test load "NIL" should be entered in that column.	(1) Length of jib (meters)	(2) Radius (meters)	(3) Test load (tons)	(4) Safe Working load (tons)
	47.0	20.0	11.7	10.53
	(Safe Working Load @ 90% of Load Chart) FIT FOR OPERATION			
2. In case of a crane with a derricking jib or jibs, the maximum radius at which the jib or jibs may be worked or operated (in meters).	44.0 meters			
3. Defects noted and alterations or repairs required before the crane is put into service. If none enter "NONE" and enter whether in safe working order.	None, In good working condition			
4. In the case of cranes, state whether the Automatic Safe Load Indicator is in good working order.	In good order			

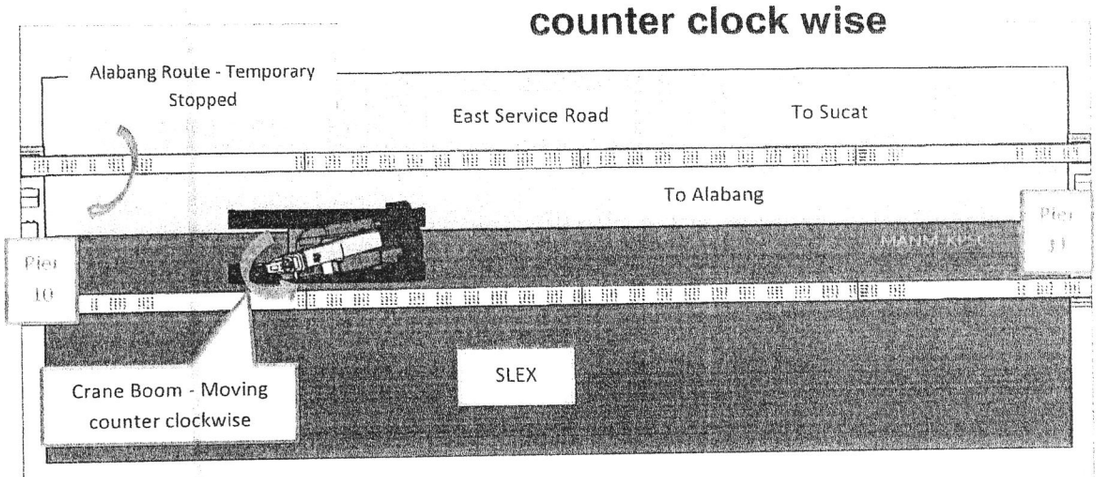
EEI CORPORATION

INCIDENT SCHEMATIC DIAGRAM

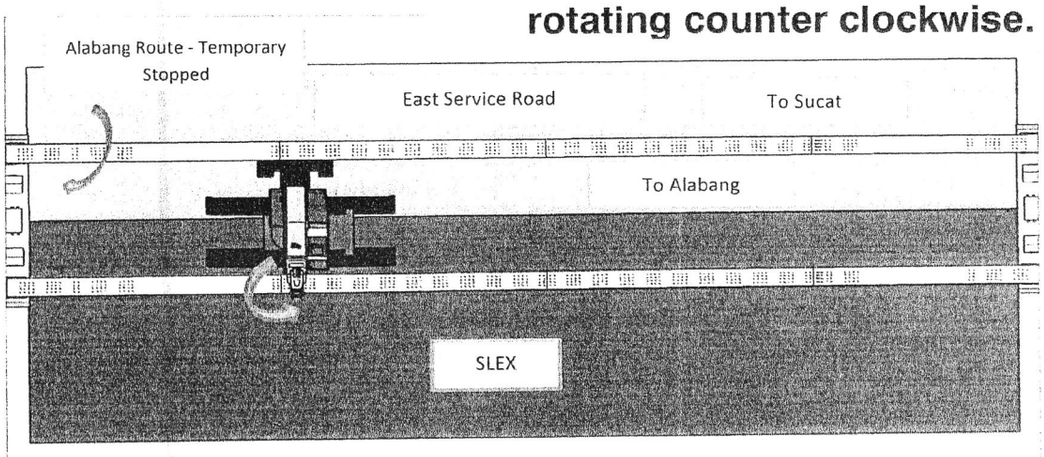
1. Crawler crane reversing about 2- 3 meters



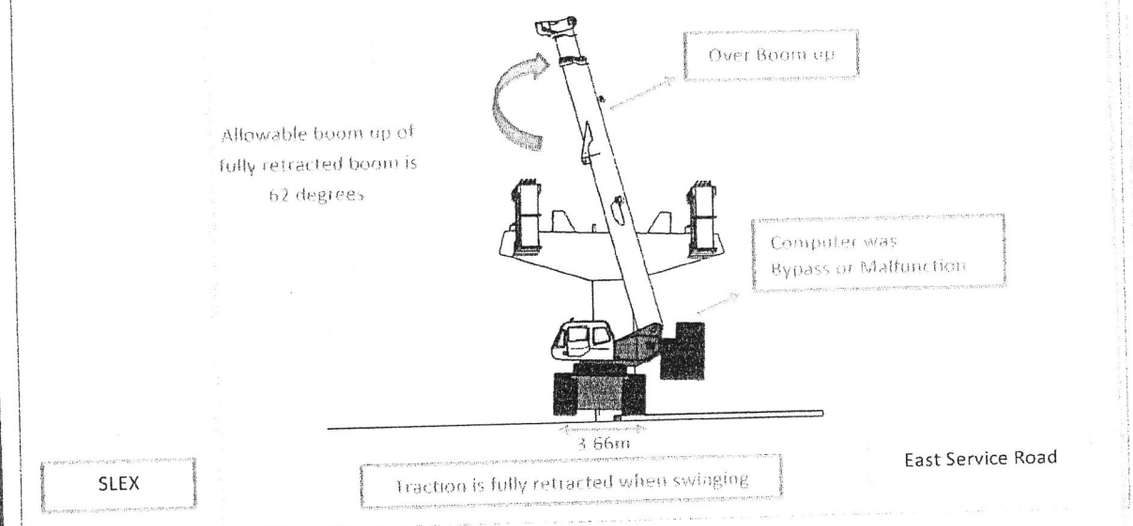
2. Crane boom starts rotating counter clock wise



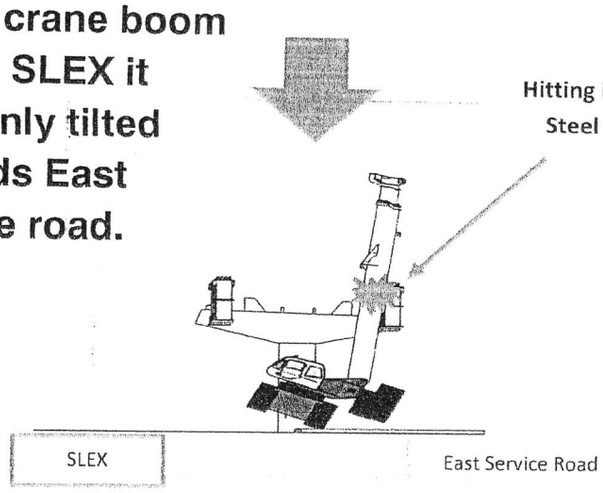
3. Crane Boom continuous rotating counter clockwise.



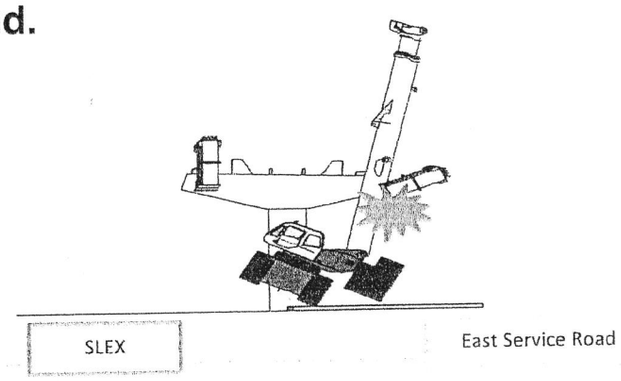
4. Crane boom angle approx. 62 degrees upon rotating.



5. When crane boom facing SLEX it suddenly tilted towards East service road.



6. As a result of steel girder to fall at East service road - north bound.



7. Steel girder fell on vehicles.