ANNEX D

DETAILED COST ESTIMATES

Project Name: **Maintenance of Various Facilities at Port of Dumaguit, Aklan**
Project Location: Brgy. Dumaguit, New Washington, Aklan

DERIVATION OF UNIT COST				
Item of Work : _____			Date: _____	
Item Number : _____			Assumed Quantity: _____ Unit: _____	
Work Description : _____				
DESCRIPTION/COMPUTATION	**UNIT**	**QUANTITY**	**UNIT COST** (VAT not included)	**AMOUNT**
A. MATERIAL COST				
Sub-total =				
B. LABOR	**No.**	**No. of Days**	**Rate/Day**	
Sub-total =				
C. EQUIPMENT	**No.**	**No. of Days**	**Daily Rate**	
Sub-total =				
D. ESTIMATED DIRECT COST			**TOTAL =**	**PHP 0.00**
E. MARK-UPS				
1. Overhead, Contingencies and Miscellaneous Expenses, ___% of EDC				PHP 0.00
2. Contractor's Profit, _____% of EDC				PHP 0.00
F. VAT, ____% of (EDC + Mark-Ups)				PHP 0.00
G. **TOTAL COST OF WORK ITEM**				**PHP 0.00**
H. UNIT COST (Total Cost of Work Item/Assumed Quantity)				**PHP 0.00**

VI.	**Painting Works (PTB & Guesthouse Roofing, PTB and TMO Building Ceiling, Guardhouse, Cyclone Fence and Gate) including sealing of roofing** *Amount in Words* _____ and _____ centavos)	Sq.m.	1,451.96		
Total					

Submitted by:

Name of the Representative of the Bidder _____ Date: _____

Position
Name of the Bidder

ANNEX C

Revised on: August 11, 2004

Standard Form Number: SF-INFR-55

Bill of Quantities

Maintenance of Various Facilities at Port of Dumaguit, Aklan (A240018)					
Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I.	**Mobilization and Demobilization** *Amount in Words* and centavos)	lot	1.00		
II.	**General Expenses**				
2.01	**General Expenses includes pre-con survey and provision of temfacil** *Amount in Words* and centavos)	l.s.	1.00		
2.02	**Provide Construction Safety and Health Program in the Execution of the project** *Amount in Words* and centavos)	l.s.	1.00		
III.	**Removal and Replacement of damaged portion of exterior ceiling, fascia and gutter of TMO and PTB** *Amount in Words* and centavos)	Sq.m.	117.60		
IV.	**Removal and Replacement of Gate Enclosure** *Amount in Words* and centavos)	units	4.00		
V.	**Waterproofing of roofdeck and replacement of Door and Window of Guardhouse** *Amount in Words* and centavos)	Sq.m.	7.26		

Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

If a corporation or joint venture: None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the following responsibilities as a Bidder:

   a) Carefully examine all of the Bidding Documents;

   b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;

   c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and

   d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this __ day of ___, 20__ at _____, Philippines.

_____
Bidder's Representative/Authorized Signatory

SUBSCRIBED AND SWORN to before me this ___ day of *[month] [year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ___ day of *[month] [year]*.

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

* This form will not apply for WB funded projects.

ANNEX B

Omnibus Sworn Statement

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, *[Name of Affiant]*, of legal age, *[Civil Status]*, *[Nationality]*, and residing at *[Address of Affiant]*, after having been duly sworn in accordance with law, do hereby depose and state that:

1. ***Select one, delete the other:***

   If a sole proprietorship: I am the sole proprietor or authorized representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

   If a partnership, corporation, cooperative, or joint venture: I am the duly authorized and designated representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

2. ***Select one, delete the other:***

   If a sole proprietorship: As the owner and sole proprietor or authorized representative of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Name of the Project]* of the *[Name of the Procuring Entity] [insert "as shown in the attached duly notarized Special Power of Attorney" for the authorized representative]*;

   If a partnership, corporation, cooperative, or joint venture: I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Name of the Project]* of the *[Name of the Procuring Entity]*, accompanied by the duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary's Certificate, whichever is applicable;

3. *[Name of Bidder]* is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. *[Name of Bidder]* is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. ***Select one, delete the rest:***

   If a sole proprietorship: The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

   If a partnership or cooperative: None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project

Signed: _____

Duly authorized to sign the Bid for and on behalf of: _____

Date: _____

ANNEX A

Bid Form

Date: _____
IB[1] N°: _____

To: ***ALLAN M. ROJO, Port Manager***
Address: *PMO Panay/Guimaras, Brgy. Loboc, Lapaz, Iloilo City*

We, the undersigned, declare that:

(a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract "***Maintenance of Various Facilities at Port of Dumaguit, Aklan"***

(b) We offer to execute the Works for this Contract in accordance with the Bid and Bid Data Sheet, General and Special Conditions of Contract accompanying this Bid;

The total price of our Bid, excluding any discounts offered below is: *[insert information]*;
The discounts offered and the methodology for their application are: *[insert information]*;

(c) Our Bid shall be valid for a period of *[insert number]* days from the date fixed for the Bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(d) If our Bid is accepted, we commit to obtain a Performance Security in the amount of [*insert percentage amount]* percent of the Contract Price for the due performance of the Contract;

(e) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from the following eligible countries: *[insert information]*;

(f) We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

(g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Funding Source;

(h) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

(i) We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

(j) **We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the *[Name of Project]* of the *[Name of the Procuring Entity]*.**

(k) **We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.**

Name: _____

In the capacity of: _____

[1] If ADB, JICA and WB funded projects, use IFB.

Painting Works

- All painting work shall be first class and in accordance with the best standard practices of the trade.
- Apply sealant for the roofings before painting.
- Paint should be applied in the right consistency and each coat shall be brushed evenly free of brush marks, sags and runs. Care shall be exercised to avoid lapping of paint on glass or hardware. Paint should be sharply applied to required lines. Finished paint surfaces shall be free from defects or blemishes. Surfaces from which such paint cannot be removed satisfactory to the Engineer.
- Succeeding paint coatings shall be applied only when the previous coat is hard and dry.
- All painting materials shall be used strictly in accordance with the manufacturer's directions.

H. CONTRACT DURATION

- Completion of the project is required within **Sixty (60) calendar days** upon receipt of Notice to Proceed

I. INSPECTION AND TESTS

- Items/Units shall be brought/deliver to site and shall undergo in testing and/or inspection by PPA Representative upon completion of the project whenever applicable.

- Once the project reaches an accomplishment of ninety-five (95%) of the total contract amount, the Procuring Entity may create an inspectorate team to make preliminary inspection and submit a punch-list to the Contractor in preparation for the final turnover of the project. Said punch-list will contain, among others, the remaining Works, Work deficiencies for necessary corrections, and the specific duration/time to fully complete the project considering the approved remaining contract time. This, however, shall not preclude the claim of the Procuring Entity for liquidated damages.

Prepared and Submitted by:

MAYLENE G. ARANTE
Acting Manager, Engineering Service Division

Recommending Approval:

JERRY P. ABELLO
BAC Chairperson
PMO-Panay/Guimaras

Approved by:

ALLAN M. ROJO
Port Manager
PMO-Panay/Guimaras

G. SPECIFICATIONS

The winning bidder must always refer and adhere to the approve plans of the project and specifications on the following items;

Ceiling Works

- Use ¼" Marine Plywood in a wooden frame w/ 2" x 2" Good lumber spaced at 0.60m x 0.60m O.C and 1" x10" Fiber cement board for fascia. Also use 0.40mm x 0.60m Pre-painted Spanish gutter for replacement of damaged gutter. Secure all material used conform to the specification stated above and in accordance to plan.

Steel/Metal Works

- Specifications of steel materials to be used in the fabrication of gate enclosure shall be in accordance in the detailed plan. Secure steel framings and members are properly welded.
- All welding shall be done only by welders certified as to their ability to perform in accordance with the plan.
- Damage to galvanized areas by welding shall be thoroughly cleaned with wire brushing and all traces of welding flux and loose or cracked zinc coating shall be removed prior to painting.
- The welding machine shall be a stable welder, and have suitable functions for the dimension of materials to be welded. The auxiliary tools used for welding shall perform sufficiently and adequately.
- The welding machine used for field welding shall be of readily adjustable for electric current.

Waterproofing

- Concrete surface to be applied with waterproofing shall be structurally sound, clean and free of dirt, loose mortar particles, paints, films, oil, protective coats, and other contaminants.
- Plastering of unfinished side portion of concrete gutter is required and all defects shall be properly corrected and carefully formed to provide a smooth surface that is free of marks and properly cured prior to application works.
- The loosening or fallen of concrete have to be removed and the large holes, cracks should be repaired first.
- All structural cracks must be repaired prior to waterproofing application. Use the required sealants and structural bonding agents.
- Drainage connections and weepholes shall be set to permit the free flow of water.
- Water to be used shall be clean, clear and potable.
- Application shall be done in one direction strip and by overlapping each other to assure uniform thickness.

Doors and Windows

- Remove and replace existing Jalousie windows with Sliding Glass Windows on Analok Frame (sunbronze) as shown in the plan. Doors will be replaced as specified by the Engineer.
- Doors and windows to be installed shall conform to the sizes, design and kind of materials shown in the details of doors as shown in the plan.

destruction of the works except those occasioned by force majeure; and b) safety, protection, security, and convenience of his personnel, third parties, and the public at large, as well as the works, equipment, installation and the like to be affected by his construction work.(a)

62.2.2 One (1) year from project completion up to final acceptance or the defects liability period.

62.2.2.1 The contractor shall undertake the repair works, at his own expense, of any damage to the infrastructure on account of the use of materials of inferior quality, within ninety (90) days from the time the HoPE has issued an order to undertake repair. In case of failure or refusal to comply with this mandate, the Procuring Entity shall undertake such repair works and shall be entitled to full reimbursement of expenses incurred therein upon demand.

62.2.2.2 The defects liability period shall be covered by the Performance Security of the contractor required in Section 39.1 of this IRR, which shall guarantee that the contractor performs his responsibilities stated in the immediately preceding Section. If the contractor fails to 115 As amended by GPPB Resolution No. 15-2020, dated 28 July 2020, published in the Official Gazette on 21 September 2020. The 2016 Revised Implementing Rules and Regulations – Annex "A" 92 comply with its obligations under Section 62.2.2.1 of the IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any competitive bidding. All payables of the GoP in his favor shall be offset to recover the costs.

Form of Warranty Security	Amount of Warranty Security (Not less than the required percentage of the Total Contract Price)
a) Cash or Letter of Credit issued by a Universal or Commercial Bank: Provided, however, That the Letter of Credit shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank. For biddings conducted by LGUs, the Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.	Five percent (5%)
b) Bank guarantee confirmed by a Universal or Commercial Bank. For biddings conducted by LGUs, the bank draft/guarantee may be issued by other banks certified by the BSP as authorized to issue such financial instrument.	Ten percent (10%)
c) Surety bond callable upon demand issued by GSIS or a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Thirty percent (30%)

3. DOCUMENTATION

Photos of project before, during and after project implementation should be supported with visuals photos and as built plan duly signed by the contractor and the Authority and shall form part of the documents to be submitted upon request for payment of the project.

	For biddings conducted by the LGUs, Bank Draft/Guarantee, or Irrevocable Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.	
(c)	Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Thirty percent (30%)

1.2. Failure of the successful Bidder to comply with the above-mentioned requirement shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event the Procuring Entity shall have a fresh period to initiate and complete the post qualification of the second Lowest Calculated Bid. The procedure shall be repeated until LCRB is identified and selected for recommendation of contract award. However, if no Bidder passed post-qualification, the BAC shall declare the bidding a failure and conduct a re-bidding with re-advertisement, if necessary.

xviii. All demolished and salvage materials must be properly turn-over and reported to the Authority for proper safekeeping or disposal.

xix. Any inquiry regarding the project must be directly refer to the Authority.

2. OF THE AUTHORITY

i. Evaluate and Award the Contract to the winning bidder in accordance with the provision of RA 9184.

ii. Identify, supervise and monitor the activities during the fabrication works and related services.

iii. Pay to the service contractor the amount due to them as specified in the contract, actual accomplishment and presentation of Statement of Account supported with Acceptance Certificate, subject to existing government accounting rules and regulations.

F. DELIVERABLES

1. SET-UP AND DELIVERY

- All prices quoted should be express in peso and shall be inclusive of delivery and installation/set-up to site.
- Projects includes provision of Protective Personal Equipment (PPE's), First Aid Kit with Medicine, safety signage's and project signage during the duration of the project implementation.
- Project includes scaffoldings and provision of Temporary Facilty, location to be identified and assigned by the Authority.
- All material included in the projects must be deliver on site as prescribed.

2. WARRANTY

The project shall be covered by a warranty, duly evidenced by a Warranty Certificate intended for the project covering a period of one (1) year to commence a day after its final inspection and acceptance.

- For the procurement of Infrastructure Projects, the following warranties shall be made: 62.2.1 From the time project construction commenced up to final acceptance, the contractor shall assume full responsibility for the following: a) any damage or

provide facilities and services for them during this period. The Procuring Entity may modify the schedule of other contractors, and shall notify the Contractor of any such modification thereto.

x. Should anything of historical or other interest or of significant value be unexpectedly discovered on the Site, it shall be the property of the Procuring Entity. The Contractor shall notify the Procuring Entity's Representative of such discoveries and carry out the Procuring Entity's Representative's instructions in dealing with them.

xi. Security and safety rules and regulation must at all-time be observed and implemented in adherence with the Authority security and safety requirements for the duration of the project.

xii. Clearing of project site after the project shall also be implemented.

xiii. Winning bidder/supplier shall shoulder all contingencies covering the foregoing projects without additional cost to PPA PMO Panay-Guimaras.

xiv. If in case of unforeseen time restrictions on the deliveries, execution of work or weather disturbances, the winning bidder/supplier shall immediately inform thru writing the Authority on the request for time extension/suspension thereto whichever applies.

xv. The Bidder, by the act of submitting its bid, shall be deemed to have inspected the site, determined the general characteristics of the contract works and the conditions for this Project and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

xvi. If in case of defects/damaged, winning bidder/supplier shall replace all-inclusive items within **15 calendar days** from delivery otherwise the same shall be considered as INCOMPLETE DELIVERY and corresponding charges shall be deducted from the payable amount of the contract.

xvii. To guarantee the faithful performance by the winning Bidder of its obligations under the contract, it shall post a performance security within a maximum period of ten (10) calendar days from the receipt of the Notice of Award from the Procuring Entity and in no case later than the signing of the contract.

1.1. The Performance Security shall be denominated in Philippine Pesos and posted in favor of the Procuring Entity in an amount not less than the percentage of the total contract price in accordance with the following schedule:

Form of Performance Security	Amount of Performance Security (Not less than the Percentage of the Total Contract Price)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank. For biddings conducted by the LGUs, the Cashier's/Manager's Check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.	Ten percent (10%)
(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.	

C. BUDGETARY REQUIREMENTS

The Philippine Ports Authority, PMO-Panay/Guimaras through its CY 2024 corporate funds intends to apply the sum of **Nine Hundred Eigthy-Seven Thousand Nine Hundred Twenty and 19/100 pesos only**(**Php 987, 920.19**) inclusive of VAT, being the Approved Budget for the Contract (ABC).

D. TECHNICAL AND DOCUMENTARY REQUIREMENTS:

The Service Contractor/provider shall submit the following documents to the Authority:

- PCAB License (Small B)
- DTI Certificate of Registration of Business Name or Sec Registration
- Current Mayor's Permit
- Phil-GEPS Registration
- VAT Certificate of Registration
- Current Tax Clearance issued by BIR
- Omnibus Sworn Statement
- List of Equipment, either owned, leased and/or has under Purchase Agreement to be used for the execution of the project, if applicable
- Bid Proposal / Quotation
- Bill of Quantities
- Detailed estimates including a summary sheet indicating the unit prices of construction materials, labor rates and equipment rentals used in coming up with the bid and Cash Flow/Bar Chart

E. OBLIGATIONS AND RESPONSIBILITES

1. OF THE SERVICE CONTRACTOR/SERVICE PROVIDER:

i. The Contractor shall carry out the Works properly and in accordance with this Contract. The Contractor shall provide all supervision, labor, Materials, Plant and Contractor's Equipment, which may be required. All Materials and Plant on Site shall be deemed to be the property of the Procuring Entity.

ii. The Contractor shall commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program of Work submitted by the Contractor, as updated with the approval of the Procuring Entity's Representative, and complete them by the Intended Completion Date.

iii. The Contractor shall be responsible for the safety of all activities on the Site.

iv. The Contractor shall carry out all instructions of the Procuring Entity's Representative that comply with the applicable laws where the Site is located.

v. The Contractor shall submit to the Authority the list of the company's key personnel to be assigned in the project.

vi. If the Procuring Entity's Representative asks the Contractor to remove a member of the Contractor's staff or work force, for justifiable cause, the Contractor shall ensure that the person leaves the Site within seven (7) days and has no further connection with the Work in this Contract.

vii. During Contract implementation, the Contractor and his subcontractors shall abide at all times by all labor laws, including child labor related enactments, and other relevant rules.

viii. The Contractor shall submit to the Procuring Entity for consent the name and particulars of the person authorized to receive instructions on behalf of the Contractor.

ix. The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the schedule of other contractors particularly when they shall require access to the Site. The Contractor shall also

BAGONG PILIPINAS

PHILIPPINE PORTS AUTHORITY

TERMS OF REFERENCE FOR

MAINTENANCE OF VARIOUS FACILITIES AT PORT OF DUMAGUIT, AKLAN

TABLE OF CONTENTS

A. RATIONALE
B. SCOPE OF UNDERTAKING/DESCRIPTION OF WORK
C. BUDGETARY REQUIREMENTS
D. TECHNICAL AND DOCUMENTARY REQUIREMENTS:
E. OBLIGATIONS AND RESPONSIBILITES
F. DELIVERABLES
G. SPECIFICATIONS
H. CONTRACT DURATION
I. INSPECTION AND TESTS

A. RATIONALE

1. This Terms of Reference (TOR) and Technical Specifications refer to the ***"Maintenance of Various Facilities at Port of Dumaguit, Aklan"*** with approved Program of Works (POW) charged to PMO Panay/Guimaras Maintenance of Physical Facilities Fund for C.Y 2024.

2. The procurement process shall be in accordance with the provisions of R.A. 9184 with its Revised Implementing Rules and Regulations.

B. SCOPE OF UNDERTAKING/DESCRIPTION OF WORK

- The services to be rendered by the winning bidder shall be as follows:
  1. **Mobilization/ Demobilization**
  2. **General Expenses**

  2.01 General Expenses includes pre-con survey and provision of temfacil

  2.02 Provide Construction Safety and Health Program in the execution of the project
  3. **Remove and Replacement of damaged portion of exterior ceiling, fascia and gutter of TMO and PTB**
  4. **Removal and Replacement of Gate Enclosure**
  5. **Waterproofing of roofdeck and replacement of Doors and Window of Guardhouse**
  6. **Painting Works (PTB & Guesthouse Roofing, PTB and TMO Building Ceiling, Guardhouse, Cyclone Fence and Gate) including sealing of roofing**

- The equipment needed for the project:
  - 1-unit Stake Truck
  - 1-unit Oxy-Acetylene Cutting Outfit
  - 1-unit Electric Bar Cutter
  - 1-unit Electric Grinder
  - 1-unit Welding Machine