

PHILIPPINE BIDDING DOCUMENTS

Government of the
Republic of the Philippines

Procurement of INFRASTRUCTURE PROJECTS

**First Edition
May 2025**

Preface

These Philippine Bidding Documents (PBD) for the procurement of Infrastructure Projects (hereinafter referred to also as the “Works”) through [*Competitive Bidding, Limited Source Bidding, or Competitive Dialogue*¹] have been prepared by the Government of the Philippines (GoP) for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the Government, including government-owned and/or -controlled corporations (GOCC), government financial institutions (GFI), state universities and colleges (SUC), local government units (LGU), and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory² use in projects that are financed in whole or in part by the GoP or any foreign government/foreign or international financing institution in accordance with the provisions of the Implementing Rules and Regulations (IRR) of Republic Act No. 12009 (RA No. 12009).

This PBD is intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (a) the objectives, scope, and expected outputs and/or results of the proposed contract; (b) the eligibility requirements of Bidders; (c) the expected contract duration; and (d) the obligations, duties, and/or functions of the winning bidder.

In order to simplify the preparation of the Bidding Documents for each procurement, the PBD groups the provisions that are intended to be used unchanged in Section II. Instructions to Bidders (ITB) and in Section IV. General Conditions of Contract (GCC). Data and provisions specific to each procurement and contract should be included in Section III. Bid Data Sheet (BDS); Section V. Special Conditions of Contract (SCC); Section VI. Specifications; Section VII. Drawings; and Section VIII. Bill of Quantities. The forms to be used are provided in Section IX. Philippine Bidding Documents Related Forms.

Prudence must be exercised to check the relevance of the provisions of the PBD against the requirements of the specific Works to be procured. In addition, each Section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents, except for the notes introducing Section IX. Philippine Bidding Documents Related Forms, where the information is useful for the Bidder. The following general directions should be observed when using the documents:

- a) All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b) Specific details, such as the “name of the Procuring Entity” and “address for proposal submission,” should be furnished in the BDS and SCC. The final documents should contain neither blank spaces nor options.
- c) This Preface and the footnotes, or notes in italics included in the Invitation to Bid, BDS, SCC, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the

¹ For Second Stage of Competitive Dialogue under Section 29.4.2 of IRR of RA No. 12009.

² Unless the Treaty or International or Executive Agreement expressly provides use of foreign government/foreign or international financing institution procurement guidelines.

Procuring Entity should strictly follow. The Bidding Documents should not contain footnotes except Section IX. Philippine Bidding Documents Related Forms since these provide important guidance to Bidders.

- d) The cover page should be modified as required to identify the Bidding Documents and date of issue.
- e) The Project title page should be modified as required to identify the Project title and number, name and address of the Procuring Entity.
- f) If modifications must be made to the bidding requirements, they can be presented in the BDS. Modifications for specific Project or Contract details should be provided in the SCC as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the BDS or SCC, these terms shall be printed in bold type face on Section II. Instructions to Bidders, and Section IV. General Conditions of Contract, respectively. To facilitate easy reference and completion, clauses from the BDS and SCC shall appear in bold type face in Sections II and IV, respectively.



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Procurement of INFRASTRUCTURE PROJECTS

VOUCHER 1, LOT 2

**Supply of materials and labor of construction of
distribution lines for Barangay Line Enhancement
Program**

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Glossary of Acronyms, Terms, and Abbreviations

ABC – Approved Budget for the Contract.

ADR – Alternative Dispute Resolution.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

COS – Contract of Service.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

GCC - General Conditions of Contract.

GFI – Government Financial Institution.

GOCC – Government-Owned and/or –Controlled Corporation.

GoP – Government of the Philippines.

GPPB – Government Procurement Policy Board.

HoPE – Head of Procuring Entity.

JO – Job Order.

IRR – Implementing Rules and Regulations.

ITB – Instructions to Bidders.

LCB- Lowest Calculated Bid.

LCRB – Lowest Calculated Responsive Bid.

LGUs – Local Government Units.

LoC – Line of Credit

MAB – Most Advantageous Bid.

MARB – Most Advantageous Responsive Bid.

MEARB – Most Economically Advantageous Responsive Bid.

MYCA – Multi-Year Contracting Authority.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

PSA – Philippine Statistics Authority.

RA No. – Republic Act Number.

SARB – Single Advantageous and Responsive Bid.

SCC - Special Conditions of Contract.

SCRB – Single Calculated and Responsive Bid.

SEARB – Single Economically Advantageous Responsive Bid.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

SRRB – Single Rated and Responsive Bid.

UN – United Nations.

Definition of Terms

Bid – a signed offer, proposal, or quotation submitted by a supplier, manufacturer, distributor, contractor, consultant, or service provider in response to the requirements of the Procuring Entity as stated in the Bidding Documents. (IRR of RA No. 12009, Section 5[c]).

Bidder – a supplier, manufacturer, distributor, contractor, consultant, and service provider, whether public or private, who submits a Bid in response to the requirements of the Procuring Entity as stated in the Bidding Documents. (IRR of RA No. 12009, Section 5[d]).

Bidding Documents – the documents issued by the Procuring Entity as the basis for Bids, furnishing all information necessary to prospective bidder to prepare a Bid for the Goods, Infrastructure Projects, and Consulting Services required by the Procuring Entity. (IRR of RA No. 12009, Section 5[e])

Bill of Quantities – a list of the specific items of the Work and their corresponding unit prices, lump sums, and/or provisional sums.

Consulting Services – services for Infrastructure Projects and other types of projects or activities of the government requiring adequate external technical and professional expertise that are beyond the capability or capacity of the government to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (IRR of RA No. 12009, Section 5[i]).

Contract – the agreement entered into between the Procuring Entity and the Contractor to execute, complete, and maintain the Works and as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contract Price – the price stated in the Notice of Award and thereafter to be paid by the Procuring Entity to the Contractor for the execution of the Works in accordance with this Contract.

Contract Time Extension (CTE) – the allowable period for the Contractor to complete the Works in addition to the original Completion Date stated in this Contract.

Contractor – a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

Days – refers to calendar days; months to calendar months.

Dayworks – varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.

Defect – any part of the Works not completed in accordance with the Contract.

Defects Liability Certificate – the certificate issued by the Procuring Entity upon correction of defects by the Contractor.

Defects Liability Period – the one (1) year period between contract completion and final acceptance within which the Contractor assumes the responsibility to undertake the repair of any damage to the Works at its own expense.

Drawings – graphical presentations of the Works. They include all supplementary details, shop drawings, calculations, and other information provided or approved for the execution of this Contract.

Effective Date of the Contract – the date indicated in the contract. However, the Contractor shall commence performance of its obligations only upon receipt of the Notice to Proceed.

Foreign-funded Procurement or Foreign-Assisted Project – refers to the acquisition of Goods, Consulting Services, and the contracting for Infrastructure Projects by the Government of the Philippines which are wholly or partly funded by foreign loans or grants pursuant to a Treaty or International or Executive Agreement.

Funding Source – Organization named in the SCC.

Goods – refer to (i) all items, supplies, and materials, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity; or (ii) general support services which pertain to all types of services except Consulting Services and Infrastructure Projects, such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services. Personnel Services or individual COS or JO engagements do not fall under this definition; (IRR of RA No. 12009, Section 5[n]).

Infrastructure Projects – include the construction, improvement, rehabilitation, demolition, repair, restoration, or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as “civil works” or “works;” (IRR of RA No. 12009, Section 5[r]).

Lot – refers to one or more infrastructure projects that are grouped or bundled together based on factors, such as scope, location, or other relevant parameters, as determined by the End-User or Implementing Unit of the Procuring Entity. Each lot is distinct within the project and may be awarded as a separate contract.

MARB – refers to the award criteria in the procurement of Infrastructure where the considerations for the award of contract are the eligibility of the bidder, the responsiveness of its bid to the technical requirements, and the most advantageous bid in reference to the highest rated offer based on the quality component of the bid.

Materials – refer to all supplies, including consumables, used by the Contractor for incorporation in the Works.

MEARB – refers to the award criteria in the procurement of Infrastructure where the considerations for the award of contract are the eligibility of the bidder, the responsiveness of its bid to the technical requirements, and the determination of the most economically advantageous bid in reference to the quality-price ratio allocated to the technical and financial components of the bid.

Notice to Proceed – refers to a written notice issued by the Procuring Entity to the Contractor requiring the latter to begin the commencement of the work not later than a specified or determinable date.

Online submission – pertains to the submission of the bid for Infrastructure Projects and the bid envelopes containing the technical and financial components of the bid through electronic means or through the electronic bidding facility of the PhilGEPS, once available.

Permanent Works – refer to all permanent structures and all other project features and facilities required to be constructed and completed in accordance with this Contract which shall be delivered to the Procuring Entity, and which shall remain at the Site after the removal of all Temporary Works.

Plant – refers to the machinery, apparatus, and the like intended to form an integral part of the Permanent Works.

Procuring Entity - the organization acquiring the Infrastructure Project, as named in the SCC.

Project – refers to a specific or identified procurement covering Goods, Infrastructure Projects or Consulting Services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the Procuring Entity's Annual Procurement Plan.

Program of Work – refers to the big-picture plan and comprehensive schedule that details construction-related tasks to ensure the timely and efficient delivery of the project.

Site Investigation Reports – refers to those that were included in the Bidding Documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.

Slippage – refers to a delay in work execution occurring when actual accomplishment falls below the target as measured by the difference between the scheduled and actual accomplishment of the Work by the Contractor as established from the work schedule. This is actually described as a percentage of the whole Works.

Simple Infrastructure Projects – refers to construction, improvement, rehabilitation, demolition, repair, restoration, or maintenance of structures, technical facilities and systems with an Approved Budget for the Contract (ABC) not exceeding Ten Million Pesos (PhP 10,000,000.00) built at the community level for the sustenance of lives and livelihoods of the population living in a community and built according to the needs and aspirations of the community population.

Verified Report – the report submitted by the Implementing Unit to the HoPE setting forth its findings as to the existence of grounds or causes for termination and explicitly stating its recommendation for the issuance of a Notice to Terminate.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The Invitation to Bid shall be:

- a) In line with the principles of transparency and competitiveness and to ensure the widest possible dissemination thereof, all invitations to bid shall be published continuously by the Procuring Entity, for seven (7) calendar days on the Philippine Government Electronic Procurement System (PhilGEPS) website, in any conspicuous place reserved for this purpose in the premises of the Procuring Entity, and on the website or social media platforms of the Procuring Entity, if available, or such other channels as may be authorized by the Government Procurement Policy Board (GPPB), and the website prescribed by the foreign government/foreign or international financing institution, if applicable; and
- b) For justifiable reasons, Procuring Entities that cannot publish procurement opportunities on its website, social media platform, or such other channels authorized by the GPPB shall publish its invitation to bid, at least once, in a newspaper of general nationwide circulation.

Apart from the essential items listed in the Bidding Documents, the Invitation to Bid should also indicate the following:

- a) The availability of the Bidding Documents, which shall be commence from the time the Invitation to Bid is first published until the deadline for submission and continue until the deadline for submission and receipt of bids;
- b) The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c) The deadline for the submission and receipt of bids;
- d) The procurement strategy/ies; and
- e) The bid award criterion/criteria. (e.g., the application of a margin of preference in bid evaluation)

The Invitation to Bid should be incorporated into the Bidding Documents. The information contained in the Invitation to Bid must conform to the Bidding Documents, particularly to the relevant information in the BDS.



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Invitation to Bid

FOR THE INSTALLATION OF A SUBMARINE CABLE AND THE CONSTRUCTION OF DISTRIBUTION LINES FOR TWO (2) BARANGAYS—LIPAYRAN AND SULANGAN— WITH THREE (3) PASSBY SITIOS; THE CONSTRUCTION OF DISTRIBUTION LINE EXTENSIONS FOR SEVEN (7) SITIOS; AND THE INSTALLATION OF KWH METERS, SERVICE ASSEMBLY UNITS, DUPLEX SERVICE DROP WIRES, AND HOUSEWIRING MATERIALS FOR ONE HUNDRED FORTY-FIVE (145) HOUSEHOLD CONNECTIONS IN SEVEN (7) SITIOS UNDER THE SITIO ELECTRIFICATION PROGRAM (SEP), AND TWO HUNDRED SEVENTY-SEVEN (277) HOUSEHOLD CONNECTIONS FOR THE THREE (3) PASSBY SITIOS UNDER THE BARANGAY LINE ENHANCEMENT PROGRAM (BLEP) OF THE AFOREMENTIONED TWO (2) BARANGAYS

ITB NO. 2026-001

- The **BANTAYAN ISLAND ELECTRIC COOPERATIVE, INC.** through the **2026 Approved Prior Years Savings (APYS) No. 1** intends to apply the sum of the following:

Item	Particulars	PCAB License Requirement	ABC (PhP)	Price of Bid Documents	Project Duration
			inclusive of VAT	(non-refundable)	
Voucher 1 Lot 1	Supply of materials, tools, equipment and labor for the installation, test and commissioning of SUBMARINE CABLE and its protections for Barangay Line Enhancement Program	At least Medium A Category B (Electrical or Off-Shore Engineering)	Php71,044,578.61	PhP 50,000.00	210 CD
Voucher 1 Lot 2	Supply of materials and labor of construction of distribution lines for Barangay Line Enhancement Program	At least Small B, Category C&D (Electrical)	Php5,011,878.90	PhP 10,000.00	120 CD
Voucher 2	Supply of materials and labor of construction of distribution lines for Sitio Electrification Program	At least Small B, Category C&D (Electrical)	Php 7,649,394.20	PhP 10,000.00	120 CD
Voucher 3	Supply of materials and labor of installation of housewiring materials for Sitio Electrification Program	At least Small B, Category C&D (Electrical)	Php 1,259,876.00	PhP 5,000.00	120 CD
Voucher 4	Supply of materials and labor of installation of housewiring materials for Barangay Line Enhancement Program	At least Small B, Category C&D (Electrical)	Php 2,415,852.8	PhP 5,000.00	120 CD

Bids received in excess of the ABC for each *lot* shall be automatically rejected at bid opening.

- The BANELCO BAC now invites bids for the above Procurement. Completion of the Works is required refer to table above from receipt of Notice to Proceed. Bidders should

have completed, at least five (5) years from the date of submission and receipt of bids, contracts similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II. Instructions to Bidders.

3. Bidding will be conducted through competitive bidding procedures using a nondiscretionary “pass/fail” criterion as specified in the IRR of RA No. 12009.

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA No. 5183.

4. Interested Bidders may obtain further information from BAC Secretariat and inspect the Bidding Documents at the address given below from Mondays to Fridays to 8:00 AM – 5:00 PM.
5. A complete set of Bidding Documents may be acquired by interested Bidders on 24 August 2026 from the address given below upon payment of the applicable fee (refer to above table) for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB.

It may also be downloaded free of charge from the website of the Procuring Entity, provided that bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

6. The BANELCO BAC will hold a face-to-face Pre-Bid Conference on August 28, 2026 at 1:30 PM at BANELCO OFFICE, Balintawak, Bantigue, Bantayan, Cebu, which shall be open to prospective bidders. Interested bidders may join the pre-bid conference.
7. Bids must be duly received by the Bids and Awards Committee (BAC) Secretariat through manual submission at BANELCO OFFICE, Balintawak, Bantigue, Bantayan, Cebu on or before September 11, 2026 at 10:00AM. Late bids shall not be accepted.
8. All Bids must be accompanied by Bid Security in any of the acceptable forms and in the amount stated in ITB Clause 16.1.
9. Bid opening shall be on **11 September 2026** at 10:00AM at BANELCO OFFICE, Balintawak, Bantigue, Bantayan, Cebu. Bids will be opened in the presence of the Bidders’ representatives who choose to attend the activity.
10. The BANELCO BAC reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 701 of RA No. 12009, without incurring any liability to the affected Bidder or Bidders.
11. For further information, please refer to:

Ms. Maria Ruby Capundag

BAC Secretariat

Cellphone no.: 09311176126 / 09437012696

Landline no.: 032-4609112, 032-4609281 or call 09232641889 and look for
Ms. Email address: **banelco.bac@gmail.com**

12. You may visit the BANELCO website, for downloading of Bidding Documents:
<https://banelcobantayan.com/>

Issued on the 21st day of August 2026.

(SGD) ENGR. RONALD D. ALOYAN

Chairman, BAC

Noted by:

(SGD) ENGR. LEE D. RIVERA

General Manager

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section of the Bidding Documents provides the information necessary for Bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on the bid submission, eligibility check, opening and evaluation of bids, post-qualification and award of contract.

This Section contains provisions that shall not be changed or modified. Any amendment shall be reflected in Section III. Bid Data Sheet which consists of provisions that supplement, amend, or specify in detail information or requirements included in this Section and which are specific to each procurement.

Matters governing performance of the Contractor, payments under the contract, or those affecting the risks, rights, and obligations of the parties under the contract are not normally included in this Section, but rather under Section IV. General Conditions of Contract (GCC), and/or Section V. Special Conditions of Contract (SCC). If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, prudence must be exercised to avoid contradictions between clauses dealing with the same matter.

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A. General

1) Scope of Bid

- 1.1 The Procuring Entity named in the **BDS**, invites Bids for **the Supply of materials and labor of construction of distribution lines for Barangay Line Enhancement Program**, with Project Identification Number Voucher 1, Lot 2.

The Procurement Project (referred to herein as "Project") is for the construction of Works, as described in Section VI (Specifications).

- 1.2 The winning Bidder will be expected to complete the Works by the intended completion date specified in **SCC** Clause 1.1.

2) Source of Funds

The Procuring Entity has a budget or received funds from the Funding Source named in the **BDS**, and in the amount indicated in the **BDS**. It intends to apply part of the funds received for this Project to cover eligible payments under the contract.

3) Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

- 3.1 Unless otherwise specified in the **BDS**, the Procuring Entity, as well as Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. In pursuance of this policy, the Procuring Entity:

- a) defines, for purposes of this provision, the following terms under existing laws, rules, and regulations:
 - i) "corrupt practice" means an act by which officials in the public or private sectors improperly and unlawfully enrich themselves, others, or induce others to do so, by misusing the position in which they are placed, and includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; entering, on behalf of the government, into any contract or transaction manifestly and grossly disadvantageous to the same, whether or not the public officer profited or will profit thereby, and similar acts as provided in RA No. 3019.
 - ii) "fraudulent practice" means a misrepresentation of facts for purposes of influencing a procurement process or the execution of a contract to the detriment of the Procuring Entity, which includes collusive practices among Bidders (prior to or after bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the Procuring Entity of the benefits of free and open competition.
 - iii) "collusive practices" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Procuring Entity, designed to establish bid prices at artificial, non-competitive levels.

iv) “coercive practices” means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract;

v) “obstructive practice” is

a) deliberately destroying, falsifying, altering or concealing of evidence material to an administrative proceedings or investigation or making false statements to investigators in order to materially impede an administrative proceedings or investigation of the Procuring Entity or any foreign government/foreign or international financing institution relative to allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent the latter from disclosing its knowledge of matters relevant to the administrative proceedings or from pursuing such proceedings or investigation; or

b) acts intended to materially impede the exercise of the inspection and audit rights of the Procuring Entity or any foreign government/foreign or international financing institution herein.

b) Undertakes to reject a proposal for award upon *prima facie* determination that the Bidder recommended for award has engaged in any of the prohibited practices mentioned in this Clause for purposes of competing for the contract.

3.2 Further, the Procuring Entity will seek to impose the maximum civil, administrative, and/or criminal penalties available under the applicable laws on individuals and organizations deemed to be involved in any of the practices mentioned in **ITB** Clause 4.

3.3 Furthermore, the Funding Source and the Procuring Entity reserve the right to inspect and audit records and accounts of a Bidder or Contractor in the bidding for and performance of a contract themselves or through independent auditors as reflected in the **GCC** Clause 36.

4) **Conflict of Interest**

4.1 All Bidders found to have conflicting interests shall be disqualified to participate in the procurement at hand, without prejudice to the imposition of appropriate administrative, civil, and criminal sanctions. A Bidder may be considered to have conflicting interests with another Bidder in any of the events described in paragraphs (a) through (c) and a general conflict of interest in any of the circumstances set out in paragraphs (d) through (f) below:

a) A Bidder has controlling shareholders or beneficial owners in common with another Bidder;

b) A Bidder receives or has received any direct or indirect subsidy from any other Bidder;

- c) A bidder has the same legally authorized representative as that of another Bidder for purposes of this Bid;
 - d) A bidder has a relationship, directly or through third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder or influence the decisions of the Procuring Entity regarding this bidding process. This may include a firm or an organization that lends, or temporarily seconds, its personnel to firms or organizations that are engaged in consulting services for the preparation related to procurement for or implementation of the project if the personnel would be involved in any capacity on the same project;
 - e) A bidder who participated as a consultant in the preparation of the design or technical specifications of the goods and related services that are the subject of the bid; or
 - f) A bidder who lends, or temporarily seconds, its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
- 4.2 All Bidding Documents shall be accompanied by an Omnibus Sworn Statement of the Bidder that it is not related, by consanguinity or affinity up to the third civil degree, to the HoPE, Procurement Agent (if engaged), the head of the Project Management Office (PMO), the End-User or Implementing Unit or any members of the Bids and Awards Committee (BAC), Technical Working Group (TWG), and BAC Secretariat.³
- 4.3 The Bidder shall also disclose the ultimate beneficial ownership of the entity it represents. Failure to comply shall be a ground for the automatic disqualification of the bid in consonance with Section 59 of the IRR. For this reason, relationship to the aforementioned persons within the third civil degree of consanguinity or affinity shall automatically disqualify the Bidder from participating in the procurement of contracts of the Procuring Entity notwithstanding the act of such persons inhibiting themselves from the procurement process. This Clause shall apply to the following persons and affiliates:
- a) In the case of individuals or sole proprietorships, to the Bidders and their spouses;
 - b) In the case of partnerships, to the partnership itself and its partners;
 - c) In the case of cooperatives, to the cooperative itself and members of the board of directors, general manager or chief executive officer;
 - d) In the case of a partnership, joint venture, or consortium, to the entity itself, its members or partners, as well as any person or entity that is a member of a blacklisted partnership, joint venture, or consortium; and
 - e) In the case of corporations, a single stockholder, together with their relatives up to the third civil degree of consanguinity or affinity, and their

³ Section 81.1 of the IRR.

assignees, holding at least twenty percent (20%) of the shares therein, its chairperson and president, shall be blacklisted after they have been determined to hold the same controlling interest in a previously blacklisted corporation or in two corporations that have been blacklisted; the corporations of which they are part shall also be blacklisted.

5) Eligible Bidders

- 5.1 Only Bids found to be legally, technically, and financially eligible will be evaluated. For procurement of Infrastructure Projects, the following persons shall be eligible to participate in this bidding:
- a) Duly licensed Filipino citizens or sole proprietorships;
 - b) Partnerships duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the interest belongs to citizens of the Philippines;
 - c) Corporations duly organized under the laws of the Philippines, and of which at least sixty percent (60%) of the outstanding capital stock belongs to citizens of the Philippines;
 - d) Cooperatives duly organized under the laws of the Philippines; and
 - e) Persons or entities forming themselves into a Joint Venture (JV), i.e., a group of two (2) or more persons or entities that intend to be jointly and severally responsible or liable for a particular contract; Provided, however, that in accordance with relevant laws, rules, and regulations, Filipino ownership or interest of the joint venture concerned shall be at least sixty percent (60%); Provided, further, that joint ventures in which Filipino ownership or interest is less than sixty percent (60%) may be eligible where the structures to be built require the application of techniques or technologies which are not adequately possessed by a person or entity meeting the sixty percent (60%) Filipino ownership requirement; Provided, furthermore, that in the latter case, Filipino ownership or interest shall not be less than twenty-five percent (25%). For this purpose, Filipino ownership or interest shall be based on the contributions of each of the member of the joint venture as specified in their Joint Venture Agreement (JVA); Provided, finally, that the primary purpose of each member of the joint venture must be similar or related to the requirement of the project to be bid out.
- 5.2 The Procuring Entity may also invite foreign bidders when provided for under any Treaty or International or Executive Agreement as specified in the **BDS**.
- 5.3 In accordance with RA No. 4566 or the "Contractors' License Law" as amended by RA No. 11711 or "An Act Further Amending Republic Act No. 4566", the persons or entities enumerated in Section 52 of the IRR may participate in the procurement of Infrastructure Projects if it has been issued a license by the Philippine Contractors Accreditation Board (PCAB) to engage or act as a contractor.
- 5.4 The Bidder must have completed an SLCC that is similar to the procurement project to be bid, and whose value must be equivalent to at least fifty percent

(50%) of the ABC, adjusted to current prices using the Philippine Statistics Authority (PSA) consumer price indices; Provided, that any change to the fifty percent (50%) requirement may be allowed, subject to the recommendation of the Procuring Entity, which shall be submitted to the GPPB for consideration; Provided, further, that contractors under Small A and Small B categories without similar experience on the procurement project to be bid may be allowed to bid if the cost of such contract is not more than the Allowable Range of Contract Cost of their registration based on the guidelines as prescribed by the PCAB.

For foreign-funded procurement, the GoP and the foreign government, or foreign or international financing institution may agree on another track record requirement, as specified in the **BDS**.

Moreover, a contract shall be considered similar to the procurement project if it has the same major categories of work. The Procuring Entity may clarify in the Bidding Documents what is regarded as major categories of work, guided by the principle of proportionality and Fit-for-Purpose approach.

- 5.5 The SLCC shall be supported by an Owner's Certificate of Final Acceptance issued by the project owner other than the Contractor, or a final rating of at least Satisfactory in the Constructors Performance Evaluation System (CPES), or a similar performance and monitoring system. In the case of contracts with the private sector, an equivalent document shall be submitted.
- 5.6 The computation of a bidder's NFCC must be at least equal to the ABC to be bid, calculated as follows:

NFCC = [(Current assets minus current liabilities) (15)] minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started, coinciding with the procurement project to be bid; Provided, That a different formula may be adopted subject to the recommendation of the Procuring Entity, which shall be submitted to the GPPB for consideration.

The value of the domestic bidder's current assets and current liabilities shall be based on the latest AFS submitted to the BIR.

For purposes of computing the foreign bidders' NFCC, the value of the current assets and current liabilities shall be based on their latest AFS prepared in accordance with international financial reporting standards.

6) Bidder's Responsibilities

- 6.1 The Bidder or its duly authorized representative shall submit a sworn statement in the form prescribed in Section IX. Philippine Bidding Documents Related Forms as required in **ITB** Clause 12.1(h)(iv).
- 6.2 Before submitting their bids, the Bidders are deemed to be knowledgeable of all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect this Project in any way.
- 6.3 The Bidder undertook the following responsibilities:

- a) Took steps to carefully examine and ensure full understanding and comprehension of the Bidding Document, its requirements, clauses, and provisions;
- b) Acknowledged 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;
- d) Complied with its responsibility to inquire or secure Supplemental Bid Bulletin(s);
- e) Ensured that it is not “blacklisted” or barred from bidding by the Government of the Philippines (GoP) or any of its agencies, offices, corporations, or LGUs, including foreign government, or foreign/ international financing institutions whose blacklisting rules have been recognized by the GPPB; by itself or by reason of its relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity;
- f) Ensured that each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and that all statements and information provided therein are true and correct;
- g) Authorized the HoPE or its duly authorized representative/s to verify all the documents submitted;
- h) Ensured that the signatory 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, to sign, and execute the ensuing contract, accompanied by the duly notarized Special Power of Attorney, Board or Partnership Resolution, or Secretary’s Certificate, whichever is applicable;
- i) Complied with the disclosure provision under Section 81 and 82 of RA No. 12009 and its IRR in relation to other provisions of RA No. 3019;
- j) Complied with existing labor laws and standards. Moreover, the Bidder undertakes to:
 - i) Ensure the entitlement of workers to wages, hours of work, safety and health and other prevailing conditions of work as established by national laws, rules and regulations; or Collective Bargaining Agreement (CBA) or arbitration award, if and when applicable.

In case there is a finding by the Procuring Entity or the Department of Labor and Employment (DOLE) of underpayment or non-payment of workers’ wages and wage-related benefits, the Bidder agrees that the performance security or portion of the contract amount shall be withheld in favor of the complaining workers pursuant to appropriate provisions of RA No. 12009,

without prejudice to the institution of appropriate actions under the Labor Code, as amended, and other social legislations;

- ii) Comply with Occupational Safety and Health Standards (OSHS) and correct deficiencies, if any.

In case of imminent danger, injury or death of the worker, the Bidder undertakes to suspend contract implementation pending clearance to resume from the DOLE Regional Office, in compliance with the Work Stoppage Order; and

- iii) Inform the workers of their conditions of work, labor clauses under the contract specifying wages, hours of work and other benefits under prevailing national laws, rules and regulations; or CBA or arbitration award, if and when applicable, through posting in two (2) conspicuous places in the establishment's premises.
- k) Ensured that it 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;
- l) Examined all instructions, forms, terms, and specifications in the Bidding Documents;
- m) Determined and complied with all matters pertaining to the contract to be bid, including but not limited to: (i) the location and the nature of the contract, project, or work; (ii) climatic conditions; (iii) transportation facilities; (iv) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (v) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work; and
- n) Ensured that all information in the Bidding Documents, including bid or supplemental bid bulletin(s) issued, are correct and consistent. The Procuring Entity shall not assume any responsibility regarding erroneous interpretations or conclusions by the prospective or eligible Bidder out of the data furnished by the Procuring Entity.

Failure to observe any of the above responsibilities shall be at the risk of the Bidder concerned;

- 6.4 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.
- 6.5 Further, the Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring Entity shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

In case of failure of bidding, the Bidding Documents fee may be applied in the re-bidding for the same Project.

- 6.6 Furthermore, the Bidder should be aware that the Procuring Entity will accept bids only from those that have paid the applicable fee for the Bidding Documents at the office indicated in the Invitation to Bid.

7) Origin of Goods and Services

Unless otherwise indicated in the **BDS**, there is no restriction on the origin of Goods, or Contracting of Works or Services other than those prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

8) Subcontracts

- 8.1 Unless otherwise specified in the **BDS**, the Bidder may subcontract portions of the Works to an extent as may be approved by the HoPE and as stated in the **BDS**. However, the subcontracted portion shall not exceed fifty (50%), or a different percentage of the ABC, on a per project basis, as approved by the GPPB.
- 8.2 Subcontracting of any portion of the Project shall not relieve the Bidder from any liability or obligation that may arise from the contract.
- 8.3 Subcontractors must meet the eligibility criteria as stated in the **BDS** and shall submit the same eligibility documents as the general contractor. Failure of a subcontractor to meet the eligibility criteria does not affect the eligibility of the general contractor for the procurement project. In such case, the portion intended to be subcontracted to the ineligible subcontractor shall be assumed by the general contractor.
- 8.4 Subcontracting arrangement, if allowed, including the time of submission of the eligibility documents of the subcontractor, shall be disclosed in the **BDS**.

B. Contents of Bidding Documents

9) Pre-Bid Conference

- 9.1 If so specified in the **BDS**, a pre-bid conference shall be held at the Procuring Entity's physical address on the date indicated therein, to clarify and address the Bidders' questions on the technical and financial components of this Project.
- 9.2 The pre-bid conference shall be held at least twelve (12) calendar days before the deadline for the submission of and receipt of bids, but not earlier than seven (7) calendar days from the posting of the invitation to bid and other bidding documents on the BANELCO website.
- 9.3 Bidders are highly encouraged to attend the pre-bid conference to fully understand the Procuring Entity's requirements. While non-attendance of the Bidder will in no way prejudice its bid, the Bidder is deemed to know any changes and/or amendments to the Bidding Documents, as may be provided in the Supplemental Bid Bulletin.

The proceedings of the pre-bid conference shall be recorded, and the corresponding minutes shall be prepared not later than five (5) calendar days after the pre-bid conference. The minutes shall be made available to prospective Bidders not later than five (5) days upon written request.

- 9.4 Decisions of the BAC amending any provision of the Bidding Documents shall be issued in writing through a Supplemental Bid Bulletin at least seven (7) calendar days before the deadline for the submission and receipt of bids.

10) Clarification and Amendment of Bidding Documents

- 10.1 Prospective bidders may request for clarification(s) on and/or interpretation of any part of the Bidding Documents. Such a request must be in writing and submitted to the BAC of the Procuring Entity at the address or electronic mail indicated in the **BDS** or through the electronic bidding facility of BANELCO, as may be applicable, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.
- 10.2 The BAC shall respond to the said request by issuing a Supplemental Bid Bulletin duly signed by the BAC Chairperson. It shall be made available to all those who have properly secured the Bidding Documents, at least seven (7) calendar days before the deadline for the submission and receipt of Bids.
- 10.3 Supplemental Bid Bulletins may also be issued upon the Procuring Entity's initiative for purposes of clarifying or modifying any provision of the Bidding Documents not later than seven (7) calendar days before the deadline for the submission and receipt of Bids. Any modification to the Bidding Documents shall be identified as an amendment.
- 10.4 Any Supplemental Bid Bulletin issued by the BAC shall also be posted on the BANELCO website, in any conspicuous place in the premises of the Procuring Entity, and on the website or social media platforms of the Procuring Entity, if available, or such other channels as may be authorized by the GPPB. It shall be the responsibility of all prospective bidders, including those who have properly secured the Bidding Documents, to inquire and secure Supplemental Bid Bulletins that may be issued by the BAC. However, Bidders who have submitted bids before the issuance of the Supplemental Bid Bulletin must be accordingly informed by the BAC, and be allowed to modify or withdraw their bids prior to the deadline for the submission and receipt of bids in accordance with ITB Clause 21.

C. Preparation of Bids

11) Language of Bids

The eligibility requirements or statements, the bids, and all other documents to be submitted to the BAC must be in English. If the eligibility requirements or statements, the bids, and all other documents submitted to the BAC are in foreign language other than English, it must be accompanied by a translation of the documents in English. The documents shall be translated by the relevant foreign government agency, the foreign government agency authorized to translate documents, or a registered translator in the foreign bidder's country. The Bidder shall cause the authentication of the translated documents and shall be authenticated by the appropriate Philippine foreign service establishment or post or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. However, for Contracting Parties to the

Apostille Convention, the documents shall be authenticated through an apostille by the Competent Authority, as defined in Section 20.2.9.2 of the IRR, except for countries identified by the DFA that will still require legalization (red ribbon) by the relevant Embassy or Consulate. The English translation shall govern, for purposes of interpretation of the bid.

12) Documents Comprising the Bid: Technical and Financial Components

12.1 The first bid envelope shall contain the following technical documents, including the eligibility documents:

- a) PhilGEPS Certificate of Registration (Platinum Membership) in accordance with Section 20 of the IRR;
- b) PCAB License and Registration, in case of Joint Venture (JV);
- c) Statement of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid;
- d) Statement of the Bidder's SLCC, in accordance with **ITB** Clause 5.5.

The SLCC shall be supported by an Owner's Certificate of Final Acceptance issued by the project owner other than the Contractor, or a final rating of at least satisfactory in the CPES, or a similar performance and monitoring system. In case of contracts with the private sector, an equivalent document shall be submitted;

- e) NFCC computation in accordance with **ITB** Clause 5.6;
- f) Joint Venture Agreement (JVA), if applicable;
- g) Bid Security in the prescribed form and amount in accordance with **ITB** Clause 16, and validity period under **ITB** Clause 15;
- h) Project Requirements, which shall include the following:
 - i) Organizational chart of the personnel to be deployed for the procurement project to be bid;
 - ii) List of Contractor's personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the procurement project to be bid, with their complete qualifications and experience data. These personnel must meet the required minimum years of experience set in the **BDS**;
 - iii) List of Contractor's major equipment units which are owned, leased, or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor or vendor for the duration of the project, as the case may be, which must meet the minimum requirements for the contract set in the **BDS**; and
 - iv) Omnibus Sworn Statement in accordance with Section 54.3 of the IRR.

- 12.2 The second bid envelope shall contain the Financial Bid Form, which includes the bid prices and the bill of quantities, in accordance with **ITB** Clauses 13.1.
- 12.3 Whenever necessary, modifications may be made to the foregoing provisions specifically for major and specialized procurement to suit the particular needs of the Procuring Entity, subject to the approval of the GPPB.
- 12.4 All bids that exceed the ABC shall not be accepted. Unless otherwise indicated in the **BDS**, for foreign-funded procurement, the ABC shall be applied as the ceiling to bid prices provided the following conditions are met:
- a) Bidding Documents are obtainable free of charge on a freely accessible website. If payment of Bidding Documents is required by the Procuring Entity, payment could be made upon the submission of bids.
 - b) The Procuring Entity has procedures in place to ensure that the ABC is based on recent estimates made by the engineer or the responsible unit of the Procuring Entity and that the estimates are based on adequate detailed engineering and reflect the quality, supervision and risk, and inflationary factors, as well as prevailing market prices, associated with the types of works or goods to be procured.
 - c) The Procuring Entity has trained cost estimators on estimating prices and analyzing bid variances. In the case of Infrastructure Projects, the Procuring Entity must also have trained quantity surveyors.
 - d) The Procuring Entity has established a system to monitor and report bid prices relative to ABC and engineer's or Procuring Entity's estimate.
 - e) The Procuring Entity has established a monitoring and evaluation system for contract implementation to provide feedback on actual total costs of goods and works.

However, the GoP and the foreign government, or foreign or international financing institutions may agree to waive the foregoing conditions.

13) Bid Prices

- 13.1 The contract shall be for the whole Works, as described in the Bidding Documents, based on the priced Bill of Quantities submitted by the Bidder.
- 13.2 The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. In case partial bids are allowed in the ITB, bids not addressing or providing all of the required items in the Bidding Documents including, where applicable, the Bill of Quantities, shall be considered non-responsive and shall be automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a zero (0) or a dash (-) for the said item would mean that it is being offered for free to the Government, except those required by law or regulations to be provided for.
- 13.3 For the given scope of work in the contract as awarded, all bid prices shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as specified in GCC Clause 45.

14) Bid Currencies

- 14.1 All bid prices shall be quoted in Philippine Peso unless otherwise provided in the **BDS**. However, for purposes of bid evaluation, bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP Daily Reference Exchange Rate Bulletin on the day of the bid opening.⁴
- 14.2 If so allowed in accordance with **ITB** Clause 14.1, the Procuring Entity, for purposes of bid evaluation and comparing the bid prices, will convert the currencies in which the bid price is expressed to Philippine Peso at the foreign exchange rates.
- 14.3 Unless otherwise specified in the **BDS**, payment of the contract price shall be made in Philippine Peso.

15) Bid Validity

- 15.1 Bids shall remain valid for the period specified in the **BDS** which shall not exceed one hundred twenty (120) calendar days from the date of the opening of bids.
- 15.2 Should it become necessary to extend the validity of the bids and the bid securities beyond one hundred twenty (120) calendar days, the Procuring Entity concerned shall request in writing all those who submitted bids for such extension before the expiration date therefor. Bidders, however, shall have the right to refuse to grant such extension without forfeiting their Bid Security.

16) Bid Security

- 16.1 The Bidder, at its option, shall submit a Bid Security in the form and amount as stated in the **BDS**, which may include the following:

Form of Bid Security	Amount of Bid Security (Not less than the required Percentage of the ABC)
(a) Cash or cashier's/manager's check issued by a bank. <i>For biddings conducted by LGUs, the Cashier's or Manager's check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i>	Two percent (2%)
(b) Bank draft/guarantee or irrevocable Letter of Credit issued by a bank; Provided, however, that it shall be confirmed or authenticated by a	Five percent (5%)

⁴ RA No. 8183 or "An Act to Assure Uniform Value to Philippine Coin and Currency."

local bank, if issued by a foreign bank. <i>For biddings conducted by LGUs, the 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.</i>	
(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance on as authorized to issue such security.	Five percent (5%)
(d) Bid Securing Declaration	Not Applicable

The Bid Security shall be denominated in Philippine Peso and posted in favor of the Procuring Entity.

- 16.2 The Bid Security should be valid for the period specified in the **BDS**. Any bid not accompanied by an acceptable Bid Security shall be considered as non-responsive and rejected by the Procuring Entity.
- 16.3 In no case shall the Bid Security be returned later than the expiration of the bid validity period indicated in the Bidding Documents, unless it has been extended in accordance with Section 57.2 of the IRR. In case the bidder is required to extend its bid validity, the bidder may, at its discretion, substitute a Bid Securing Declaration for the extended period as a replacement of its Bid Security; Provided, that the option to substitute is indicated in the **BDS**.
- 16.4 Upon signing and execution of the contract, pursuant to **ITB** Clause 29, and the posting of the performance security pursuant to **ITB** Clause 30, the Bid Security of the successful Bidder's Bid Security will be discharged, but in no case later than its validity period as indicated in **ITB** Clause 15.
- 16.5 The Bid Security may be forfeited based on any of the following grounds, as provided under Rule VIII, X, XI, and XXI of the IRR:
- a) If a Bidder:
- i) With the Lowest Calculated Responsive Bid (LCRB), Most Economically Advantageous Responsive Bid (MEARB), Most Advantageous Responsive Bid (MARB), Single Calculated and Responsive Bid (SCRB), Single Economically Advantageous Responsive Bid (SEARB), or Single Advantageous Responsive Bid (SARB) withdraws, fails, refuses or is unable to: (i) submit the documents required under Section 66.5 of the IRR; (ii) enter into contract with the Procuring Entity; or (iii) post the required performance security within the period stipulated in the IRR and in accordance with **ITB** Clause 30;

- ii) Causes the delay, without justifiable cause, of the screening for eligibility, opening of bids, evaluation and post evaluation of Bids, and awarding of contracts;
- iii) Refuses to clarify or validate in writing its bid during post-qualification within a period of seven (7) calendar days from receipt of the request for clarification;
- iv) Withdraws a bid, or refuses to accept an award, or refuses or fails to enter into contract with the Procuring Entity without justifiable cause, after the approval of the HoPE for having been the declared LCRB or MEARB, as the case may be;
- v) Refuses or fails to furnish performance security within the prescribed time;
- vi) Commits of three (3) or more of any of the acts imposed with suspension, as provided under Section 99 of the IRR;
- vii) Uses force, fraudulent machinations, coercion, undue influence or pressure on any member of the BAC or any officer or employee of the Procuring Entity to take a particular action for its own favor or gain, or to the advantage of a particular bidder;
- viii) Colludes with one (1) or more bidders and submitting different bids as if they were bona fide, when they knew that one or more of them was so much higher than the other that it could not be honestly accepted and that the contract will surely be awarded to the pre-arranged lowest bid;
- ix) Maliciously submits different bids through two (2) or more persons, corporations, partnerships, or any other business entity in which it has interest, to create the appearance of competition that does not in fact exist so as to be declared as the winning bidder;
- x) Enters into an agreement with other bidder/s which call upon one to refrain from bidding for procurement contracts, or which call for withdrawal of bids already submitted, or which are otherwise intended to secure an undue advantage to any of the bidders;
- xi) Fails to faithfully disclose its relationship, regardless of the time of its discovery, with the HoPE, members of the BAC, the TWG, and the BAC Secretariat, the head of the PMO or the End-User or Implementing Unit, and the project consultants of the Procuring Entity, or of the procurement agent, whichever is applicable, by consanguinity or affinity up to the third civil degree pursuant to Section 81 of the IRR;
- xii) Submits beneficial ownership information containing false entries;
- xiii) Allows the use of one's name or uses the name of another for purposes of public bidding;

- xiv) Submits eligibility requirements and bids containing false information or falsified documents or the concealment of such information that will materially alter the outcome of eligibility screening or any stage of the procurement;
 - xv) Accesses the contents of any Bid submitted to the Procuring Entity before the opening of bids, without authorization;
 - xvi) Has any documented attempt to unduly influence the outcome of the bidding;
 - xv) Employs schemes which stifle or suppress any procurement activity; or
 - xvi) Commits a third offense imposed with blacklisting under the Act by the same Procuring Entity, or a combination of three (3) violations imposed with blacklisting by the Procuring Entity and other Procuring Entities, as posted on the GPPB portal;
- b) If a Winning Bidder:
- i) Conducts poor performance or unsatisfactory quality and/or progress of work. Poor performance shall be as follows:
 - i.i) Negative slippage of fifteen percent (15%) and above within the critical path of the project due entirely to the fault or negligence of the winning bidder;
 - i.ii) Non-compliance of the materials and workmanship with the approved specifications arising from the fault or negligence of the winning bidder.
 - ii) In case it is determined prima facie that the winning bidder has engaged, before or during the implementation of the contract, in the following unlawful deeds and behaviors relative to contract acquisition and implementation:
 - ii.i) Corrupt, fraudulent, collusive and coercive practices;
 - ii.ii) Drawing up or using forged documents; or
 - ii.iii) Using adulterated materials, means or methods, or engaging in production contrary to rules of science or trade.
 - iii) Assigns or subcontracts the contract or any part thereof or substituting key personnel named in the proposal without prior written approval by the Procuring Entity;
 - iv) Willfully or deliberately abandons or does not perform the project or contract by the winning bidder resulting in substantial breach thereof without lawful and/or just cause;
 - v) Has its contract terminated due to its default or unlawful acts; or

- vi) Fails to comply with the provision on warranty that requires to repair any noted defect or damage to the Infrastructure Project due to the use of materials of inferior quality within ninety (90) calendar days from the issuance of the order by the HoPE to undertake such repairs.

17) Format and Signing of Bids

- 17.1 Bidders shall submit their bids through their duly authorized representative using the appropriate forms provided in Section IX. Philippine Bidding Documents Related Forms on or before the deadline specified in the **ITB** Clause 19 in two (2) separate sealed bid envelopes which shall be submitted simultaneously, whether through manual or online submission. The first shall contain the technical component of the bid, including the eligibility requirements under **ITB** Clause 12, and the second shall contain the financial component of the bid.
- 17.2 Forms as mentioned in **ITB** Clause 17.1 must be completed without any alterations to their format. No substitute form shall be accepted.
- 17.3 Each and every page of the Bid Form, including the Bill of Quantities, under Section IX hereof, shall be signed by the duly authorized representative/s of the Bidder. Failure to do so shall be a ground for the rejection of the bid.
- 17.4 Any insertions, erasures, or overwriting shall be valid only if they are signed or initialed by the duly authorized representative/s of the Bidder.

18) Sealing and Marking of Bids

- 18.1 Bidders shall enclose their technical documents described in **ITB** Clause 12 in one sealed envelope marked "TECHNICAL COMPONENT," and the financial component in another sealed envelope marked "FINANCIAL COMPONENT," sealing them all in an outer envelope marked "BID."
- 18.2 The Bid shall be typed or written in ink and shall be signed by the Bidder or its duly authorized representative/s.
- 18.3 All envelopes shall:
 - a) contain the name of the contract to be bid in capital letters;
 - b) bear the name and address of the Bidder in capital letters;
 - c) be addressed to the Procuring Entity's BAC in accordance with **ITB** Clause 18.1;
 - d) bear the specific identification of this bidding process indicated in the **ITB** Clause 1.1; and
 - e) bear a warning "DO NOT OPEN BEFORE..." the date and time for the opening of bids, in accordance with **ITB** Clause 19.
- 18.4 For manually submitted bid envelopes that are not properly sealed and marked, as required in the Bidding Documents, the same shall be accepted; Provided, That the bidder or its duly authorized representative shall acknowledge such

condition of the bid as submitted. On the other hand, unsealed or unmarked bid envelopes, or bids that cannot be opened or corrupted in case of online submission, shall be rejected.

The BAC shall assume no responsibility for misplaced or lost contents of the improperly sealed or marked bid, or for its premature opening.

D. Submission and Opening of Bids

19) Deadline for Submission of Bids

Bids must be received by the Procuring Entity's BAC at the address indicated in the **Invitation to Bid**, on or before the date and time indicated in the **BDS**.

20) Late Bids

Bids, including the eligibility requirements, submitted after the deadline shall be rejected by the BAC. The BAC shall record in the Minutes of the Meeting the submission and opening of bids, the Bidder's name, its representative, and the time the late bid was submitted.

21) Modification and Withdrawal of Bids

21.1 Bidders may modify their bids before the deadline for the submission and receipt of bids.

a) For manual submission and receipt of bids, the Bidders shall not be allowed to retrieve their original bid, but shall only be allowed to submit the bid modification by sending another bid, equally sealed, properly identified, linked to its original bid, and marked as a "modification," thereof, and stamped "received" by the BAC. Bid modifications received after the applicable deadline shall not be considered and shall be returned to the bidder unopened.

b) For online submission of bids, the Bidders shall not be allowed to retrieve their original Bid, but shall only be allowed to submit the bid modification, send another Bid equally secured, properly identified labelled as a "modification" of the one previously submitted. The time indicated in the latest bid receipt page generated shall be the official time of submission. Bids modification submitted after the applicable deadline shall not be accepted.

21.2 Bidders may withdraw their bids in writing before the deadline for submission and receipt of bids. Withdrawal of bids after the applicable deadline shall be subject to appropriate sanctions as prescribed in the IRR.

Bidders may also express their intention not to participate in the bidding in writing, which should be received by the BAC before the deadline for submission and receipt of bids. Bidders that withdraw their bids shall no longer be allowed to submit another bid for the same contract, directly or indirectly.

21.3 No bid may be modified after the deadline for submission and receipt of bids. Further, no bid may be withdrawn in the interval between the deadline for submission and receipt of bids, and the expiration of bid validity specified by the Bidder in the Financial Bid Form. Withdrawal of bid during this interval shall

result in the forfeiture of the Bidder's Bid Security pursuant to **ITB** Clause 16.5, and the imposition of administrative sanctions as prescribed by RA No. 12009 and without prejudice to the imposition of civil and criminal sanctions as provided under applicable laws.

Alternative Bids shall be rejected. For this purpose, Alternative Bid shall pertain to an offer made by a bidder in addition or as a substitute to its original bid, which may be included as part of its original bid or submitted separately. A bid with options shall likewise be considered an Alternative Bid regardless of whether said bid proposal is contained in a single envelope or submitted in two (2) or more separate bid envelopes.

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative bids shall not be accepted.

Each Bidder shall submit only one Bid, either individually or as a partner in a JV. A Bidder who submits or participates in more than one bid (other than as a subcontractor if a subcontractor is permitted to participate in more than one bid) will cause all the proposals with the Bidder's participation to be disqualified. This shall be without prejudice to any applicable criminal, civil and administrative penalties that may be imposed upon the persons and entities concerned.

22) Opening and Preliminary Examination of Bids

- 22.1 The BAC shall open the bids in public, immediately after the deadline for submission and receipt of bids, as specified in the **BDS**. In case the Bids cannot be opened as scheduled due to justifiable reasons, the BAC shall take custody of the submitted Bids and reschedule the opening of Bids on the next working day or at the soonest possible time, through the issuance of a Notice of Postponement to be posted on the BANELCO website.
- 22.2 The manner of opening of the bids for Infrastructure Projects shall depend on the award criterion to be adopted, as follows:
 - a) For MEARB, the BAC shall open the technical and financial proposals on the same day.
- 22.3 The Procuring Entity shall prepare the minutes of the proceedings of the bid opening that shall include, as a minimum: (a) names of Bidders, their bid price (per lot, if applicable, and/or including discount, if any), bid security, findings of preliminary examination, and whether there is a withdrawal or modification; and (b) attendance sheet. The BAC members shall sign the abstract of bids as read.
- 22.4 The Bidders or their duly authorized representatives may attend the opening of bids. The BAC shall ensure the integrity, security, and confidentiality of all submitted bids. The Abstract of bids, as read, and the minutes of the bid opening shall be made available to the public, upon written request and payment of a specified fee to recover the cost of materials.
- 22.5 To ensure transparency and accurate representation of the bid submission, the BAC Secretariat shall notify in writing all bidders whose bids it has received through mail at its PhilGEPS-registered physical address or official e-mail

address. The said notice shall be issued within seven (7) calendar days from the date of the bid opening.

E. Evaluation and Comparison of Bids

23) Process to be Confidential

- 23.1 Members of the BAC, its staff and personnel, Secretariat, and TWG, as well as Observers, are prohibited from making or accepting any communication with any bidder regarding the evaluation of their bids until the issuance of the Notice of Award, unless otherwise allowed in the case of **ITB** Clause 24.
- 23.2 Any effort by a Bidder to influence the Procuring Entity in the Procuring Entity's decision in respect of bid evaluation, bid comparison or contract award will result in the rejection of the bid.

24) Clarification of Bids

To assist in the evaluation, comparison, and post-qualification of the bids, the Procuring Entity may ask in writing any Bidder for a clarification of its bid. All responses to requests for clarification shall be in writing. Any clarification submitted by a Bidder in respect to its bid that is not in response to the request of the Procuring Entity shall not be considered.

25) Detailed Evaluation and Comparison of Bids

- 25.1 The Procuring Entity's evaluation of bids shall be based on the bid price quoted in the Bid Form, which includes the Bill of Quantities.
- 25.2 The Procuring Entity will undertake the detailed evaluation and comparison of the bids which have passed the opening and preliminary examination of bids, pursuant to **ITB** Clause 22, to determine the Lowest Calculated Bid (LCB), Most Economically Advantageous Bid (MEAB), and Most Advantageous Bid (MAB).
- 25.3 The award criterion shall be determined as follows:
 - a) For LCB:
 - i) The detailed evaluation of the financial component of the bids, to establish the correct calculated prices of the bids; and
 - ii) The ranking of the total bid prices as so calculated from the lowest to highest, where the bid with the lowest price shall be identified as the LCB.
 - b) For MEAB, the BAC shall evaluate the quality and price proposals to determine the MEAB using the following steps:
 - i) The quality proposal together with the price proposal shall be considered in the evaluation of bids. The quality proposals shall be evaluated first using the criteria in the **BDS**. The price proposals of the bids that meet the minimum quality score shall then be opened.
 - ii) The price and quality proposals shall be given corresponding weights with the price proposal given a minimum weight of fifteen percent (15%)

up to a maximum of forty percent (40%). The weight of the quality criteria shall be adjusted accordingly such that their total weight in percent together with the weight given to the price proposal shall be equal to one hundred percent (100%).

- iii) To further promote green public procurement, the sustainability of materials or structures with green specifications shall be given greater weight in the evaluation of bids. As approved by the BAC, the exact weights shall be indicated in the **BDS**. The BAC shall rank the bidders in descending order based on the combined numerical ratings of their quality and price proposals. The bidder with the best overall score using the quality-price ratio shall be referred to as the MEAB.
- iv) The HoPE shall approve or disapprove the recommendations of the BAC within two (2) calendar days after receipt of the results of the evaluation from the BAC.

The quality component shall be assessed on the basis of criteria with corresponding numerical weights indicated in the **BDS**, which may include qualitative, environmental, or social aspects linked to the subject matter of the contract. These may include any or a combination of the following:

- a) Quality and technical merit, including technical competence and a credible track record;
- b) Aesthetic and functional design and characteristics;
- c) Approach and methodology;
- d) Accessibility;
- e) Tools and equipment;
- f) Social, environmental, economic, and innovative characteristics;
- g) Organization, qualification, and experience of employees or staff assigned to perform the contract;
- h) Ongoing contracts and work commitments; or
- i) Other relevant criteria in relation to the subject Infrastructure Projects to be procured.

c) For MAB

- i) The BAC shall evaluate the quality proposals to determine the MAB using the quality components. The quality components shall be assessed on the basis of the criteria with corresponding numerical weights indicated in the **BDS** to determine the bidder with the highest technical rating.
- ii) The second bid envelope of the bidder obtaining the highest technical rating shall be opened. If the financial proposal is equal to or lower than

the ABC, the bid shall be accepted and determined as the MAB; otherwise, the same shall be rejected and the bidder will be disqualified.

- 25.4 In order to eliminate bias in evaluating the quality proposals, it is recommended that the highest and lowest scores for each bidder for each criterion shall not be considered in determining the average scores of the bidders, except when the evaluation is conducted in a collegial manner.
- 25.5 The BAC shall immediately conduct a detailed evaluation of all bids using non-discretionary criteria in considering the following:
- a) Completeness of the bid. Unless the **BDS** allows partial bids, bids not addressing or providing all of the required items in the BDS shall be considered non-responsive and, thus, automatically disqualified.
- However, when no price or a zero (0) or a dash (-) is indicated in a required item in the bid form, the same shall be construed that it is being offered for free to the Government, except those required by law or regulations to be provided for; and
- b) Arithmetical corrections. The BAC shall consider computational errors and omissions to enable proper comparison of all eligible bids. It may also consider bid correction if expressly allowed in the **BDS**. Any adjustment shall be calculated in monetary terms to determine the calculated prices.
- 25.6 Based on the detailed evaluation of bids, those that comply with the above-mentioned requirements shall be ranked in the ascending order of their total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, to identify the LCB, MEAB, or MAB. Total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, which exceed the ABC shall not be considered, unless otherwise indicated in the **BDS**.
- 25.7 The BAC shall evaluate all bids on an equal footing to ensure fair and competitive bid comparison. For this purpose, all bidders shall be required to include in their bids the cost of all taxes, such as, but not limited to, value-added tax (VAT), income tax, local taxes, and other fiscal levies and duties. Such bids, including said taxes, shall be the basis for the bid evaluation and comparison.
- 25.8 If so indicated pursuant to **ITB** Clause 1.1, bids may be submitted for individual lots, or for any combination thereof, provided that all bids and combinations of bids shall be received by the same deadline and opened and evaluated simultaneously so as to determine the bid or combination of bids offering the lowest calculated cost to the Procuring Entity. Bid prices quoted shall correspond to all of the requirements specified for each lot. Bid Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately. The basis for evaluation of lots is specified in **BDS** Clause 25.5 (a).

26) Post - Qualification

- 26.1 The BAC shall determine to its satisfaction whether the Bidder that is evaluated as having submitted the LCB, MEAB, or MAB, as the case may be, complies with and is responsive to all the requirements and conditions specified in **ITB** Clauses 5 and 12. The Bidder, within a non-extendible period of five (5)

calendar days from receipt of notice from the BAC that it submitted the LCB, MEAB, or MAB, shall submit all the eligibility documents supporting its PhilGEPS Certificate of Registration (Platinum Membership), its latest income and business tax returns filed for the preceding quarter which should not be earlier than two (2) quarters from the date of submission and receipt of bid, and other appropriate licenses and permits required by law and stated in the **BDS**.

- 26.2 Failure to submit any of the post-qualification requirements on time, or a finding against the veracity thereof, shall disqualify the Bidder for award; Provided, That in the event that a finding against the veracity of any of the documents submitted is made, it shall cause the forfeiture of the Bid Security.
- 26.3 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted pursuant to **ITB** Clause 12, as well as other information as the Procuring Entity deems necessary and appropriate, using a non-discretionary "pass/fail" criterion, which shall be completed within a period of twelve (12) calendar days.
- 26.4 If the BAC determines that the bidder with the LCB, MEAB, or MAB passes all the criteria for post-qualification, it shall declare the said bid as the LCRB, MEARB, MARB, SCB, SEAB, or Single Advantageous Bid (SAB) and recommend to the HoPE the award of contract to the said bidder at its submitted bid price or its calculated bid price, whichever is lower or, in the case of quality-based evaluation procedure, submitted bid price or its negotiated price, whichever is lower.
- If, however, the BAC determines that the bidder with the LCB, MEAB, MAB, SCB, SEAB, or SAB fails to meet the post-qualification criteria, it shall immediately notify the Bidder in writing of its post-disqualification and the grounds for such determination.⁵
- 26.5 Immediately after the BAC has notified the first bidder of its post-disqualification, and notwithstanding any pending request for reconsideration thereof, the BAC shall initiate and complete the same post-qualification process on the bidder with the second LCB, MEAB, or MAB. If the second bidder passes the post-qualification and provided that the request for reconsideration of the first bidder has been denied, the second bidder shall be post-qualified as the bidder with the LCB, MEAB, or MAB.
- 26.6 If the second bidder, however, fails the post-qualification, the procedure for post-qualification shall be repeated for the bidder with the next LCB, MEAB, or MAB and so on, until the LCRB, MEARB, or MARB, as the case may be, is determined for award, subject to the procedure of Notice and Execution of Award.
- 26.7 Within a period not exceeding ten (10) calendar days from the determination by the BAC of the LCRB, MEARB, MARB, SCRB, SEARB, or SARB and the recommendation to award the contract, the HoPE or its duly authorized representative shall approve or disapprove the said recommendation.

⁵ Sec 63.5 of the IRR.

- 26.8 In case of approval, the HoPE or its duly authorized representative shall immediately issue the Notice of Award to the bidder with the LCRB, MEARB, MARB, SCRB, SEARB, or SARB, as the case may be.

In the event that the approving authority shall disapprove the resolution on the award of the contract, such disapproval shall be based only on valid, reasonable, and justifiable grounds as enumerated under Section 70 of the IRR to be expressed in writing. A copy of the decision disapproving the resolution shall be furnished to the BAC and the bidder.

27) Reservation Clause

- 27.1 Notwithstanding the eligibility or post-qualification of a bidder and without incurring any liability, the HoPE or its duly authorized representative at any stage of the procurement, reserves the right to review its qualifications, reject any and all bids, declare a failure of bidding or not award the contract in the following situations:

- a) If it has reasonable grounds to believe that a misrepresentation has been made by the said bidder; or
- b) If it has reasonable grounds to believe that there has been a change in the bidder's capability to undertake the project from the time it submitted its eligibility requirements.

Should such review uncover any misrepresentation made in the eligibility and bidding requirements, statements or documents, or any changes in the situation of the Bidder which will adversely affect its capability to undertake the Project so that it no longer meets the prescribed eligibility or bid evaluation criteria, the Procuring Entity shall consider the said Bidder as ineligible and disqualify it from participating further in the bidding process or being awarded the contract.

- 27.2 Based on the following grounds, the HoPE or its duly authorized representative reserves the right to reject any and all Bids, declare a Failure of Bidding at any time prior to the contract award, or not to award the contract, without thereby incurring any liability, and make no assurance that a contract shall be entered into as a result of the bidding:

- a) If there is *prima facie* evidence of collusion between appropriate public officers or employees of the Procuring Entity, or between the BAC and any of the bidders, or if the collusion is between or among the bidders themselves, or between a bidder and a third party, including any act which restricts, suppresses or nullifies or tends to restrict, suppress or nullify competition or influences or tends to influence the bidding process;
- b) If the BAC is found to have failed in complying with the applicable law or in following the prescribed bidding procedures; or
- c) If there are any justifiable and reasonable ground where the award of the contract will not redound to the benefit of the government, in instances where (i) the physical and economic conditions have significantly changed so as to render the project no longer economically, financially or technically feasible as determined by the

HoPE; (ii) the Project is no longer necessary as determined by the HoPE; and (iii) the source of funds for the Project has been withheld or reduced through no fault of the Procuring Entity.

F. Award of Contract

28) Contract Award

- 28.1 Subject to **ITB** Clause 26, the HoPE or its duly authorized representative shall award the contract to the Bidder whose bid has been determined to be the LCRB, MEARB, MARB, SCRB, SEARB, or SARB, as the case may be.
- 28.2 Prior to the expiration of the period of bid validity, the Procuring Entity shall notify the winning Bidder in writing that its bid has been accepted, through a Notice of Award duly received by the Bidder or its representative personally or by registered mail or electronically, receipt of which must be confirmed in writing within two (2) days by the Bidder with the LCRB, MEARB, MARB, SCRB, SEARB, or SARB, as applicable, and submitted personally or sent by registered mail or electronically to the Procuring Entity.
- 28.3 Within ten (10) calendar days from receipt by the winning bidder of the Notice of Award, the following conditions should be complied with before the contract may be awarded:
 - a) Submission of the following documents:
 - i) Valid JVA, if applicable;
 - ii) The SEC Certificate of Registration of the foreign corporation, if applicable; or
 - iii) Valid PCAB license and registration for the type and cost of the Project for foreign bidders when the Treaty or International or Executive Agreement expressly allows submission of such license and registration as a pre-condition to the Notice of Award.
 - b) Posting of the performance security in accordance with **ITB** Clause 30; and
 - c) Signing of the contract as provided in **ITB** Clause 29.

29) Signing of the Contract

- 29.1 Within ten (10) calendar days from receipt of the Notice of Award, the winning Bidder shall post the required performance security, sign and date the contract, and return it to the Procuring Entity.
- 29.2 The Procuring Entity shall enter into a contract with the successful Bidder within the same ten (10) calendar day period provided that all the documentary requirements are complied with.
- 29.3 The following documents shall form part of the contract:

- a) Contract Agreement;
- b) Bidding Documents;
- c) Winning Bidder's bid, including the technical and financial proposals, and all other documents/statements submitted (e.g., Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
- d) Performance Security;
- e) Notice of Award of Contract; and
- f) Other contract documents that may be required by existing laws and/or specified in the **BDS**.

30) Performance Security

- 30.1 To guarantee the faithful performance by the winning bidder of its obligations under the contract, it shall post a performance security prior to the signing of the contract. Furthermore, the successful bidder shall be required to update the performance security posted before to the issuance of a variation order, if any.
- 30.2 Sectors enumerated under Section 76.1⁶ of the IRR may be allowed to post Performance Securing Declaration (PSD) as specified in the **BDS**.
- 30.3 The performance security shall be in a form selected by the Procuring Entity in the amount indicated in the **BDS**, which shall not be less than the percentage of the total contract price in accordance with the following price schedule:

Form of Performance Security	Amount of Performance Security (Not less than the Percentage of the Total Contract Price)
a) Cash or Cashier's or Manager's check issued by a bank. <i>For biddings conducted by LGUs, the cashier's or manager's check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i>	

⁶ Section 76.1. The GPPB, once data is available from relevant agencies, shall maintain a registry of entities belonging to the following sectors:

a) Farmers as certified by the Department of Agriculture (DA);
b) Fisherfolk as certified by the Bureau of Fisheries and Aquatic Resources (BFAR);
c) Persons with disabilities as certified by the National Council for Disability Affairs (NCDA) pursuant to RA No. 7277, otherwise known as the Magna Carta for Disabled Persons, as amended;
d) Solo parents as certified by the Department of Social Welfare and Development (DSWD); e) Microenterprises and social enterprises as certified by the MSMED Council;
f) Startups, spin-offs, and other forms of entity involved in science, technology, and innovation activities as certified by the DTI, DICT, NIC or the Department of Science and Technology (DOST), as may be applicable;
g) Cooperatives duly registered with the CDA pursuant to RA No. 6938, otherwise known as the Cooperative Code of the Philippines, as amended; and
h) Other relevant sectors as may be determined by the GPPB to ensure inclusivity and diversity in the procurement process.

b) Bank draft or guarantee or irrevocable Letter of Credit issued by a local bank. If issued by a foreign bank, it shall be confirmed or authenticated by a local bank.	Ten percent (10%)
c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the IC as authorized to issue such security.	Thirty Percent (30%)

30.4 The performance security shall be denominated in Philippine Peso and posted in favor of the Procuring Entity, which shall be forfeited in the event it is established that the winning bidder is in default in any of its obligations under the contract.

31) Notice to Proceed

The Procuring Entity shall issue the Notice to Proceed to the winning Bidder not later than three (3) calendar days from the date of approval of the contract by the appropriate signatories. All notices called for by the terms of the contract shall be effective only at the time of receipt thereof by the successful Bidder.

32) Protest Mechanism

Decisions of the BAC in all stages of procurement may be protested to the HoPE in accordance with Section 83 of the IRR.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet

This Section is intended to assist the Procuring Entity in providing specific information relative to corresponding clauses in the ITB included in Section II. Instructions to Bidders, and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS the information and requirements relevant to the circumstances of the Procuring Entity, including procurement processing details; the applicable rules regarding bid price and currency; and the bid evaluation criteria that will apply to the bids. In preparing Section III, the following aspects should be checked:

- a) Information that specifies and complements provisions of Section II. Instructions to Bidders must be incorporated; and
- b) Amendments and/or supplements, if any, to provisions of Section II. Instructions to Bidders as necessitated by the circumstances of the specific procurement, must also be incorporated.



Bantayan Island Electric Cooperative, Inc. (BANELCO)

Balintawak, Bantigue, Bantayan, Cebu

Tel/Fax No.: (032) 460-9281; (032) 460-9112

Email address: banelcoonline@yahoo.com

Website: www.banelcobantayan.com

Invitation to Bid

FOR THE INSTALLATION OF A SUBMARINE CABLE AND THE CONSTRUCTION OF DISTRIBUTION LINES FOR TWO (2) BARANGAYS—LIPAYRAN AND SULANGAN— WITH THREE (3) PASSBY SITIOS; THE CONSTRUCTION OF DISTRIBUTION LINE EXTENSIONS FOR SEVEN (7) SITIOS; AND THE INSTALLATION OF KWH METERS, SERVICE ASSEMBLY UNITS, DUPLEX SERVICE DROP WIRES, AND HOUSEWIRING MATERIALS FOR ONE HUNDRED FORTY-FIVE (145) HOUSEHOLD CONNECTIONS IN SEVEN (7) SITIOS UNDER THE SITIO ELECTRIFICATION PROGRAM (SEP), AND TWO HUNDRED SEVENTY-SEVEN (277) HOUSEHOLD CONNECTIONS FOR THE THREE (3) PASSBY SITIOS UNDER THE BARANGAY LINE ENHANCEMENT PROGRAM (BLEP) OF THE AFOREMENTIONED TWO (2) BARANGAYS

ITB NO. 2026-001

1. The **BANTAYAN ISLAND ELECTRIC COOPERATIVE, INC.** through the **2026 Approved Prior Years Savings (APYS) No. 1** intends to apply the sum of the following:

Item	Particulars	PCAB License Requirement	ABC (Php)	Price of Bid Documents	Project Duration
			inclusive of VAT	(non-refundable)	

Voucher 1 Lot 1	Supply of materials, tools, equipment and labor for the installation, test and commissioning of SUBMARINE CABLE and its protections for Barangay Line Enhancement Program	At least Medium A Category B (Electrical or Off-Shore Engineering)	Php71,044,578.61	PhP 50,000.00	210 CD
Voucher 1 Lot 2	Supply of materials and labor of construction of distribution lines for Barangay Line Enhancement Program	At least Small B, Category C&D (Electrical)	Php5,011,878.90	PhP 10,000.00	120 CD
Voucher 2	Supply of materials and labor of construction of distribution lines for Sitio Electrification Program	At least Small B, Category C&D (Electrical)	Php 7,649,394.20	PhP 10,000.00	120 CD
Voucher 3	Supply of materials and labor of installation of housewiring materials for Sitio Electrification Program	At least Small B, Category C&D (Electrical)	Php 1,259,876.00	PhP 5,000.00	120 CD
Voucher 4	Supply of materials and labor of installation of housewiring materials for Barangay Line Enhancement Program	At least Small B, Category C&D (Electrical)	Php 2,415,852.8	PhP 5,000.00	120 CD

Bids received in excess of the ABC for each *lot* shall be automatically rejected at bid opening.

- The BANELCO BAC now invites bids for the above Procurement. Completion of the Works is required refer to table above from receipt of Notice to Proceed. Bidders should have completed, at least five (5) years from the date of submission and receipt of bids, contracts similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II. Instructions to Bidders.
- Bidding will be conducted through competitive bidding procedures using a nondiscretionary “pass/fail” criterion as specified in the IRR of RA No. 12009.

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA No. 5183.

- Interested Bidders may obtain further information from BAC Secretariat and inspect the Bidding Documents at the address given below from Mondays to Fridays to 8:00 AM – 5:00 PM.
- A complete set of Bidding Documents may be acquired by interested Bidders on 24 August 2026 from the address given below upon payment of the applicable fee (refer to above table) for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB.

It may also be downloaded free of charge from the website of the Procuring Entity, provided that bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

- The BANELCO BAC will hold a face-to-face Pre-Bid Conference on August 28, 2026 at 1:30 PM at BANELCO OFFICE, Balintawak, Bantigue, Bantayan, Cebu, which shall be open to prospective bidders. Interested bidders may join the pre-bid conference.

7. Bids must be duly received by the Bids and Awards Committee (BAC) Secretariat through manual submission at BANELCO OFFICE, Balintawak, Bantigue, Bantayan, Cebu on or before September 11, 2026 at 10:00AM. Late bids shall not be accepted.
8. All Bids must be accompanied by Bid Security in any of the acceptable forms and in the amount stated in ITB Clause 16.1.
9. Bid opening shall be on **11 September 2026** at 10:00AM at BANELCO OFFICE, Balintawak, Bantigue, Bantayan, Cebu. Bids will be opened in the presence of the Bidders' representatives who choose to attend the activity.
10. The BANELCO BAC reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 701 of RA No. 12009, without incurring any liability to the affected Bidder or Bidders.
11. For further information, please refer to:

Ms. Maria Ruby Capundag

BAC Secretariat

Cellphone no.: 09311176126 / 09437012696

Landline no.: 032-4609112, 032-4609281 or call 09232641889 and look for Ms. Email address: **banelco.bac@gmail.com**
12. You may visit the BANELCO website, for downloading of Bidding Documents: **<https://banelcobantayan.com/>**

Issued on the 21st day of August 2026.

(SGD) ENGR. RONALD D. ALOYAN

Chairman, BAC

Noted by:

(SGD) ENGR. LEE D. RIVERA

General Manager

Bid Data Sheet

ITB Clause	
1.1	The Procuring Entity is <i>BANTAYAN ISLAND ELECTRIC COOPERATIVE, INC. (BANELCO)</i> The Project title is Supply of materials and labor of construction of distribution lines for Barangay Line Enhancement Program. The identification number of the Contract is <i>VOUCHER 1, LOT 2.</i>
2	The Funding Source is: 2.1 The GOP through the source of funding as indicated below for 2026 in the amount of Php5,011,878.90 2.2 The source of funding is: a. Approved Prior Years Savings (APYS) No. 1
3.1	No further instructions.
5.2	Bidding is restricted to eligible bidders as defined in ITB Clause 5.2.
5.4	Contracts similar to the Project shall be those described as follows: • Distribution Line Construction: Construction of medium-voltage Distribution Lines using steel poles.
7	No further instructions.
8.1	Subcontracting is not allowed.
8.3	Not applicable.
8.4	Subcontracting is not allowed.
9.1	The Procuring Entity will hold a pre-bid conference for this Project on <i>August 28, 2026 (1:30 PM)</i> at <i>BANELCO Office, Balintawak, Bantigue, Bantayan, Cebu.</i>
10.1	The Procuring Entity's address is: <i>Balintawak, Bantigue, Bantayan, Cebu</i> <i>Engr. Lee D. Rivera, General Manager</i>

	(032) 460-9281 : (032) 460-9112 banelcoonline@yahoo.com															
12.1(h)(ii)	The minimum work experience requirements for key personnel are the following: <table><tr><td><u>Key Personnel</u></td><td><u>General Experience</u></td></tr><tr><td>Project Manager</td><td>5-10 years</td></tr><tr><td>Project Engineers</td><td>5-10 years</td></tr><tr><td>Material Engineers</td><td>5-10 years</td></tr><tr><td>Foreman</td><td>3-5 years</td></tr><tr><td>Linemen</td><td>3-5 years</td></tr></table>	<u>Key Personnel</u>	<u>General Experience</u>	Project Manager	5-10 years	Project Engineers	5-10 years	Material Engineers	5-10 years	Foreman	3-5 years	Linemen	3-5 years			
<u>Key Personnel</u>	<u>General Experience</u>															
Project Manager	5-10 years															
Project Engineers	5-10 years															
Material Engineers	5-10 years															
Foreman	3-5 years															
Linemen	3-5 years															
12.1(h)(iii)	The minimum major equipment requirements are the following: <table><tr><td><u>Equipment</u></td><td><u>Capacity</u></td><td><u>Number of Units</u></td></tr><tr><td>Transformer Gin</td><td></td><td>1</td></tr><tr><td>Work/Service boats</td><td></td><td>1</td></tr><tr><td>Jackhammers</td><td></td><td>1</td></tr><tr><td>Post Belts</td><td></td><td>10</td></tr></table>	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>	Transformer Gin		1	Work/Service boats		1	Jackhammers		1	Post Belts		10
<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>														
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Work/Service boats		1														
Jackhammers		1														
Post Belts		10														
12.4	The ABC is Php5,011,878.90 Any bid with a financial component exceeding this amount shall not be accepted.															
14.1	The bid prices shall be quoted in Philippine Peso.															
14.3	Payment shall be made in Philippine Peso.															
15.1	Bids will be valid for 120 days from bid opening.															
16.1	The Bid Security shall be in the form of a Bid Securing Declaration, and choose at least two (2) from any of the following: 1. The amount of not less than Php100,237.58, if bid security is in cash. 2. The amount of not less than Php100,237.58, if bid security is in cashier's check. 3. The amount of not less than Php100,237.58, if bid security is in manager's check. 4. The amount of not less than Php250,593.95, if bid security is in bank draft.															

	5. The amount of not less than Php250,593.95, if bid security is in guarantee. 6. The amount of not less than Php250,593.95, if irrevocable Letter of Credit. 7. The amount of not less than Php250,593.95, if Surety Bond.
16.2	The Bid Security shall be valid until <i>March 11, 2027</i> .
16.3	Substitution of the bid security is not allowed.
19	The address for submission of bids is BANELCO Office, Balintawak, Bantigue, Bantayan, Cebu. The deadline for submission of bids is September 11, 2026 (10:00 AM).
21.5	"No further instructions."
22.1	The date and time of bid opening is September 11, 2026 (10:00 AM). The place of bid opening is BANELCO Office, Balintawak, Bantigue, Bantayan, Cebu.
25.3 (b)(i)	The quality component shall be assessed on the basis of criteria with corresponding numerical weights, which may include qualitative, environmental, or social aspects linked to the subject matter of the contract. These may include any or a combination of the following: a) Quality and technical merit, including technical competence and a credible track record; b) Aesthetic and functional design and characteristics; c) Approach and methodology; d) Accessibility; e) Tools and equipment; f) Social, environmental, economic, and innovative characteristics; g) Organization, qualification, and experience of employees or staff assigned to perform the contract; h) Ongoing contracts and work commitments; i) After-sales service and technical assistance; j) Delivery conditions, such as delivery period and delivery process; k) Disposal measures; or

	Other relevant criteria in relation to the subject Goods or Infrastructure Projects to be procured.																																
25.3 (b)(iii)	No further Instructions.																																
25.3(b)	Supply of Materials and Labor for Construction of Distribution Lines for the Barangay Line Enhancement Program Technical Criteria: 60% Financial Criterion: 40% <table><tr><th>Category / Subcategory</th><th>Points</th><th>Weight</th><th>Description / Evaluation Focus</th></tr><tr><td colspan="4">A. BIDDER ELIGIBILITY / TECHNICAL CAPABILITY</td></tr><tr><td>A1. Relevant Experience and Past Performance</td><td>8</td><td>8%</td><td>Completed projects involving construction, rehabilitation, upgrading, or extension of electrical distribution lines of comparable scope and complexity, including documented satisfactory performance.</td></tr><tr><td>A2. Specialized Equipment and Resources</td><td>6</td><td>6%</td><td>Evaluate the availability and suitability of portable construction equipment, conductor stringing/pulling tools, pole-handling and rigging equipment, electrical testing instruments, hand/power tools, safety equipment, and marine transportation/logistical resources appropriate for distribution-line construction in an islet with limited access. Resources shall be adequate for the safe transport, handling, installation, testing, and completion of the works under actual site conditions.</td></tr><tr><td>A3. Key Technical Personnel</td><td>6</td><td>6%</td><td>Qualifications, relevant experience, and proposed deployment of the Project Manager, Project Engineers, Material Engineers, Foreman, and labor workforce.</td></tr><tr><td>Subtotal A</td><td>20</td><td>20%</td><td></td></tr><tr><td colspan="4">B. DISTRIBUTION LINE MATERIALS - COMPLIANCE WITH NEA ENGINEERING STANDARDS</td></tr><tr><td>B1. Quality of Line Hardware</td><td>8</td><td>8%</td><td>Evaluate conformity of line hardware and accessories with applicable NEA Engineering Standards and approved project specifications, including material composition, dimensions, mechanical/electrical ratings, galvanizing or corrosion</td></tr></table>	Category / Subcategory	Points	Weight	Description / Evaluation Focus	A. BIDDER ELIGIBILITY / TECHNICAL CAPABILITY				A1. Relevant Experience and Past Performance	8	8%	Completed projects involving construction, rehabilitation, upgrading, or extension of electrical distribution lines of comparable scope and complexity, including documented satisfactory performance.	A2. Specialized Equipment and Resources	6	6%	Evaluate the availability and suitability of portable construction equipment, conductor stringing/pulling tools, pole-handling and rigging equipment, electrical testing instruments, hand/power tools, safety equipment, and marine transportation/logistical resources appropriate for distribution-line construction in an islet with limited access. Resources shall be adequate for the safe transport, handling, installation, testing, and completion of the works under actual site conditions.	A3. Key Technical Personnel	6	6%	Qualifications, relevant experience, and proposed deployment of the Project Manager, Project Engineers, Material Engineers, Foreman, and labor workforce.	Subtotal A	20	20%		B. DISTRIBUTION LINE MATERIALS - COMPLIANCE WITH NEA ENGINEERING STANDARDS				B1. Quality of Line Hardware	8	8%	Evaluate conformity of line hardware and accessories with applicable NEA Engineering Standards and approved project specifications, including material composition, dimensions, mechanical/electrical ratings, galvanizing or corrosion
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				protection, workmanship, identification/markings, required tests, and suitability for outdoor distribution service. Supporting certificates and test reports shall correspond to the materials offered.
	B2. Quality of Distribution Transformers	8	8%	Evaluate conformity of distribution transformers with applicable NEA Engineering Standards and approved project specifications, including kVA rating, voltage ratio, frequency, insulation/BIL, impedance, no-load and load losses, efficiency, temperature rise, winding and core construction, insulating medium, tank construction, bushings, accessories, nameplate data, routine/type tests, manufacturer quality documentation, and warranty.
	B3. Quality of Conductors	8	8%	Evaluate conformity of conductors with applicable NEA Engineering Standards and approved project specifications, including conductor type and material, nominal size, strand construction, dimensions, AC resistance, ampacity/current-carrying capability, rated breaking strength, mechanical properties, workmanship, markings, and required manufacturer test results.
	B4. Quality of Poles	8	8%	Evaluate conformity of poles with applicable NEA Engineering Standards and approved project specifications, including pole type/material, class and length, dimensional requirements, mechanical strength and loading capability, structural integrity, durability, preservation or corrosion protection as applicable, workmanship, identification/markings, manufacturer test reports/certifications, and suitability for the specified distribution-line and islet environment.
	B5. Other Material Quality Assurance and Traceability	8	8%	Evaluate conformity of all other distribution-line materials with applicable NEA Engineering Standards and approved specifications. Review manufacturer certificates, certificates of conformance, material and test reports, QA/QC documentation, product identification, batch/serial traceability where applicable, source/manufacturer verification, inspection records, and consistency of delivered materials with the approved technical offer.
	Subtotal B	40	40%	
	TOTAL TECHNICAL	60	60%	
	C. FINANCIAL EVALUATION			
	C1. Financial Proposal	40	40%	Evaluate the financial proposal using the MEARB financial scoring methodology prescribed or approved for the procurement and disclosed in the bidding documents.
	TOTAL FINANCIAL	40	40%	
	TOTAL MEARB SCORE	100	100%	
25.5 (a)	Partial bid is not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award. In all cases, the NFCC computation, if applicable, must be sufficient for all the lots or contracts to be awarded to the Bidder.			
25.5 (b)	Bid correction is not allowed.			
25.6	No further instructions.			
26.1	No further instructions.			
29.3(f)	<i>List additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and Program Evaluation and Review Technique (PERT), Critical Path Method (CPM) or other acceptable tools of project scheduling.</i>			
30.2	Posting Performance Securing Declaration in lieu of performance security is not allowed in this Project.			

30.3	The Performance Security shall be in the form: <i>[choose one from any of the following:]</i> 1) The amount of not less than Php501,187.89, if performance security is in cash. 2) The amount of not less than Php501,187.89, if performance security is in cashier's check. 3) The amount of not less than Php501,187.89, if performance security is in manager's check. 4) The amount of not less than Php501,187.89, if performance security is in bank draft. 5) The amount of not less than Php501,187.89, if performance security is in guarantee. 6) The amount of not less than Php501,187.89, if performance security is irrevocable LoC. Or 7. The amount of not less than Php1,503,563.67, if performance security is Surety Bond.

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The GCC in Section IV, read in conjunction with the SCC in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

The GCC herein shall not be altered. Any changes and complementary information which may be needed shall be introduced only through the SCC in Section V.

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1) General Terms

In this Contract, the following terms shall be interpreted as indicated:

- 1.1 The **Intended Completion Date** refers to the date specified in the **SCC** when the Contractor is expected to have completed the Works. The intended Completion Date may be revised only by the Procuring Entity by issuing an extension of time or an acceleration order.
- 1.2 The **Procuring Entity** is the party who employs the Contractor to carry out the Works stated in the **SCC**.
- 1.3 The **Site** is the place provided by the Procuring Entity where the Works shall be executed and any other place or places which may be designated in the **SCC**, or notified to the Contractor by the Procuring Entity as forming part of the Site.
- 1.4 The **Start Date**, as specified in the **SCC**, is the date when the Contractor is obliged to commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- 1.5 **Work(s)** refer to the Permanent Works and Temporary Works to be executed by the Contractor in accordance with this Contract, including (i) the furnishing of all labor, materials, equipment and others incidental, necessary or convenient to the complete execution of the Works; (ii) the passing of any tests before acceptance by the Procuring Entity; (iii) and the carrying out of all duties and obligations of the Contractor imposed by this Contract as described in the **SCC**. In line with this, Temporary Works are works designed, constructed, and installed by the Contractor that are needed for construction or installation of the Permanent Works, which are subsequently removed.

2) Interpretation

- 2.1 In interpreting the Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of this Contract unless specifically defined. The Procuring Entity will provide instructions clarifying queries about the Conditions of Contract.
- 2.2 If sectional completion is specified in the **SCC**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming this Contract shall be interpreted in the following order of priority:
 - a) Contract Agreement;
 - b) Bid Data Sheet;
 - c) Instructions to Bidders;
 - d) Addenda to the Bidding Documents;

- e) Special Conditions of Contract;
- f) General Conditions of Contract;
- g) Specifications;
- h) Bill of Quantities; and
- i) Drawings.

3) **Governing Language and Law**

- 3.1 This Contract shall be interpreted in accordance with the laws of the Republic of the Philippines.
- 3.2 This Contract has been executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract. All correspondence and other documents pertaining to this Contract which are exchanged by the parties shall be written in English.

4) **Communications**

Communications between parties that are referred to in the Conditions shall be effective only if made in writing. A notice shall be effective only when it is received by the concerned party.

5) **Possession of Site**

- 5.1 On the date specified in the **SCC**, the Procuring Entity shall grant the Contractor possession of so much of the Site as may be required to enable it to proceed with the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.
- 5.2 If possession of a portion is not given by the date stated in the **SCC** Clause 1.3, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay shall be in accordance with **GCC** Clause 44.
- 5.3 The Contractor shall bear all costs and charges for special or temporary right-of-way required by it in connection with access to the Site. The Contractor shall also provide at its own cost any additional facilities outside the Site required by it for purposes of the Works.
- 5.4 The Contractor shall allow the Procuring Entity and any person authorized by the Procuring Entity access to the Site and to any place where work in connection with this Contract is being carried out or is intended to be carried out.

6) The Contractor's Obligations

- 6.1 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.
- 6.2 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, and complete them by the Intended Completion Date.
- 6.3 The Contractor shall be responsible for the safety of all activities on the Site.
- 6.4 The Contractor shall carry out all instructions of the Procuring Entity that comply with the applicable laws where the Site is located.
- 6.5 The Contractor shall employ the key personnel named in the Schedule of Key Personnel, as referred to in the **SCC**, to carry out the supervision of the Works. The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.
- 6.6 If the Procuring Entity 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.
- 6.7 During Contract implementation, the Contractor and its subcontractors shall abide at all times by all labor laws, including child labor related enactments, and other relevant rules.
- 6.8 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.
- 6.9 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 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.
- 6.10 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 of such discoveries and carry out the Procuring Entity's instructions in dealing with them.

7) Subcontracting

- 7.1 Unless otherwise indicated in the **SCC**, the Contractor shall not subcontract portions of the Works beyond the percentage specified in **BDS** Clause 8.1. If subcontracting is allowed, the arrangement, including the timing for submission of the subcontractor's eligibility documents, shall be disclosed.

7.2 For subcontracting arrangements, the following rules shall apply for both locally-funded projects and to projects financed through Official Development Assistance, except those covered by treaty, or international, or executive agreements:

- a) The subcontracted portion of the contract shall be subject to the approval of the HoPE and the following conditions:
 - i) The subcontracted portion shall not exceed fifty percent (50%), or a different percentage on a per project basis as approved by the GPPB. The threshold percentages fixed herein shall be subject to the periodic review and adjustments as may be deemed appropriate by the GPPB; and
 - ii) The subcontracted portion shall be limited to components that are not deemed "significant or material" to the project as determined by the Procuring Entity.
- b) Subcontracting arrangement, if allowed, including the time of submission of the eligibility documents of the subcontractor, shall be disclosed in the Bidding Documents;
- c) Subcontractors must meet the eligibility criteria and shall submit the same eligibility documents as the general contractor.

Failure of a subcontractor to meet the eligibility criteria does not affect the eligibility of the general contractor for the procurement project. In such case, the portion intended to be subcontracted to the ineligible subcontractor shall be assumed by the general contractor;
- d) The general contractor shall remain liable for the subcontractor's actions, defaults, delays, and negligence;
- e) The general contractor and the subcontractor are obliged to comply with the provisions of the contract and shall share liability, jointly and severally, in cases of violation of safety standards or other labor standards insofar as the subcontracted portion is concerned; and
- f) For purposes of post-qualification in accordance with its objective and process under the IRR, the value of the entire completed and accepted Project, including the subcontracted portion, shall be credited as experience of the general contractor. In the case of the subcontractor, the following rules shall apply:
 - i) The subcontractor shall get credit for one hundred percent (100%) of the value of the subcontracted portion of the project performed;
 - ii) Subcontractors shall be eligible to concessional windows of GFIs that treat receivables from the government as loan security; the receivables of subcontractors due from their general contractor shall similarly be accepted as loan security by GFIs; and

- iii) Contract performance monitoring, such as the use of CPES, among others, shall also be mandatorily applied to the work experience of the subcontractors.

8) Advance Payment

- 8.1 The Procuring Entity shall make an advance payment on the Contract Price to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price to be made in lump sum or, at the most, two installments according to a schedule specified in the **SCC**.
- 8.2 The advance payment shall be made only upon:
 - i) Written request of the contractor which shall form part of the contract document; and
 - ii) Submission of an irrevocable standby Letter of Credit of equivalent value from a bank as confirmed by the Procuring Entity; a bank guarantee; or a surety bond callable upon demand issued by a duly licensed surety or insurance company, at the option of the Procuring Entity.
- 8.3 The advance payment shall be recovered from the Contractor through deductions in amounts equivalent to the percentage of the total contract price that corresponds to the value of the advance payment granted.
- 8.4 Once a month, Contractors may submit documents, such as Monthly Certificates,⁷ to show the progress or partial completion of a project. The Contractor may reduce its standby letter of credit or guarantee instrument by the amounts refunded by the Monthly Certificates, or any equivalent document subject to auditing and accounting rules, in the advance payment.

9) Progress Payments

- 9.1 Once a month, the Contractor may submit a statement of work accomplished (SWA) or progress billing and corresponding request for progress payment for work accomplished. The SWA should show the amounts which the Contractor considers itself to be entitled to up to the end of the month, to cover (i) the cumulative value of the Works it executed to date, based on the items in the Bill of Quantities, and (ii) adjustments made for approved Variation Orders executed. Alternatively, the Procuring Entity may require in the Bidding Documents that the SWA or progress billing and the corresponding request for progress payment may only be submitted upon actual completion of the Infrastructure Project or a specific portion, segment, milestone or phase thereof.

The Procuring Entity or Project Engineer shall check the Contractor's SWA and certify the amount to be paid to the Contractor as progress payment. Materials and equipment delivered onsite but not yet incorporated in the Works shall not be included for payment, except as otherwise stipulated in the **SCC**.

⁷ Commission on Audit (COA) Circular 2012-001.

- 9.2 The Procuring Entity shall deduct the following from the certified gross amounts to be paid to the Contractor as progress payment:
- a) Cumulative value of the work previously certified and paid for.
 - b) Portion of the advance payment to be recouped.
 - c) Retention money in accordance with the conditions of the contract.
 - d) Amount to cover third-party liabilities.
 - e) Amount to cover uncorrected discovered defects in the Works.
- 9.3 Payments shall be adjusted by deducting therefrom the amounts for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Procuring Entity within twenty-eight (28) days from the date each certificate was issued. No payment of interest for delayed payments and adjustments shall be made by the Procuring Entity.
- 9.4 The first progress payment may be paid by the Procuring Entity to the Contractor, as indicated in the **SCC**; Provided, That at least a percentage of the Works has been accomplished as certified by the Procuring Entity and as indicated in the **SCC**.
- 9.5 Items of the Works for which a price of "0" (zero) has been entered will not be paid for by the Procuring Entity and shall be deemed covered by other rates and prices in the Contract.

10) Payment Documents

- 10.1 Subject to existing accounting and auditing rules and regulations,⁸ the Contractor shall submit to the Procuring Entity monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 10.2 The Procuring Entity shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 10.3 The value of Work executed shall:
- a) be determined by the Procuring Entity;
 - b) comprise the value of the quantities of the items in the Bill of Quantities completed; and
 - c) include the valuations of approved variations.
- 10.4 The Procuring Entity may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

⁸ COA Circular No. 2012-001.

11) Retention

11.1 The Procuring Entity shall retain from each payment due to the Contractor an amount equal to a percentage thereof using the rate as specified in GCC Clause 11.2. The said amount will serve to guarantee indemnity for uncorrected discovered defects and third-party liabilities arising from this Contract. This retention money shall be utilized if the contractor fails to repair the discovered defects. Should the retention money be insufficient, the PE may forfeit the performance security, which may ultimately lead to the termination of the contract.⁹

11.2 Progress payments are subject to retention of ten percent (10%) referred to as the retention money. Such retention shall be based on the total amount due to the Contractor prior to any deduction and shall be retained from every progress payment until fifty percent (50%) of the value of the Works, as determined by the Procuring Entity, are completed.

If, after fifty percent (50%) completion, the work is satisfactorily done and on schedule, no additional retention shall be made; otherwise, the ten percent (10%) retention shall be imposed, which may be decreased to 5 percent (5%) by the Procuring Entity based on justifiable causes.¹⁰

11.3 The total retention money shall be due for release upon final acceptance of the Works. The Contractor may, however, request the substitution of the retention money for each progress billing with irrevocable standby Letters of Credit from a bank, bank guarantees or surety bonds callable on demand, of amounts equivalent to the retention money substituted for and acceptable to Government; Provided, That the project is on schedule and is satisfactorily undertaken. Otherwise, the ten (10%) percent retention shall be made. Said irrevocable standby letters of credit, bank guarantees and/or surety bonds, to be posted in favor of the Government shall be valid for a duration to be determined by the concerned implementing office/agency or Procuring Entity and will answer for the purpose for which the ten (10%) percent retention is intended, *i.e.*, to cover uncorrected discovered defects and third party liabilities.

11.4 On completion of the whole Works, the Contractor may substitute retention money with an “on demand” Bank guarantee in a form acceptable to the Procuring Entity.

12) Performance Security

12.1 Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity, but in no case later than the signing of the contract by both parties, the winning Contractor shall furnish the performance security in any of the forms prescribed in **ITB** Clause 30 in relation to **BDS** Clause 30.2 and 30.3.

⁹ Supreme Court rulings (e.g. New Bian Yek Commercial, Inc. vs. Office of the Ombudsman, et. al., GR No. 169338[2009], and Tondo Medical Center vs. Rante, G.R. No. 230645 [2019] have affirmed this purpose, stating that retention money is a form of security to ensure the satisfactory completion of works and to cover any defects or third-party claims that may arise after project completion.

¹⁰ Section 71.2.8 of the IRR.

- 12.2 The performance security posted in favor of the Procuring Entity shall be forfeited in the event it is established that the Contractor is in default in any of its obligations under the contract.
- 12.3 The performance security shall remain valid until issuance by the Procuring Entity of the Certificate of Final Acceptance. In case the performance security issued is valid for a specific period shorter than the term of the contract, including the defects liability period, the same shall be renewed or extended as often as necessary and immediately submitted to the Procuring Entity. In case of approved contract time extensions, the Contractor shall cause the extension of the validity of the performance security to cover the said extensions.
- 12.4 The performance security may be released by the Procuring Entity after the issuance of the Certificate of Final Acceptance; Provided, That the Procuring Entity has no claims filed against the performance security.
- 12.5 The Contractor shall post an additional performance security following the amount and form specified in **ITB** Clause 30 to cover any cumulative increase of more than ten percent (10%) over the original value of the contract as a result of change orders, extra work orders and supplemental agreements, as the case may be.
- 12.6 In case of a reduction in the contract value or for partially completed Works under the contract which are usable and accepted by the Procuring Entity the use of which, in the judgment of the implementing agency or the Procuring Entity, will not affect the structural integrity of the entire project, the Procuring Entity shall allow a proportional reduction in the original performance security, provided that any such reduction is more than ten percent (10%) and that the aggregate of such reductions is not more than fifty percent (50%) of the original performance security.
- 12.7 Unless otherwise indicated in the **SCC**, the Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to Act No. 3688¹¹ against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

13) Detailed Engineering and Site Investigation Reports

- 13.1 The Contractor, in preparing the Bid, shall rely on all Site Investigation Reports referred to in the **SCC**_supplemented by any information obtained by the Contractor.
- 13.2 Detailed engineering shall proceed only on the basis of the feasibility or preliminary engineering study made which establishes the technical viability of the project and conformance to land use and zoning guidelines prescribed by existing laws. The findings contained in the feasibility study, if undertaken for the project, shall be examined. If, in the course of this exercise, it is found that amendments would be desirable in the design standards of principal features, as proposed, specific recommendations for such changes shall be supported

¹¹ Also known as "An Act for the Protection of Persons Furnishing Material and Labor for the Construction Of Public Works".

by detailed justifications, including their effects on the cost, and the economic justifications, if necessary.

13.3 A schedule of detailed engineering activities shall include the following:

- a) Survey;
- b) Site Investigation;
- c) Soils and Foundation Investigation;
- d) Construction Materials Investigation;
- e) Preparation of Design Plans;
- f) Preparation of Technical Specifications;
- g) Preparation of Quantity and Cost Estimates;
- h) Preparation of Scope of Work;
- i) Preparation of Proposed Construction Schedule (and estimated Cash Flow for projects with Schedule over six (6) months);
- j) Preparation of Site or Right-of-Way Plans including Schedule of Acquisition;
- k) Preparation of Utility Relocation Plan;
- l) Preparation and Submission of Design Report;
- m) Environmental Impact Statement for critical project, as defined by the Department of Environment and Natural Resources;
- n) Preparation of minimum requirements for a Construction Safety and Health Program for the project being considered;
- o) Value Engineering Studies; and
- p) Preparation of report on asset climate hazards, risk assessment, disaster response strategies, and readiness planning.

13.4 Work under detailed architectural and engineering design shall include, among others, the items stated in Section 8.3 of the IRR.

14) Licenses and Permits

The Procuring Entity may, if requested by the Contractor, assist him in applying for permits, licenses or approvals, which are required for the Works.

15) Contractor's Risk and Warranty Security

15.1 From the time project construction commenced up to final acceptance, the Contractor shall assume full responsibility for any damage or destruction of the works, except those occasioned by force majeure; and the safety, protection, security, and convenience of its personnel, third parties, and the public at large,

as well as the works, equipment, installation and the like to be affected by its construction work.

- 15.2 The defects liability period for infrastructure projects shall be one (1) year from project completion up to final acceptance by the Procuring Entity. During this period, the Contractor shall undertake the repair works, at its own expense, of any damage to the Works on account of the use of materials of inferior quality, defects in the construction, or due to any violation of the terms of the contract, within ninety (90) calendar 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.
- 15.3 The defects liability period shall be covered by the performance security of the Contractor required in Section 68 of the IRR, which shall guarantee that the Contractor performs its responsibilities stated in **GCC** Clause 15.1 Unless otherwise indicated in the **SCC**, in case the Contractor fails to comply with the preceding paragraph, the Procuring Entity shall forfeit its performance security, subject its properties to attachment or garnishment proceedings, and may impose the appropriate penalty under Sections 99, 100, and 101 of the IRR. All payables of the GoP in its favor shall be offset to recover the costs.
- 15.4 The following persons shall be held responsible for “Structural Defects,” i.e., major faults or flaws or deficiencies in one or more key structural elements of the project which may lead to structural failure of the completed elements or structure, or “Structural Failures,” i.e., where one or more key structural elements in an infrastructure facility fails or collapses, thereby rendering the facility or part thereof incapable of withstanding the design loads, and/or endangering the safety of the users or the general public:
- a) Contractor – Where Structural Defects or Failures arise due to faults attributable to improper construction, use of inferior quality/substandard materials, and any violation of the contract plans and specifications, the Contractor shall be held liable;
 - b) Consultants – Where Structural Defects or Failures arise due to faulty and/or inadequate design and specifications as well as construction supervision, then the consultant who prepared the design or undertook construction supervision for the project shall be held liable;
 - c) Procuring Entity’s Representatives or Project Manager or Construction Managers and Supervisors – The project owner’s representative, project manager, construction manager, and supervisor shall be held liable in cases where the Structural Defects or Failures are due to their willful intervention in altering the designs and other specifications; negligence or omission in not approving or acting on proposed changes to noted defects or deficiencies in the design and/or specifications and the use of substandard construction materials in the project;
 - d) Third Parties - Third Parties shall be held liable in cases where Structural Defects or Failures are caused by work undertaken by them such as leaking pipes, diggings or excavations, underground cables and electrical wires, underground tunnel, mining shaft and the like, in which case the applicable warranty to such structure should be levied to third parties for their construction or restoration works; and

- e) Users - In cases where Structural Defects or Failures are due to abuse or misuse by the End-User or Implementing Unit of the constructed facility and/or non-compliance by a user with the technical design limits and/or intended purpose of the same, then the user concerned shall be held liable.

- 15.5 The warranty against Structural Defects or Failures, except those occasioned by force majeure, shall cover the period specified in the **SCC** reckoned from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. On the other hand, such warranty shall likewise be applied against non-structural defects for instances that pertain to faults or deficiencies in non-load bearing components or finishes of the Project, such as minor cracks, leaks, or defects in workmanship or materials, which do not affect the stability or safety of the structure but may impact its appearance, functionality, or usability.
- 15.6 To guarantee that the Contractor shall perform its responsibilities, it shall be required to post a warranty security, which shall be stated in Philippine Peso, in the form chosen by the Procuring Entity in accordance with the following schedule:

Form of Warranty	Amount of Warranty Security Not less than the Percentage (%) of Total Contract Price
(a) Cash or letter of credit issued by bank; Provided, however, that the letter of credit shall be confirmed or authenticated by a local 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 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 any surety or insurance company duly certified by the Insurance Commission	Thirty Percent (30%)

- 15.7 The warranty security shall be stated in Philippine Peso and shall remain effective within one (1) year from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity, and returned only after the lapse of the said one (1) year period. This one (1) year period shall cover both structural and non-structural defects or failures; Provided, That in cases of structural defects or failures, warranties beyond the one (1) year period shall be subject to applicable laws, rules, and regulations such as the New Civil Code of the Philippines.

- 15.8 In case of structural/non-structural defects or failure occurring during the applicable warranty period provided in **GCC** Clause 15.5, the Procuring Entity shall undertake the necessary restoration or reconstruction works and shall be entitled to full reimbursement by the parties found to be liable for expenses incurred therein upon demand, without prejudice to the imposition of administrative sanctions as prescribed by RA No. 12009 and without prejudice to the imposition of civil and criminal sanctions as provided under applicable laws against the responsible persons as well as the forfeiture of the warranty security posted in favor of the Procuring Entity.

16) Procuring Entity's Risk

- 16.1 From the Start Date until the Certificate of Final Acceptance has been issued, the following are risks of the Procuring Entity:
- a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to:
 - i) any type of use or occupation of the Site authorized by the Procuring Entity after the official acceptance of the Works; or
 - ii) negligence, breach of statutory duty, or interference with any legal right by the Procuring Entity or by any person employed or contracted by it, except the Contractor.
 - b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

17) Insurance

- 17.1 The Contractor shall, under its name and at its own expense, obtain and maintain, for the duration of this Contract, the following insurance coverage:
- a) Contractor's All Risk Insurance, with an exception for Simple Infrastructure Projects, as applicable;
 - b) Transportation to the project Site of Equipment, Machinery, and Supplies owned by the Contractor;
 - c) Personal injury or death of Contractor's employees; and
 - d) Comprehensive insurance for third party liability to Contractor's direct or indirect act or omission causing damage to third persons.
- 17.2 The Contractor shall provide evidence to the Procuring Entity that the insurances required under this Contract have been effected and shall, within a reasonable time, provide copies of the insurance policies to the Procuring Entity.
- 17.3 The Contractor shall notify the insurers of changes in the nature, extent, or program for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of this Contract and shall

produce to the Procuring Entity the insurance policies in force including the receipts for payment of the current premiums.

The above insurance policies shall be obtained from any reputable insurance company approved by the Procuring Entity.

- 17.4 If the Contractor fails to obtain and keep in force the insurances referred to herein or any other insurance required to be obtained under the terms of this Contract, the Procuring Entity may obtain and keep in force any such insurances and pay such premiums as may be necessary for the purpose. From time to time, the Procuring Entity may deduct the amount it shall pay for said premiums including twenty five percent (25%) therein from any monies due, or which may become due, to the Contractor, without prejudice to the Procuring Entity exercising its right to impose other sanctions against the Contractor pursuant to the provisions of this Contract.
- 17.5 In the event the Contractor fails to observe the above safeguards, the Procuring Entity may, at the Contractor's expense, take whatever measure is deemed necessary for its protection and that of the Contractor's personnel and third parties, and/or order the interruption of dangerous Works. In addition, the Procuring Entity may refuse to make the payments under **GCC** Clause 9 until the Contractor complies with this Clause.
- 17.6 The Contractor shall immediately replace the insurance policy obtained as required in this Contract, without need of the Procuring Entity's demand, with a new policy issued by a new insurance company acceptable to the Procuring Entity for any of the following grounds:
- a) The issuer of the insurance policy to be replaced has:
 - i) become bankrupt;
 - ii) been placed under receivership or under a management committee;
 - iii) been sued for suspension of payment;
 - iv) been suspended by the Insurance Commission and its license to engage in business or its authority to issue insurance policies has been cancelled; or
 - v) Where reasonable grounds exist that the insurer may not be able, fully and promptly, to fulfill its obligation under the insurance policy.

18) Liquidated Damages

- 18.1 When the Contractor fails to satisfactorily complete the Works under the contract within the specified contract duration, inclusive of duly granted time extensions, if any, the Contractor shall be liable for liquidated damages in an amount equal to at least one-tenth (1/10) of one percent (1%) of the cost of the unperformed portion of the Works for every day of delay.
- 18.2 In computing liquidated damages, the Procuring Entity shall determine the usability of the project. A project or a portion thereof may be deemed usable

when it starts to provide the desired benefits as certified by the End-User or Implementing Unit and approved by the HoPE.

- 18.3 To be entitled to liquidated damages, the Procuring Entity does not have to prove that it has incurred actual damages. Such amount shall be deducted from any money due, or which may become due the Contractor under the contract, collected from the retention money or other securities posted by the Contractor, or a combination thereof, whichever is convenient to the Procuring Entity.
- 18.4 In case the total sum of liquidated damages reaches ten percent (10%) of the total contract price, the Procuring Entity may rescind or terminate the contract, without prejudice to other courses of action and remedies available under the circumstances.
- 18.5 If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Entity shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment schedule.

19) Settlement of Disputes

- 19.1 Any dispute arising from the implementation of a contract covered by the Act and the IRR shall primarily be resolved and settled amicably by mutual consultation or agreement.
- 19.2 In case of failure to settle the dispute amicably, the parties may mutually agree in writing to resort to other modes of alternative dispute resolution (ADR) to promote efficiency in the procurement process. Accordingly, they are encouraged to select the most expeditious mode of ADR available.

If arbitration is chosen as the ADR method, this shall be incorporated as a provision in the contract and referred to the Arbitrator specified in the **SCC**.

- 19.3 If the dispute remains unresolved after exhausting the remedies provided above, it may be submitted to other forms of ADR, such as mediation, conciliation, early neutral evaluation, mini-trial, or any combination thereof, in accordance with RA No. 9285, otherwise known as the "Alternative Dispute Resolution Act of 2004". However, disputes that are within the competence or jurisdiction of the Construction Industry Arbitration Commission shall be referred to the same for resolution.¹²

20) Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

21) Termination for Breach of Contract

- 21.1 The Procuring Entity shall terminate the contract for breach thereof when any of the following conditions are present:

¹² Executive Order No. 1008 (Construction Industry Arbitration Law); and Construction Industry Arbitration Commission Revised Rules of Procedure.

- a) Due to the Contractor's fault and while the project is on-going, it has incurred negative slippage of fifteen percent (15%) or more in accordance with Presidential Decree No. 1870, s. 1983;
- b) Due to the Contractor's fault and after the contract time has expired, it has incurred a negative slippage of ten percent (10%) or more in the completion of the work;
- c) The Contractor abandons the contract works, plainly demonstrates an intention not to continue the performance of the Contractor's obligations under the contract, refuses or fails to comply with the Procuring Entity's instructions, or fails to proceed expeditiously and without delay despite a written notice by the Procuring Entity;
- d) When the Contractor, without reasonable excuse, fails to comply with the Notice of Rejection given by the Project Engineer that, after examination therein, the Infrastructure Project is found to be defective or otherwise not in accordance with the Contract, or a Project Engineer's instruction to conduct remedial work, within 30 days after receiving the said notice;
- e) The Contractor does not actually have on the project site the minimum essential equipment listed on the Bid necessary to prosecute the Works in accordance with the approved work plan and equipment deployment schedule as required for the project;
- f) The Contractor does not execute the Works in accordance with the contract or persistently or flagrantly neglects to carry out its obligations under the contract;
- g) The Contractor neglects or refuses to remove materials or to perform a new work that has been rejected as defective or unsuitable;
- h) The Contractor subcontracts any part of the contract works without approval by the Procuring Entity; or
- i) The Contractor becomes bankrupt or insolvent; goes into liquidation, administration, reorganization, winding-up, or dissolution; becomes subject to the appointment of a liquidator, receiver, administrator, manager, or trustee; enters into a composition or arrangement with the Contractor's creditors; or any act is done or any event occurs which is analogous to or has a similar effect to any of these acts or events under applicable laws.

21.2 All materials on the Site, Plant, Works, including Equipment paid under this Contract, including those identified by the Procuring Entity in the **SCC** pursuant to GCC Clause 9.1, shall be deemed to be the property of the Procuring Entity if this Contract is terminated because of the Contractor's breach.

22) Termination Due to Force Majeure

22.1 For purposes of this Contract the terms "*force majeure*" and "fortuitous event" may be used interchangeably. In this regard, a fortuitous event or *force majeure* shall be interpreted to mean an event which could not have been foreseen, or though foreseen, was inevitable. It shall not include ordinary

unfavorable weather conditions, and any other cause the effects of which could have been avoided with the exercise of reasonable diligence by the Contractor.

- 22.2 If this Contract is discontinued by an outbreak of war or by any other similar event entirely outside the control of either the Procuring Entity or the Contractor, the Procuring Entity shall certify that this Contract has been discontinued. The Contractor shall make the Site safe and stop work as quickly as possible after receiving the certificate and shall be paid for all Works carried out before receiving it and for any Work carried out afterwards to which a commitment was made by the Procuring Entity.
- 22.3 If the event continues for a period of eighty-four (84) days, either party may then give notice of termination, which shall take effect twenty-eight (28) days after the giving of the notice.
- 22.4 After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the materials and Plant, in relation to GCC Clause 9.1 and 21.2, adjusted by the following:
- (a) any sum to which the Contractor is entitled under **GCC** Clause 30; and
 - (b) any sum to which the Procuring Entity is entitled.
- 22.5 The net balance due shall be paid or repaid within a reasonable time period from the time of the notice of termination.

23) Termination by Contractor

The Contractor may terminate this Contract with the Procuring Entity if the Works are completely stopped for a continuous period of at least sixty (60) calendar days through no fault of its own, due to any of the following reasons:

- a) Failure of the Procuring Entity to deliver, within a reasonable time, supplies, materials, right-of-way, or other items it is obligated to furnish under the terms of this Contract;
- b) Substantial failure of the Procuring Entity to perform its obligations under the contract, and such failure constitutes a material breach of the Procuring Entity's obligations under the contract;
- c) Prolonged suspension by the Procuring Entity, through no fault of the Contractor, which affects the substantial part of the Infrastructure Project; or
- d) The prosecution of the Work is disrupted by the adverse peace and order situation, as certified by the Armed Forces of the Philippines Provincial Commander and approved by the Secretary of National Defense.

24) Termination for Convenience

The Procuring Entity, by notice sent to the Contractor, may terminate the Contract, in whole or in part, at any time, if it has determined the existence of any of the following conditions that make contract implementation economically, financially, or technically impractical or unnecessary:

- a) If physical and economic conditions have significantly changed so as to render the project no longer economically, financially, or technically feasible, as determined by the HoPE; or
- b) The HoPE has determined the existence of conditions that make project implementation impractical or unnecessary, such as, but not limited to, fortuitous events, changes in laws and government policies.

25) Termination for Unlawful Acts

The Procuring Entity may terminate the contract in case it is determined prima facie that the Contractor, including any joint venture partner therein, has engaged, before or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation. These unlawful acts include, but are not limited to, the following:

- a) Corrupt, fraudulent, collusive, coercive, and obstructive practices as defined in **ITB** Clause 3.1, unless otherwise specified in the **SCC**;
- b) Drawing up or using forged documents;
- c) Using adulterated materials, means, or methods, or engaging in production contrary to rules of science or trade; or
- d) Any other act analogous to the foregoing.

26) Termination for Other Causes

- 26.1 The Procuring Entity may terminate this Contract, in whole or in part, at any time for its convenience. The HoPE may terminate this Contract for the convenience of the Procuring Entity if physical and economic conditions have significantly changed so as to render the project no longer economically, financially, or technically feasible, as determined by the HoPE; or if the HoPE has determined the existence of conditions that make project implementation impractical or unnecessary, such as, but not limited to, fortuitous events, changes in laws and government policies.
- 26.2 The Procuring Entity or the Contractor may terminate this Contract if the other party causes a fundamental breach of this Contract.
- 26.3 Other breaches of Contract shall include, but shall not be limited to, the following:
 - a) The Contractor stops work for twenty-eight (28) days when no stoppage of work is shown on the current Program of Work and the stoppage has not been authorized by the Procuring Entity;
 - b) The Procuring Entity instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within twenty-eight (28) days;
 - c) A payment certified by the Procuring Entity is not paid to the Contractor within eighty-four (84) days from the date of the Procuring Entity's certificate;

- d) The Procuring Entity gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Procuring Entity;
 - e) The Contractor does not maintain a Security, which is required; and
 - f) The Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **GCC** 18.
- 26.4 The Funding Source or the Procuring Entity, as appropriate, will seek the imposition of administrative sanctions as prescribed by RA No. 12009 and without prejudice to the imposition of civil and criminal sanctions as provided under applicable against individuals and organizations deemed to be involved with corrupt, fraudulent, or coercive practices.
- 26.5 When persons from either party to this Contract gives notice of a fundamental breach to the Procuring Entity in order to terminate the existing contract for a cause other than those listed under **GCC** Clause 26.3, the Procuring Entity shall decide whether the breach is fundamental or not.
- 26.6 If this Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

27) Procedures for Termination of Contracts

- 27.1 The following provisions shall govern the procedures for the termination of this Contract:
- a) **Verification** - Upon receipt of a written report of acts or causes which may constitute grounds for termination as aforementioned, or upon its own initiative, the End-User or Implementing Unit shall, within a period of seven (7) calendar days, verify the existence of such grounds and cause the execution of a Verified Report, with all relevant evidence attached;
 - b) **Notice to Terminate** - Upon recommendation by the End-User or Implementing Unit, the HoPE shall terminate contracts only by written notice to the Contractor conveying the termination of the contract. The notice shall state:
 - (i) that the Contract is being terminated for any of the grounds aforementioned, and a statement of the acts that constitute the grounds constituting the same;
 - (ii) the extent of termination, whether in whole or in part;
 - (iii) an instruction to the Contractor to show cause as to why this contract should not be terminated; and
 - (iv) special instructions of the Procuring Entity, if any.

The Notice to Terminate shall be accompanied by a copy of the Verified Report;

- c) **Show Cause** - Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Contractor shall submit to the HoPE a verified position paper stating why the contract should not be terminated. If the Contractor fails to show cause after the lapse of the seven (7) day period, either by inaction or by default, the HoPE shall issue an order terminating the contract;
- d) **Rescission of Notice of Termination** - The Procuring Entity may, at any time before receipt of the Contractor's verified position paper, withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Contractor's receipt of the notice;
- e) **Decision** - Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the HoPE shall decide whether or not to terminate the contract. It shall serve a written notice to the Contractor of its decision and, unless otherwise provided, the contract is deemed terminated from receipt of the Contractor of the notice of the decision. The termination shall only be based on the grounds stated in the Notice to Terminate.
- f) **Contract Termination Review Committee (CTRC)** - The HoPE may create a committee to assist him in the discharge of its functions under the IRR. All decisions recommended by the CTRC shall be subject to the approval of the HoPE
- g) **Take-over of Contracts** - If a Procuring Entity terminates the contract due to default, insolvency, or for cause, it may enter into a Negotiated Procurement (Take-over of Contracts) pursuant to Section 35.3 of the IRR.
- h) **Notice by Contractor** - The Contractor must serve a written notice to the Procuring Entity of its intention to terminate the contract at least thirty (30) calendar days before its intended termination. The contract is deemed terminated if it is not resumed in thirty (30) calendar days after the receipt of such notice by the Procuring Entity.

27.2 Notwithstanding Section 99 of RA No. 12009 and as provided by applicable laws, the Procuring Entity shall impose on Contractors after the termination of the contract, the penalty of suspension for one (1) year for the first offense, suspension for two (2) years for the second offense from participating in the public bidding process, for violations committed during the contract implementation stage, as stated in the **SCC**.

28) Approval of Drawings and Temporary Works by the Procuring Entity

- 28.1 All Drawings prepared by the Contractor for the execution of the Temporary Works, are subject to prior approval by the Procuring Entity before its use.
- 28.2 The Contractor shall be responsible for design of Temporary Works.
- 28.3 The Procuring Entity's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

- 28.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, when required by the Procuring Entity.

29) Acceleration and Delays Ordered by the Procuring Entity

- 29.1 When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Procuring Entity will obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date will be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.
- 29.2 If the Contractor's Financial Proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

30) Contractor's Right to Claim

If the Contractor incurs cost as a result of any of the events under **GCC** Clauses 22, 23 and 24 in relation to **GCC** Clause 20, the Contractor shall be entitled to the amount of such cost. If as a result of any of the said events, it is necessary to change the Works, this shall be dealt with as a Variation.

31) Dayworks

- 31.1 Subject to **GCC** Clause 40 on Variation Order, and if applicable as indicated in the **SCC**, the Contractor shall determine the Dayworks rates to be included or indicated in the Bid. The Dayworks rates in the Contractor's bid shall be used for small additional amounts of work only when the Procuring Entity has given written instructions in advance for additional work to be paid for in that way.
- 31.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Procuring Entity. Each completed form shall be verified and signed by the Procuring Entity within two (2) days of the work being done.
- 31.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms from both the Procuring Entity and Contractor.

32) Early Warning

- 32.1 The Contractor shall warn the Procuring Entity at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works.
- 32.2 The Contractor shall cooperate with the Procuring Entity in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Procuring Entity. Should such events or circumstances arise which increase the Contract price or delay the execution of Works, the provisions on variation order shall apply.

33) Program of Work

- 33.1 Within the time stated in the **SCC**, the Contractor shall submit to the Procuring Entity for approval a Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works.

- 33.2 An update of the Program of Work shall show the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 33.3 The Contractor shall submit to the Procuring Entity for approval an updated Program of Work at intervals no longer than the period stated in the **SCC**. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity may withhold the amount stated in the **SCC** from the next payment schedule and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.
- 33.4 The Procuring Entity's approval of the Program of Work shall not alter the Contractor's obligations. A revised Program of Work produced by the Contractor shall show the effect of any approved Variations, and shall include all Variations. The Contractor may revise the Program of Work, based on the Variation Order, and submit it to the Procuring Entity again.
- 33.5 When the Program of Work is updated, the Contractor shall provide the Procuring Entity with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

34) Management Conferences

- 34.1 Either the Procuring Entity or the Contractor may require the other to attend a Management Conference. The Management Conference shall review the plans for remaining work and deal with matters raised in accordance with the early warning procedure.
- 34.2 The Procuring Entity shall record the business of Management Conferences and provide copies of the record to those attending the Conference and to the Procuring Entity. The responsibility of the parties for the actions to be taken shall be decided by the Procuring Entity either at the Management Conference or after the Management Conference. The Procuring Entity shall communicate these responsibilities in writing to all who attended the Conference.

35) Bill of Quantities

- 35.1 The Bill of Quantities shall contain items of work for the construction, installation, testing, commissioning of work, materials, and labor among others, to be done by the Contractor.
- 35.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.
- 35.3 If the final quantity of any work item completed differs from the quantity indicated in the Bill of Quantities, and the difference does not exceed twenty-five percent (25%) of the original quantity for that item, the Procuring Entity shall adjust the Contract accordingly.

This shall be allowed only if the total amount of all such changes does not go beyond ten percent (10%) of the total Contract price, subject to applicable laws, rules, and regulations.

- 35.4 If requested by the Procuring Entity, the Contractor shall provide the Procuring Entity with a detailed cost breakdown of any rate in the Bill of Quantities.

36) Instructions, Inspections and Audits

- 36.1 The Procuring Entity shall at all reasonable times during construction of the Works be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of the construction.
- 36.2 If the Procuring Entity instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a defect and the test shows that it does, the Contractor shall pay for the test and any samples. In the absence of any defect, the test shall be a compensation event with no adverse consequences to the contractor.
- 36.3 The Contractor shall permit the Funding Source named in the **SCC** to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Funding Source, if so required by the Funding Source.

37) Identifying Defects

The Procuring Entity shall check the Contractor's work and notify the Contractor of any defects that are found. Such checking shall not affect the Contractor's responsibilities. The Procuring Entity may instruct the Contractor to check noted defects and test any work that the Procuring Entity considers as substandard and/or defective.

38) Correction of Defects

- 38.1 The Procuring Entity shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which is one (1) year from project completion up to final acceptance by the Procuring Entity.
- 38.2 Every time notice of a defect is given, the Contractor shall correct the notified defect within ninety (90) calendar days from the time the HoPE has issued an order to undertake repair.
- 38.3 The Contractor shall correct the defects which they notice themselves before the end of the Defects Liability Period.
- 38.4 The Procuring Entity shall certify that all defects have been duly corrected.

39) Uncorrected Defects

- 39.1 The Procuring Entity shall give the Contractor at least fourteen (14) days' notice of its intention to use a third party to correct a Defect. If the Contractor does not correct the Defect himself within the period, the Procuring Entity may have the Defect corrected by the third party. The cost of the correction will be deducted from the Contract Price.
- 39.2 The use of a third party to correct defects that are uncorrected by the Contractor will in no way relieve the Contractor of its liabilities and warranties under the Contract.

40) Variation Orders

- 40.1 Variation Orders may be issued by the Procuring Entity to cover any increase or decrease in quantities, including the introduction of new work items that are not included in the original contract or reclassification of work items that are either due to change of plans, design or alignment to suit actual field conditions resulting in disparity between the preconstruction plans used for purposes of bidding and the "as staked plans" or construction drawings prepared after a joint survey by the Contractor and the Government after award of the contract.

Provided, That in case of positive or additive Variation Order/s, the cumulative amount thereof shall not exceed ten percent (10%) of the original contract price; Provided, further, That the scope of works shall not be reduced as to accommodate a positive Variation Order. In all cases, the addition of works under Variation Orders should be within the general scope of the project as bid and awarded.

- 40.2 Any cumulative positive Variation Order beyond ten percent (10%) of the original contract price shall be the subject of another procurement project to be bid out if the Works are separable from the original contract. In exceptional cases where it is urgently necessary to complete the original scope of work, the HoPE, upon the recommendation of the End-User or Implementing Unit, may authorize positive Variation Order/s resulting to a cumulative value of the positive Variation Orders beyond ten percent (10%) but not more than twenty percent (20%) of the original contract price.

All progress payments shall first be charged against the advance payment until the latter has been fully exhausted, at the option of the Procuring Entity.

- 40.3 A Variation Order may either be in the form of a Change Order or Extra Work Order:

- a) A Change Order may be issued by the HoPE or duly authorized representative to cover any increase or decrease in quantities of original work items in the contract.
- b) An Extra Work Order may be issued by the implementing official to cover the introduction of new work necessary for the completion, improvement or protection of the project which was not included as items of work in the original contract, such as, where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work or character provided for in the contract.

- 40.4 For Variation Orders, the Contractor shall be paid for additional work items whose unit prices shall be derived based on the following:

- a) For additional or extra works duly covered by Change Orders involving work items which are exactly the same or similar to those in the original contract, the applicable unit prices of work items original contract shall be used.

- b) For additional or extra works duly covered by Extra Work Orders involving new work items that are not in the original contract, the unit prices of the new work items shall be based on the direct unit costs used in the original contract (e.g., unit cost of cement, rebars, form lumber, labor rate, equipment rental, etc.). All new components of the new work item shall be fixed prices; Provided, The same is acceptable to both the Government and the Contractor; Provided further, That the direct unit costs of new components shall be based on the Contractor's estimate as validated by the Procuring Entity concerned via documented canvass in accordance with existing rules and regulations. The direct cost of the new work item shall then be combined with the mark-up factor (i.e., taxes and profit) used by the Contractor in its bid to determine the unit price of the new work item.

40.5 Under no circumstances shall a Contractor proceed to commence work under any Change Order or Extra Work Order unless it has been approved by the HoPE or its duly authorized representative. However, under any of the following conditions, the Procuring Entity's representative or Project Engineer may, subject to the availability of funds and within the limits of its delegated authority, allow the immediate start of work under any Change Order or Extra Work Order:

- a) In the event of an emergency where the prosecution of the work is urgent to avoid detriment to public service, or damage to life and/or property; and/or
- b) When time is of the essence;

Provided, however, That such approval is valid on work done up to the point where the cumulative increase in value of work on the project which has not yet been duly fully approved does not exceed five percent (5%) of the adjusted original contract price.

Provided, further, That immediately after the start of work, the corresponding Change Order or Extra Work Order shall be prepared and submitted for approval in accordance with the abovementioned rules. Payments for Works satisfactorily accomplished on any Change Order or Extra Work Order may be made only after approval of the same by the HoPE or its duly authorized representative.

Provided, finally, That for a Change Order or Extra Work Order involving a cumulative amount exceeding five percent (5%) of the original contract price, no work thereon may be commenced unless said Change Order or Extra Work Order has been approved by the HoPE or its duly authorized representative.

41) Contract Completion

Once the project reaches an accomplishment of ninety-five percent (95%) of the total contract amount, the Procuring Entity may constitute an inspectorate team to conduct 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 within the approved remaining contract time. This, however, shall not preclude the claim of the Procuring Entity for liquidated damages, if applicable.

42) Suspension of Work

- 42.1 The Procuring Entity shall have the authority to suspend the work wholly or partly by written order for such period as may be deemed necessary, due to *force majeure* or any fortuitous event or for failure on the part of the Contractor to correct bad conditions which are unsafe for workers or for the general public, to carry out valid orders given by the Procuring Entity or to perform any provisions of the contract, or due to adjustment of plans to suit field conditions as found necessary during construction. The Contractor shall immediately comply with such order to suspend the work wholly or partly.
- 42.2 The Contractor or its duly authorized representative shall have the right to suspend work operation on any or all projects or activities along the critical path of activities after fifteen (15) calendar days from date of receipt of written notice from the Contractor to the district engineer, regional director, consultant or equivalent official, as the case may be, due to the following:
- a) There exist right-of-way problems which prohibit the Contractor from performing work in accordance with the approved construction schedule.
 - b) Requisite construction plans which must be owner furnished are not issued to the Contractor precluding any work called for by such plans.
 - c) Peace and order conditions that make it extremely dangerous, if not possible, to work. However, this condition must be certified in writing by the Philippine National Police station which has responsibility over the affected area and confirmed by the Department of the Interior and Local Government (DILG) Regional Director.
 - d) There was a failure on the part of the Procuring Entity to deliver government-furnished materials and equipment as stipulated in the contract.
 - e) Delay in the payment of Contractor's claim for progress billing beyond forty-five (45) calendar days from the time the Contractor's claim has been certified by the Procuring Entity's authorized representative that the documents are complete, unless there are justifiable reasons for the delay in payment which shall be communicated in writing to the Contractor.
- 42.3 In case of total suspension, or suspension of activities along the critical path, which is not due to any fault of the Contractor, the elapsed time between the effectivity of the order suspending operation and the order to resume work shall be allowed to the Contractor by adjusting the contract time accordingly.

43) Payment on Termination

- 43.1 If the Contract is terminated because of a breach of Contract by the Contractor, the Procuring Entity shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate, and less the percentage to apply to the value of the work not completed, as indicated in the **SCC**. Additional liquidated damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment

due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

- 43.2 If the Contract is terminated for the Procuring Entity's convenience, or due to a breach of Contract by the Procuring Entity, the Procuring Entity shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.
- 43.3 The net balance due shall be paid or repaid within twenty-eight (28) days from the notice of termination.
- 43.4 If the Contractor has terminated the Contract under **GCC** Clauses 23 to 24, the Procuring Entity shall promptly return the Performance Security to the Contractor.

44) Extension of Contract Time

- 44.1 Should the amount of additional work or other special circumstances warrant the entitlement of the Contractor to an extension of contract time, the Procuring Entity shall determine the amount of such extension; Provided, That the Contractor has notified the Procuring Entity of its claim for extension of contract time prior to the expiration of the contract time, and within thirty (30) calendar days after the additional work has been commenced or the circumstances leading to such claim have arisen, as the case may be, in order to give the Procuring Entity the opportunity to investigate the claim. Failure to provide such notice shall constitute a waiver of such a claim by the Contractor. Upon receipt of full and detailed particulars, the Procuring Entity shall examine the facts and extent of the delay and shall extend the contract time to complete the contract work when, in the Procuring Entity's opinion, the findings of facts justify an extension.
- 44.2 No extension of contract time shall be granted to the Contractor due to ordinary unfavorable weather conditions and inexcusable negligence of the Contractor to provide the required equipment, supplies, or materials.
- 44.3 Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT, CPM, Precedence Diagram Method or any other project management tool.
- 44.4 No extension of contract time shall be granted when the reason given to support the request for extension was already considered in the determination of the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection.
- 44.5 Extension of contract time may be granted in the cases indicated in the **SCC**.
- 44.6 The written consent of the bank, or surety or insurance company, as the case may be, must be attached to any request of the Contractor for extension of contract time and submitted to the Procuring Entity for consideration and the validity of the Performance Security shall be correspondingly extended.

- 44.7 The Procuring Entity shall extend the Intended Completion Date if a Variation is issued which makes it impossible for the Intended Completion Date to be achieved by the Contractor without taking steps to accelerate the remaining work, which would cause the Contractor to incur additional costs. No payment shall be made for any event which may warrant the extension of the Intended Completion Date.
- 44.8 The Procuring Entity shall decide whether and by how much to extend the Intended Completion Date within twenty (20) days of the Contractor asking the Procuring Entity for a decision thereto after fully submitting all supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

45) Price Escalation

In the event of an extraordinary increase in prices of specific components of the Infrastructure Project, price escalation may be considered, subject to prior approval of the GPPB. If the cost of construction components increases by more than ten percent (10%) of the unit price of work items, as determined against the prevailing price indices of the PSA, a price escalation may be authorized at a no-loss, no-gain basis, using the appropriate formula prescribed by the GPPB. For the purpose of this Section, the PSA shall ensure that its price indices are region-specific and updated on a monthly basis

46) Completion

The Contractor shall request the Procuring Entity to issue a Certificate of Completion of the Works, and the Procuring Entity will do so upon determining that the work is completed.

47) Taking Over

The Procuring Entity shall take over the Site and the Works within seven (7) days from the date of issuance of a Certificate of Completion; Provided, That it shall not release the Contractor of its responsibilities within the defects liability period.

48) Operating and Maintenance Manuals

- 48.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **SCC**.
- 48.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **SCC**, or they do not receive the Procuring Entity's approval, the Procuring Entity shall withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC.

The provisions of this Section complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- a) Information that complements provisions of Section IV. General Conditions of Contract must be incorporated.
- b) Amendments and/or supplements to provisions of Section IV. General Conditions of Contract, as necessitated by the circumstances of the specific project, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of Section IV. General Conditions of Contract should be incorporated herein.

Special Conditions of Contract

GCC Clause	
1.1	The Intended Completion Date is <i>[Insert date]</i>. <i>NOTE: The contract duration shall be reckoned from the start date and not from contract effectivity date.</i>
1.2	The Procuring Entity is <i>Engr. Lee D. Rivera, General Manager</i> <i>(032) 460-9281 : (032) 460-9112</i> <i>banelcoonline@yahoo.com</i>
1.3	The Site are located at Silagon Sulangan, Mambacayao Dako and Mambacayao Diot, Lipayran and are defined in the drawings.
1.4	The Start Date is <i>[Insert date]</i>. <i>NOTE: The start date shall be the date of receipt of the Notice to Proceed.</i>
1.5	The Works consist of Construction of Distribution lines, installation of transformers and protections to meet the requirement defined in specifications, data sheets and drawings attached with the tender and required for completion of the job within 120 calendar days upon issuance of Notice to Proceed in the following: 1. Silagon, Sulangan 2. Mambacayao Dako, Lipayran 3. Mambacayao Diot, Lipayran
2.2	<i>If different dates are specified for completion of the Works by section ("sectional completion"), these dates should be listed here</i>
5.1	The Procuring Entity shall give possession of all parts of the Site to the Contractor <i>[insert date]</i>.
6.5	The Contractor shall employ the following Key Personnel: Project Manager Project Engineers Material Engineers Foreman Linemen
7.1	No further instructions.
8.1	The amount of the advance payment is 15% of the Contract Price.

9.1	Materials and equipment delivered onsite but not yet incorporated in the Works shall not be included for payment.
9.4	All progress payments shall first be charged against the advance payment until the latter has been fully exhausted, at the option of the Procuring Entity. The first progress payment may be paid by the Procuring Entity to the Contractor; Provided, that at least 50% of the Works has been accomplished as certified by the Procuring Entity.
12.7	No further instructions.
13.1	The site investigation reports shall be submitted prior to the commence of work.
15.3	No further instructions.
15.5	<i>The Contractor shall provide, as part of its bid proposal, a warranty and after-sales service for a period of one (1) year for all items listed in Section VI. Specifications hereof. The one (1) year period reckoned from the date of issuance of the Certificate of Final Acceptance by the NEA and BANELCO of the submarine cable and its associated sending and receiving facilities.</i>
19.2	The Arbitrator is the person appointed jointly by the Procuring Entity and the Contractor: <i>[Insert name]</i> <i>[Insert address]</i>
20	<i>If the Contractor is a joint venture, "All partners to the joint venture shall be jointly and severally liable to the Procuring Entity."</i>
25(a)	No further instructions.
27.2	a) Failure of the Contractor, due solely to its fault or negligence, to mobilize and start work or performance within the specified period in the Notice to Proceed ("NTP"); b) Failure by the Contractor to fully and faithfully comply with its contractual obligations without valid cause, or failure by the Contractor to comply with any written lawful instruction of the Procuring Entity or its representative(s) pursuant to the implementation of the contract. For the procurement of infrastructure projects or consultancy contracts, lawful instructions include but are not limited to the following: i) Employment of competent technical personnel, competent engineers and/or work supervisors; ii) Provision of warning signs and barricades in accordance with approved plans and specifications and contract provisions; iii) Stockpiling in proper places of all materials and removal from the project site of waste and excess materials, including

	broken pavement and excavated debris in accordance with approved plans and specifications and contract provisions; iv) Deployment of committed equipment, facilities, support staff and manpower; and v) Renewal of the effectivity dates of the performance security after its expiration during the course of contract implementation. c) Assignment and subcontracting of the contract or any part thereof or substitution of key personnel named in the proposal without prior written approval by the Procuring Entity. d) Poor performance by the Contractor or unsatisfactory quality and/or progress of work arising from its fault or negligence as reflected in the CPES rating sheet. In the absence of the CPES rating sheet, the existing performance monitoring system of the Procuring Entity shall be applied. Any of the following acts by the Contractor shall be construed as poor performance: i) Negative slippage of fifteen (15%) and above within the critical path of the project due entirely to the fault or negligence of the Contractor; and ii) Quality of materials and workmanship not complying with the approved specifications arising from the Contractor's fault or negligence. e) Willful or deliberate abandonment or non-performance of the project or contract by the Contractor resulting to substantial breach thereof without lawful and/or just cause. In addition to the penalty of suspension, the performance security posted by the Contractor shall also be forfeited.]
33.1	The Contractor shall submit the Program of Work to the Procuring Entity within <i>[insert number]</i> days of delivery from the Notice of Award.
33.3	The period between Program of Work updates is <i>[insert number]</i> days. The amount to be withheld for late submission of an updated Program of Work is <i>[insert amount]</i>.
36.3	The Funding Source is the National Electrification Administration (NEA) through Approved Prior Years Savings (APYS) No. 1.
43.1	The percentage to apply to the value of the work not completed is <i>[insert percentage]</i> .
44.5	a) rainy/unworkable days considered unfavorable for the prosecution of the Works at the site, based on the actual conditions obtained at the site, in excess of the number of rainy/unworkable days pre-determined by the Procuring Entity in relation to the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection, and/or

	b) major calamities such as exceptionally destructive typhoons, floods and earthquakes, and epidemics, c) delays attributable to the Procuring Entity, such as non-delivery on time of materials, working drawings, or written information to be furnished by the Procuring Entity, non-acquisition of permit to enter private properties or non-execution of deed of sale or donation within the right-of-way resulting in complete paralyzation of construction activities, and d) other meritorious causes as determined by the Procuring Entity and approved by the HoPE such as shortage of construction materials, general labor strikes, and peace and order problems that disrupt construction operations through no fault of the Contractor may be considered as additional grounds for extension of contract time provided they are publicly felt and certified by appropriate government agencies such as DTI, DOLE, DILG, and DND, among others.
48.1	The date by which operating and maintenance manuals are required upon project completion. The date by which “as built” drawings are required upon project completion.
48.2	The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required is <i>(no specific amount but pre-requisite to the 10% retention Policy)</i>

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of Competitive Bidding, Limited Source Bidding, or Competitive Dialogue, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBD.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Prudence must be exercised in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable.

The following clause may be inserted in the SCC:

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted subject to the Procuring Entity's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's consent. In the event the Procuring Entity determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.

Technical Specifications

All Technical Specifications will strictly follow the NEA Standards for Construction of Distribution Lines.

BOLT, THIMBLE EYE

MATERIAL:

Thimble-eye bolts and compatible square nuts shall be fabricated from material that complies with the requirements of ANSI C135.4-1979, [1].

FINISH:

The thimble-eye bolt and square nut described in this standard shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [2]. Each thimble-eye bolt shall bear a permanent symbol or identification mark of the manufacturer in a place and manner which will not adversely affect either integrity or utilization of the bolt. Thimble-eye bolts shall have smooth surfaces, free from blemishes and imperfections. The eyes of the bolts shall be well shaped, with no irregularities, malfunctions or cracks and the inner surface shall be free from projections or other sharp edges.

DIMENSIONS:

The thimble-eyebolt dimensions are shown in figure 1 and presented in Table A using information and symbols defined as follows:

L1 = Length from below eye to Last thread at end of bolt.

L2 = Length from top thread to Last thread at end of bolt.

D = Diameter of shank

L3 = Length of eye.

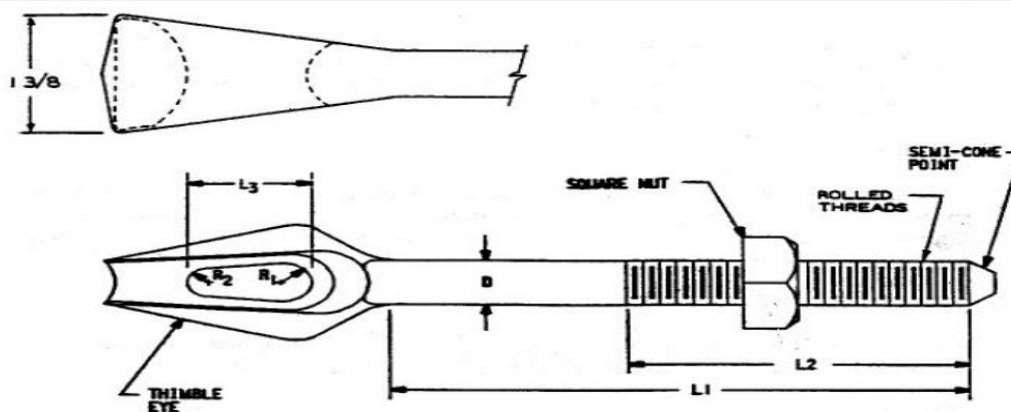
R1 = Radius of lower portion of eye.

R2 = Radius of upper portion of eye.

The thimble-eye bolt dimensions with applicable tolerances shall conform to the requirements of ANSI C135.4-1979, [1]. The dimensions of the compatible nuts before galvanizing, shall be in accordance with ANSI B18.2.2-1972 [3] and conform with ANSI C135.1-1979, [4].

THREADS:

Rolled threads must be provided on the threaded portion of the thimble-eyebolt. Before galvanizing the threads must comply with class 2 of ANSI B1.1-1982,[5]. The thread shall conform to ANSI C135.1-1979, [4]. After galvanizing, the thread shall permit compatible square nuts to be run the entire length of the thread without the aid of tools. Square nuts shall be tapped in accordance with ANSI C135.1-1979, Table S, [4].



THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND THEIR DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD.

FIGURE 1
THIMBLE EYE BOLT AND SQUARE NUT ASSEMBLY

Act
Go 1

TABLE A

TABLE A										
DIMENSIONS (INCHES)							ULTIMATE TENSILE STRENGTH (LBS)	THREADS PER INCH	TYPE	
NEA CODE NO.	D	L1	L2	L3	R1	R2				
DIA. 5/8 = 0.625 SHANK DIA. BEFORE GALVANIZING MAX. = 0.642 MIN. = 0.605	0636 55 08	5/8	8	4	3/16	7/32	1/4	12, 400	11	STRAIGHT
	0636 55 10	5/8	10	4	3/16	7/32	1/4	12, 400	11	STRAIGHT
	0636 55 12	5/8	12	6	3/16	7/32	1/4	12, 400	11	STRAIGHT

DIA. 5/8 = 0.625
SHANK DIA.
BEFORE
GALVANIZING
MAX. = 0.642
MIN. = 0.605

OTHER DIMENSION, TOLERANCE AND PERFORMANCE REQUIREMENTS AND THREAD DESIGN REQUIREMENTS ARE STATED IN ANSI STANDARDS C135.1-1979, C135.1-1979, B1.1-1974 AND B18.2.2-1972 OR CURRENT EDITION OF THESE STANDARDS

BOLT, DOUBLE AND SINGLE UPSET

MATERIAL:

NEA drop forged upset bolt assemblies shall be fabricated from materials that comply either with the requirements of Section 3 of ANSI Standard C135.31-1980, [1], or NEMA PH31-1977, [2].

FINISH:

A NEA upset bolt and its accessories shall each be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [3]. Each upset bolt shall bear a permanent symbol or identification mark of the manufacturer in a place and manner which will not adversely affect its integrity or utilization. NEA upset bolts shall have smooth surfaces, free from blemishes and imperfections.

DIMENSIONS:

NEA upset bolt dimensions with applicable tolerances shall meet the requirements of ANSI C135.31-1980 (1) and are shown in Figure 1 and Table A of this document. The specified bolt length shall not include the semi-cone points. Dimensions of the compatible nuts before galvanizing, shall be in accordance with ANSI B18.2.-1972 [4] and conform to ANSI C135.1-1979, [5]. The washer shall conform to NEMA Pub. No. PHIO-1977, [6]. Dimensions of compatible locknuts shall conform to REB Publication 116-1988 [7].

THREADS:

The threaded portions of single and double upset bolts shall before galvanizing, comply with class 2 of the ANSI standard for unified screw threads, ANSI B1.1-1982, [8] and shall conform to ANSI C135.1-1979, [5].

Nuts shall be tapped in accordance with ANSI C135.1-1979, Table 8 [5].

Locknut thread shall conform to the requirements of NEA specification No. 116.

STRENGTH:

Based on a minimum of any 6 consecutive test samples the upset spool bolt shall develop an average strength of 2000 pounds for single upset type and 900 pounds for the double upset type without deflecting more than 10 degrees when tested by test procedures described herein and in Section 7 of ANSI C135.31-1980 [1].

Individually a single upset spool bolt shall develop a minimum of 1900pounds and a double upset spool bolt shall develop a minimum of 800pounds without deflecting more than 10 degrees when tested by procedures described herein in section 7 of ANSI C135.31-1980 [1] and demonstrated in Figure 2 of this document.

Single and double upset spool bolts described herein with nuts installed shall meet the minimum tensile load of 12,400 pounds. Above the specified minimum tensile loads an upset spool bolt shall fail only in the shank or threaded sections and not at the junction of the upset and shank. Threads shall not strip below the specified minimum tensile load.

OTHER STANDARDS:

The dimensional and performance requirements of NEA upset bolts, based on other internationally recognized standards are acceptable only if the requirements of such standard are equivalent to or exceed the requirements quoted in this document and are identical in thread design.

BIBLIOGRAPHY OF REFERENCE STANDARDS:

ANSI C135.31-1980: American National Standard for Galvanized Ferrous Single and Double Upset Spool Insulator Bolts for Overhead Line Construction.

NEMA PH31-1977: NEMA Standard for Galvanized Ferrous Single and Double Upset Spool Insulator Bolts.

ANSI/ASTM A153-82:

ANSI B18.2.2-1972: Square and Hex Nuts.

ANSI C135.1-1979: American National Standard for Steel Bolts and Nuts for Overhead Line Construction.

NEMA Pub. No. PH10-1977 : Washers

NEMA Standards for Galvanized Ferrous

NEA specification 116 : NEA spec. for Square Locknuts.

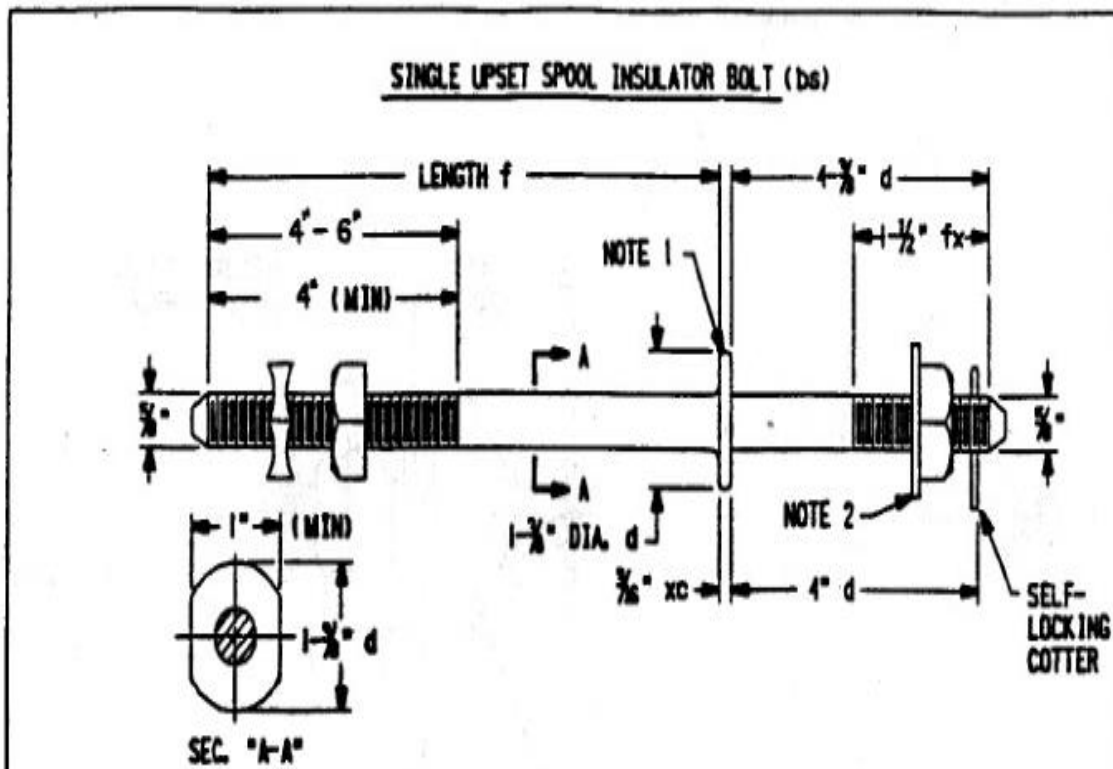
ANSI B1.1-1982: Unified Inch Screw Threads (UN and UNR Thread Form)

NEA specification 186: Spec. for Coarse Screw Threads.

TABLE A					
NEA Upset Spool Insulator Bolt Data					
NEA Code No.	Length (Inches)	Type	Number of Threads Per Inch	Length of Threads (Inches)	Minimum Tensile Strength (Pounds)
0639 05 09	9	Single	11	4	12400
0639 05 10	10	Single	11	4	12400
0639 05 12	12	Single	11	6	12400
0639 05 14	14	Single	11	6	12400
0635 05 10	10	Double	11	4	12400
0635 05 12	12	Double	11	6	12400
0635 05 14	14	Double	11	6	12400

Diameter of shank before galv. $NOM. 5/8 = 0.625$, Max. 0.642, Min 0.605.

Other dimension, tolerance and performance requirements and thread design requirements are stated in ANSI Standard C135.31-1980, B1.1-1982, B18.2.2-1972, C135.1-1979 and NEMA PH 31-1977 or current edition of these standards.



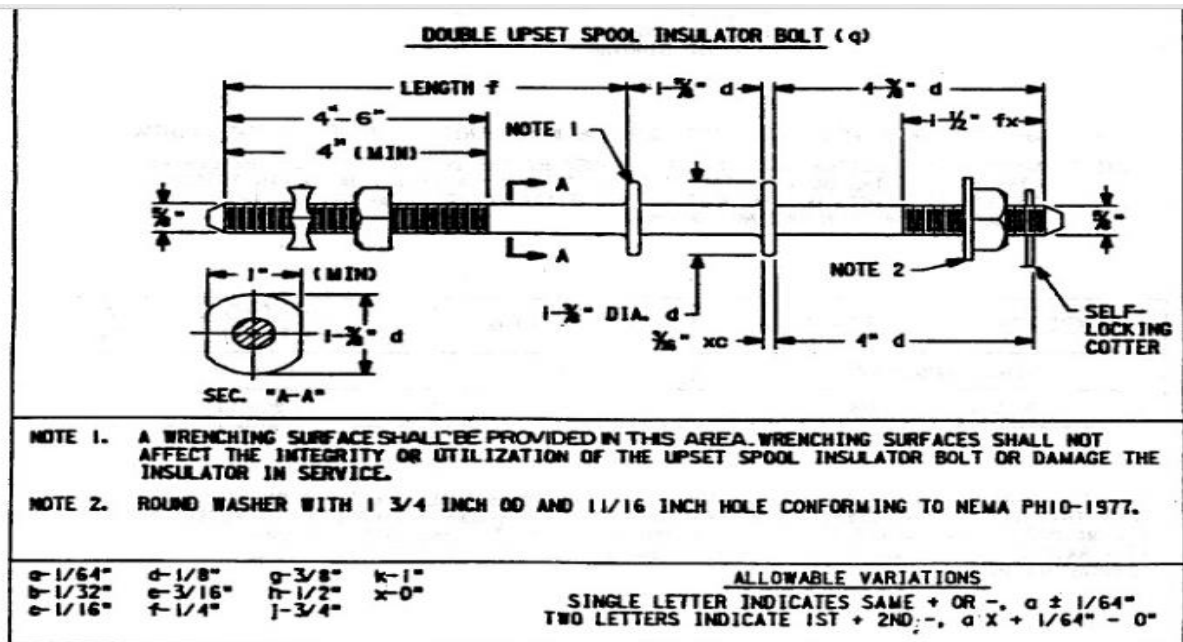
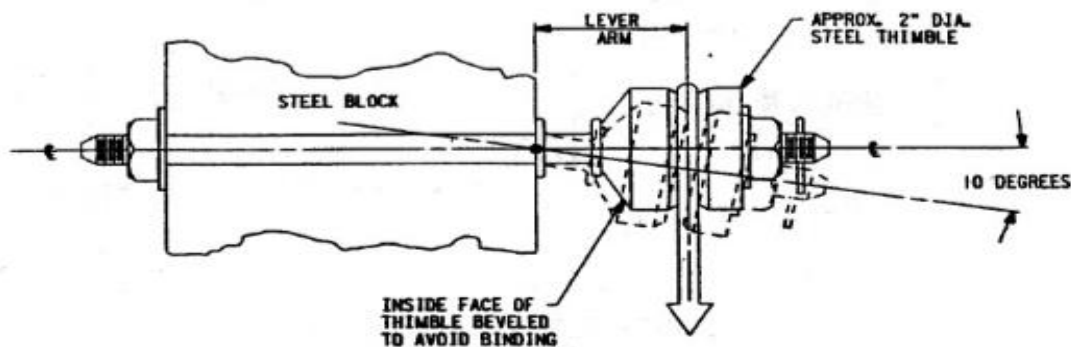


FIGURE 1
SINGLE AND DOUBLE UPSET SPOOL INSULATOR BOLT ASSEMBLIES

Page 5 of 6
TS 109



- NOTE 1 APPLICATION OF LOAD TEST MUST COINCIDE WITH CENTER LINE OF TESTING MACHINE.
- NOTE 2 ANGLE OF DEFLECTION SHALL BE DETERMINED BY THE INTERSECTION OF THE CENTER LINE AXIS OF THE BOLT IN IT'S INITIAL POSITION, WITH A LINE DRAWN THROUGH THE CENTER POINTS OF THE BOLT AT THE DEFLECTED POSITION AND THE UPSET SHOULDER NEAREST MOUNTING SUPPORT.

TYPE OF INSULATOR BOLT	LEVER ARM	MIN. LOAD AT TEN DEGREES DEFLECTION
SINGLE UPSET BOLT	1-3/4"	1900 LBS.
DOUBLE UPSET BOLT	3"	800 LBS

SINGLE AND DOUBLE UPSET SPOOL INSULATOR BOLTS AND NUTS SHALL, WITHOUT DEFLECTING MORE THAN TEN DEGREES UNDER LOAD, DEVELOP STRENGTHS SHOWN IN ABOVE WHEN TESTED BY THE METHOD SHOWN AND DESCRIBED HEREIN AND ANSI C135.31-1980. THE LOAD SHALL BE APPLIED AT A RATE OF APPROXIMATELY 0.4 IN PER MINUTE FREE RUNNING CROSSHEAD SPEED OF THE TESTING MACHINE.

FIGURE 2
TEST PROCEDURE FOR UPSET BOLTS

OVAL EYE BOLT:

MATERIAL:

Oval-eye bolts and compatible square nuts, shall be fabricated from material that complies with the requirements of ANSIC135A-1979, [1].

FINISH:

Oval-eye bolt and square nut described in this standard shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [2].

Each oval-eye bolt shall bear a permanent symbol or identification mark of the manufacturer in a place and manner which will not adversely affect either integrity or utilization of the bolt. Oval-eye bolts and nuts shall have smooth surfaces, free from blemishes and imperfections. The eyes of the bolts shall be well shaped, with no irregularities, malformations or cracks and the inner surface shall be free from projections or other sharp edges.

DIMENSIONS:

Oval-eye bolt dimensions are shown in figure I and presented in Table A (Page 4) using symbols defined as follows:

D = Diameter

L1 = Length from below the eye to the last thread

L2 = Thread length

L3 = Length of eye

W = Width of eye

Oval-eye bolt dimensions with applicable tolerances shall conform to requirements of ANSI C135.4-1979, [1].

The dimensions of the compatible nuts before galvanizing shall be in accordance with ANSI B18.2.2-1972, [3] and conform with ANSI C135.1-1979, [4].

THREADS:

Rolled threads must be provided on the threaded portion of the oval-eyebolt. Before galvanizing, the threads must comply with class2 of ANSIB1.1-1982,[5] and conform to ANSIC135.1-1979, [4].

After galvanizing, the threads shall permit compatible square nuts to be run the entire length of the thread without the aid of tools. .

Square nuts shall be tapped in accordance with ANSIC135.1-1979, Table 8, [4].

STRENGTH:

1. Oval-eye bolts with nuts installed shall meet the tensile strength requirements listed in Section 6 of ANSI C135.4-1979, [1]. Above the specified minimum tensile loads, the oval-eye bolt shall fail only in the shank or threaded section and not at the junction of head and shank. Threads shall not strip below the specified minimum tensile loads.

2.A cold bend test shall be conducted in accordance with Section 6.2 of ANSI C135.4-1979, [1].

OTHER STANDARDS:

The dimensional and performance requirements of NEA oval-eyebolts, based on other internationally recognized standards are acceptable only if the requirements of such standards are equivalent to or exceed the requirements quoted in this document and are identical in thread design,

BIBLIOGRAPHY OF REFERENCE STANDARDS:

1.ANSI C135.4-1979: American National Standard for Galvanized Ferrous Eye Bolts and Nuts for Overhead Line Construction.

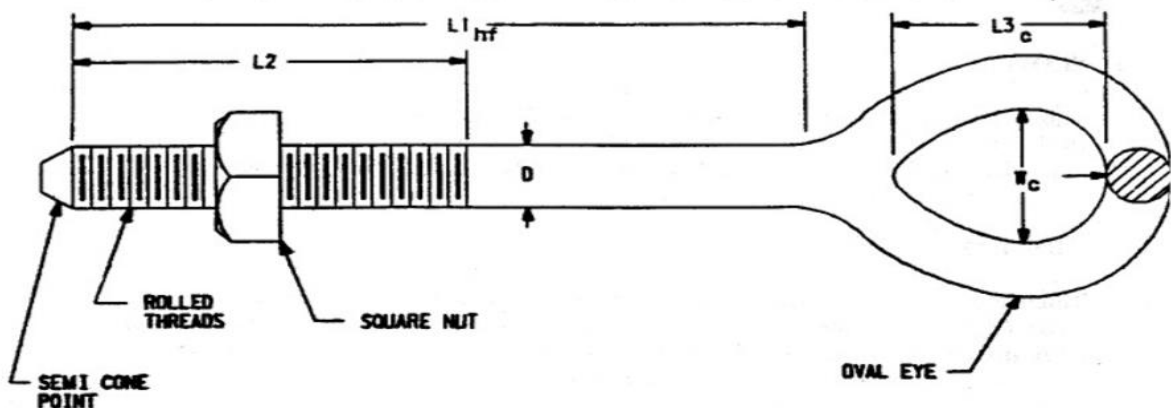
2.ANSI/ASTM A153-82 : Standard Specification for Zinc Coating (Hot-Dip) on Iron or Steel Hardware.

3.ANSI B18.2.2-1972: Square and Hex Nuts.

4.ANSI C135.1-1979: American National Standard for Galvanized Steel Bolts and Nuts for Overhead Line Construction.

5.ANSI B1.1-1982 : Unified Inch Screw Threads (UN and UNR Thread Form).

6.NEA Standard 186: Standard for Coarse Screw Threads



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FIGURE 1 **OVAL EYE BOLT AND SQUARE NUT ASSEMBLY**

TABLE A

DIA. 5/8 = 0.625
SHANK DIA. BEFORE
GALVANIZING
MAX. = 0.642
MIN. = 0.605

CODE NO.	DIMENSIONS (INCHES)						ULTIMATE TENSILE STRENGTH (LBS)	THREADS PER INCH
	D	L1	L2	L3	W			
0636 15 08	$\frac{3}{8}$	8	4	2	1- $\frac{1}{2}$		12,400	11
0636 15 10	$\frac{3}{8}$	10	4	2	1- $\frac{1}{2}$		12,400	11
0636 15 12	$\frac{3}{8}$	12	6	2	1- $\frac{1}{2}$		12,400	11
0636 15 14	$\frac{3}{8}$	14	6	2	1- $\frac{1}{2}$		12,400	11
0636 15 18	$\frac{3}{8}$	18	6	2	1- $\frac{1}{2}$		12,400	11

OTHER DIMENSION, TOLERANCE AND PERFORMANCE REQUIREMENTS AND THREAD DESIGN REQUIREMENTS ARE STATED IN ANSI STANDARDS C135.1-1979, C135.4-1979, B1.1-1982 AND B18.2.2-1972 OR CURRENT EDITION OF THESE STANDARDS

a-1/64" d-1/8" g-3/8" k-1"
b-1/32" e-3/16" h-1/2" x-0"
c-1/16" f-1/4" j-3/4"

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Page 4 of 4

BOLT MACHINE

MATERIAL:

Drop forged machine bolts and compatible square nuts must be fabricated from steel that complies with the requirements of ANSI Standard C135.1-1979, [1].

FINISH:

The machine bolt and square nut described in this specification shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [2]. Each bolt shall bear a permanent symbol or identification mark of the manufacturer in a place and manner which will not adversely affect the integrity or utilization of the bolt. The bolt and nut shall have smooth surfaces free from blemishes and imperfections after galvanization.

DIMENSIONS:

NEA machine bolt dimensions listed in Table A and identified in Figure 1 are defined as follows:

L1 = Length from underside of head to last thread at end of bolt on semi-cone pointed bolts and at bolt on other bolts.

L2 = Length from top thread to last thread at end of bolt.

D = Diameter of shank.

Bolt dimensions with applicable tolerances shall conform to the requirements of ANSI C135.1-1979, [1] and bolt head shall conform to the requirements of ANSI B18.2.1-1981, [13]. 861ts with diameter .112 inch, 5/8 inch and 3/4 inch and 8 inches or longer, . . shall be fitted with a semi-cone point as stated and tabulated in ANSI C135.1-1979, [1].

Dimensions of compatible square nuts before galvanizing shall be in accordance with ANSIB18.2.2-1972, [4]and conformCI35.1-1979, [1]. .

THREADS:

1. The threaded portion of machine bolts shall be provided with machine rolled threads and before galvanizing, must comply with class 2 of the ANSI standard for unified screw threads, ANSIB1.1-1982, [5] and conform to ANSI CI35.1-1979, (1).
2. After galvanizing the bolt thread shall permit compatible nuts to be run the entire length of the thread without the aid of tools.
3. Nuts shall be tapped in accordance with ANSI CI35.1-1979, Table 8, (1).

STRENGTH:

1. Tensile Strength

Machine bolts with nuts installed shall meet the tensile strength requirements listed in Table 10 of ANSI C135.1-1979, [1]. Above the specified minimum tensile loads, the machine bolt shall fail only in the shank or threaded section and not at the junction of head and shank. Threads shall not strip below the specified minimum tensile loads.

2. Bending Strength

A cold bend test shall be conducted in accordance with Section6.2 of ANSI CI35.11979, [1].

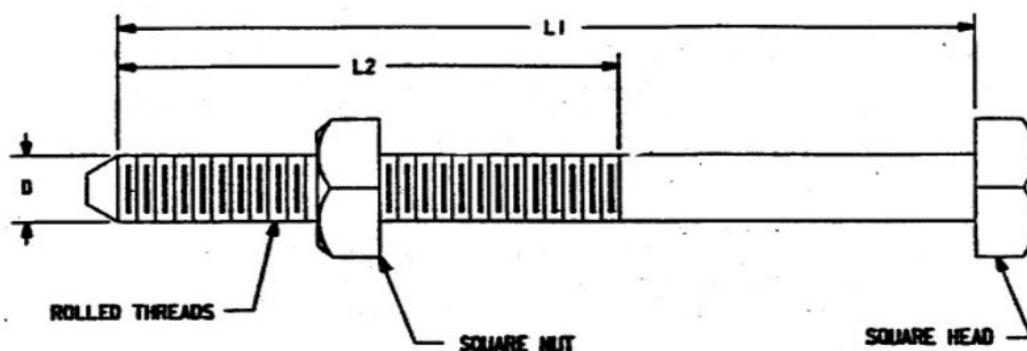
TABLE A						
In Inch Units						
Code No.	D	L1	L2	Ultimate Tensile Strength in Pounds	Number of Threads Per Inch	Quantity per Package
0638 04 06	1/2	6	3	7,800	13	200
0638 04 10	1/2	10	4	7,800	13	100
0638 04 12	1/2	12	6	7,800	13	100
0638 05 05	5/8	5	3	12,400	11	100
0638 05 08	5/8	8	4	12,400	11	100
0638 05 09	5/8	9	4	12,400	11	100
0638 05 10	5/8	10	4	12,400	11	50
0638 05 12	5/8	12	6	12,400	11	50
0638 05 14	5/8	14	6	12,400	11	50
0638 05 16	5/8	16	6	12,400	11	50
0638 05 18	5/8	18	6	12,400	11	50
0638 05 20	5/8	20	6	12,400	11	50

Tolerances Before Galvanization			
Dimension Symbol	Diameter Nominal	Diameter Maximum	Diameter Minimum
D	1/2 - 0.500	0.515	0.482
D	5/8 - 0.625	0.642	0.605
D	3/4 - 0.750	0.768	0.729

Machine Bolts (Cont.)

Dimension Symbol	Length	Diameter	Tolerance Positive	Tolerance Negative
L1	1-1/2	1/2	0.04	0.06
L1	1-1/2	5/8	0.06	0.08
L1	6 thru 8	1/2	0.12	0.18
L1	6 thru 20	5/8	0.14	0.18
L1	8 thru 16	3/4	0.14	0.18
L2	1 thru 1-1/2	1/2 thru 3/4	1/16	1/32
L2	3 thru 6	1/2 thru 3/4	1/8	1/16

Other dimension, tolerance and performance requirements and thread design requirements for bolts and nuts are stated in ANSI Standards C135.1-1979, (1), B1.1-1982, (5), B18.2.1-1981, (3), B18.2.2-1972, (4) or current editions of these standards.



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BRACKET ANGLE, WITHOUT SPOOL

MATERIAL:

Secondary clevis brackets shall be fabricated from hot-rolled open-hearth steel strip that conforms to ASTM A570-79, [1]. The clevis pin shall be fabricated from hot-rolled steel that conforms to ASTM A675-82, [2]. These materials shall have a grade and quality that meets the strength requirements of this specification. The self-locking cotter key shall be made from a non-ferrous metal.

DIMENSIONS:

Dimensions and tolerances of the clevis bracket and pin shall be in accordance with NEMA Pub. No. PH20-1979, [3] and as shown in Figures 1 and 2 of this document.

Clevis bracket dimensions are defined as follows:

A = Width of clevis bracket opening

B = Depth of clevis bracket throat

C = Width of back of bracket

T = Thickness of clevis bracket

E = Separation between clevis bracket ends and centers of clevis pin holes

RI = Radius of clevis pin holes

R2 = Radius of clevis bracket ends

R3 = Radius of back of bracket

HI = Mounting hole dimensions

Dimensions of clevis pins shown in Figure 2 are defined as follows:

D1 = Diameter of clevis pin head

D2 = Diameter of clevis pin shank

L1 = Overall length of clevis pin shank

L2 = Distance between end of clevis pin and center of cotter key hole

STRENGTH:

A NEA secondary clevis bracket must be capable of withstanding a side load of 1000 pounds at 90 degrees to the axes of the clevis bolt and mounting bolt without exceeding a test deflection of 3/8 inch and a permanent deflection of 1/4 inch measured at the center of the pin.

The ultimate strength of NEA secondary clevis bracket shall be equal to the load rating of the spool insulators as follows:

Insulator Class	Size(inches)	Load rating (Lbs.)
53-4	3	4500

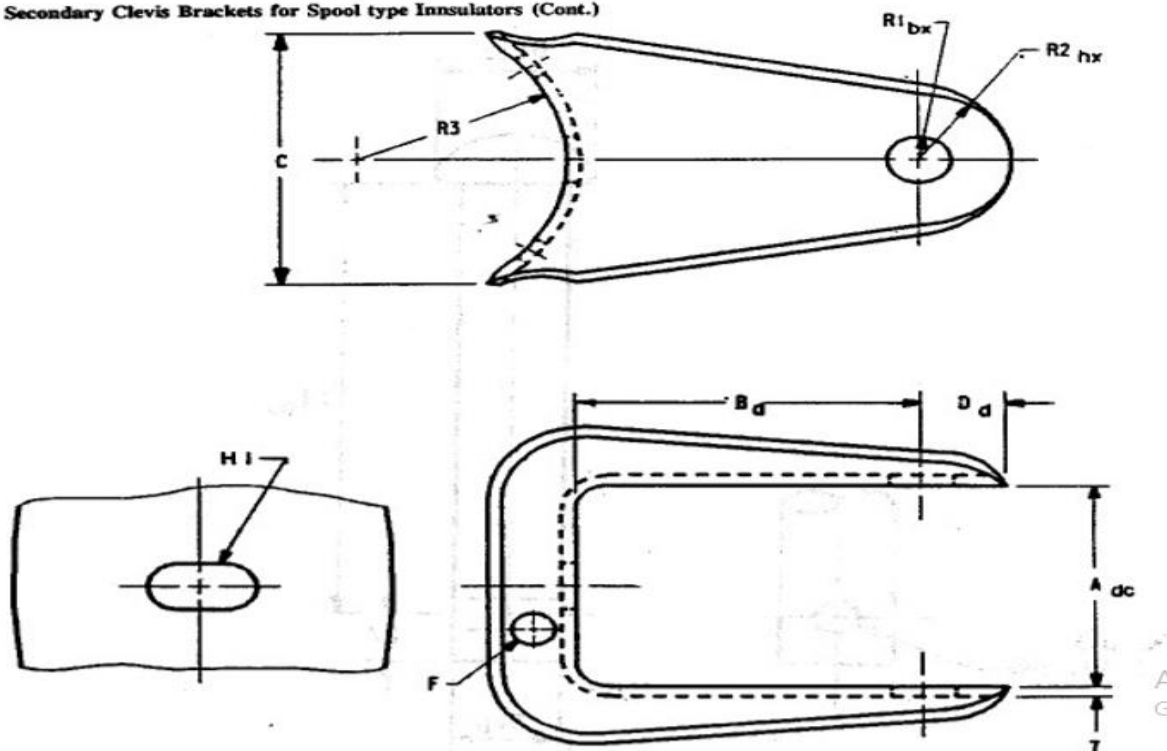
TESTS:

Tests require use of porcelain spool insulators which conform to ANSI C29.3-1980, [4]. The load shall be applied by means of a loop of flexible stranded wire cable whose diameter shall not exceed the radius of the insulator wire grooves. A spool insulator failure shall be regarded as a clevis failure.

FINISH:

The clevis bracket and clevis pin shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [5]. All surfaces shall have a smooth finish and be free from blemishes or projections. The manufacturer's symbol or identification mark shall be placed on the clevis and the head of the pin.

Secondary Clevis Brackets for Spool type Insulators (Cont.)



NEA CODE NO.	SPOOL INSULATOR CLASS	STRENGTH		NOMINAL DIMENSION (INCHES)									
		ULT.	SIDE	A	B	C	D	T	R1	R2	R3	F	H1
0780 45 00	ANSI 53-4	4500	1000	3-1/4	4	3-1/2	7/8	12GA	7/32	1	2-3/4	9/16	1 1/8 ± 3/4

$a = \frac{1}{4}$
 $b = \frac{1}{2}$
 $c = \frac{1}{8}$

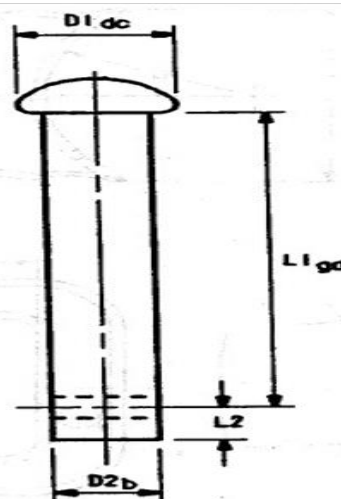
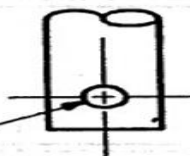
$d = \frac{1}{8}$
 $e = \frac{3}{16}$
 $f = \frac{1}{4}$

$g = \frac{3}{8}$
 $h = \frac{1}{2}$
 $x = 0$

ALLOWABLE VARIATION (INCHES)
 SINGLE LETTER INDICATES $\pm$ VARIATION. EXAMPLE: $c = \pm \frac{1}{16}$ INCH
 TWO LETTERS INDICATE +FIRST VARIATION, - SECOND VARIATION.
 EXAMPLE: $cx = +\frac{1}{16} - 0 = +\frac{1}{16}$

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3/16" MIN. DIA.
AFTER GALVANIZING



NEA CODE NO.	NOMINAL DIMENSIONS (INCHES)			
	L1	L2	D1	D2
0780 45 00	4- $\frac{3}{8}$	$\frac{1}{4}$ MIN.	$\frac{7}{8}$	$\frac{5}{8}$

$a = \frac{1}{16}$ $d = \frac{1}{8}$ $g = \frac{3}{8}$
 $b = \frac{1}{32}$ $e = \frac{3}{16}$ $h = \frac{1}{2}$
 $c = \frac{1}{8}$ $f = \frac{1}{4}$ $x = 0$

ALLOWABLE VARIATION (INCHES)
 SINGLE LETTER INDICATES $\pm$ VARIATION. EXAMPLE: $c = \pm \frac{1}{16}$ INCH
 TWO LETTERS INDICATE +FIRST VARIATION, - SECOND VARIATION.
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TRANSFORMER MOUNTING BRACKET, CUTOUT AND ARESTER MOUNTING BRACKET

The transformer pole band, furnished to NEA specification shall conform in all respects to the physical and performance requirements of this standard. The text, figures and reference to other standards supplement each other and or considered part of this standard.

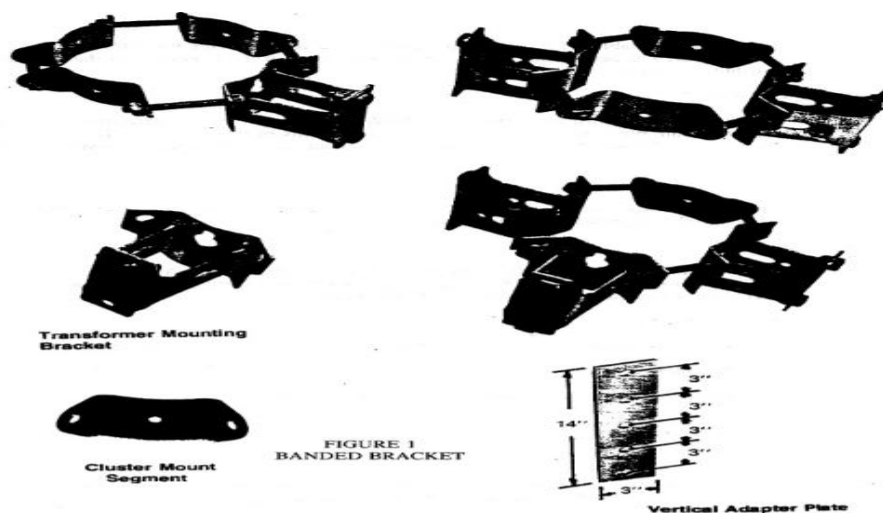
SPECIFICATIONS:

The universal pole band bracket, to be used when hanging transformers on non-wood poles, that do not have bolt holes in the desired places, shall have three component parts namely: a transformer mounting bracket, cluster mount segment and a vertical adapter plate, and the necessary bolts.

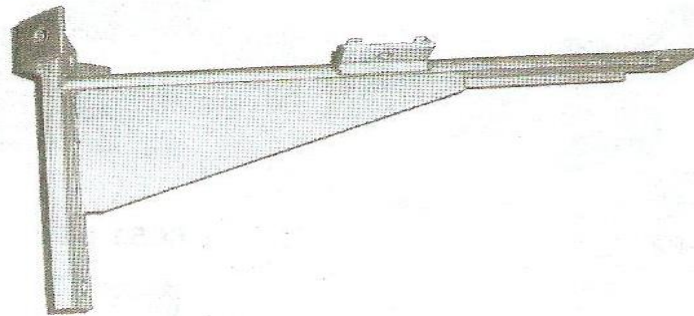
To be shaped for hanging one, two, or three transformers on a pole with 6 1/2 to 11-inch diameter. To have adequate strength for safely hanging up to three 167kVA transformers on a top and bottom band.

Each transformer mounting bracket and each vertical adapter plate to be complete with two 5/8 x 1 3/4"-inch machine bolts for attaching the transformers to the plate and the plate to the bracket.

A 5/8"x6" machine bolt shall also be provided for each transformer mounting bracket and each cluster mount segment.



**MOUNTING
BRACKET
FOR FUSE
CUT-OUT
AND ARRESTER
27KV
Hot Dip Galvanized**



HOT LINE CLAMP

Hot line clamps furnished to NEA specification shall conform in all respects to the physical and dimensional requirements stated in this standard. A hot line clamp shall not adversely affect the electrical and mechanical characteristics of the conductors it connects. The text, figures and references to other standards supplement each other and are considered parts of this standard.

MATERIAL:

Hot line clamps described in this specification shall be considered a general purpose clamp and be capable of joining aluminum or copper conductors without experiencing contact deterioration resulting from galvanic corrosion or exposure to the weather. Clamp shall have a cast aluminum alloy body conforming to ASTM B868-82, [1].

PHYSICAL REQUIREMENTS:

Hot line clamps shall be designed for a long service life, free from corrosion, electrical and mechanical failure and shall be provided with the following features:

A. The eye-screw threads shall be enclosed in a threaded chamber and protected by a corrosion inhibiting compound effective over a wide temperature range. Eye screw threads shall also be isolated from the arc zone caused by charging currents when the clamp is applied or removed.

B. Clamp jaw shall be designed to provide maximum conductor contact and shall have the following outdoor current rating base on 75 degrees C:

460 amperes with 266.8 MCM ACSR

670 amperes with 300 MCM STR. CU.

C. Clamp shall be designed to minimize conductor damage resulting from vibration and to avoid "working off" the conductor during tightening.

D. Hot line clamp eye-screw and terminal shall have a recommended torque of 250 inch pounds based on clean, dry and unlubricated threads.

DIMENSIONS:

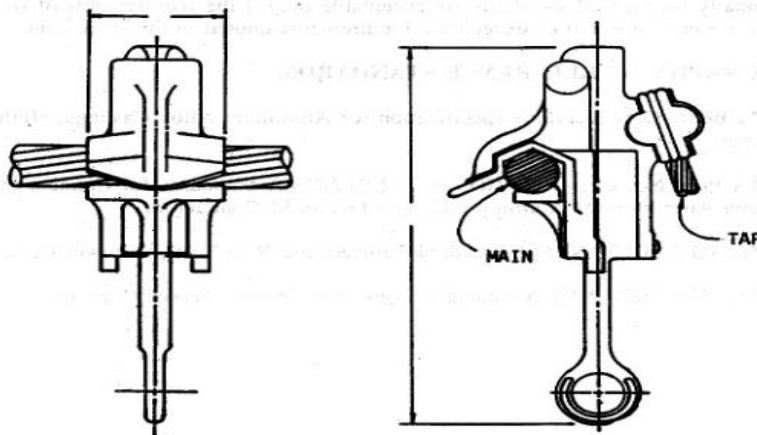
Hot line clamps shall be similar to Figure 1 and designed to accept the following conductor sizes:

A. Main line range shall be 266.8 MCM ACSR with armor rod to #4 ACSR with armor rod.

B. Tap line range shall be 266.8 MCM ACSR to #6 ACSR or 300 MCM Str. Cu. to # 4 Sol. Cu.

TESTS:

REB hot line clamps shall meet the current cycling requirements for Class A duty, connector per NEMA CC3-1973 (R1978), [2]. Conductor temperature shall be 125 degrees C, temperature rise and resistance test shall conform to NEMA SO-1,501 [3] and NEMA SO-1.502 [4] respectively.



NEA CODE NO.	CONDUCTOR RANGE					APPROX. DIMENSION	
		MAIN		TAP			
	1141 19 10	TYPE	CU-AL	ACSR*	CU-AL	ACSR	H
MIN.		---	#4	#4-SOL	#6	1-3/4"	6-1/2"
MAX.		---	266.8	300 STR.	266.8	(44.5mm)	(165mm)

* OVER ARMOR ROD

CLAMP, ANCHOR ROD BONDING:

MATERIAL:

Bonding clamps shall be fabricated in with NEMA PH-23 [1].

DIMENSIONS:

Nominal dimensions of a typical bonding clamps are shown in Figure 1. for 5/8" single eye rod.

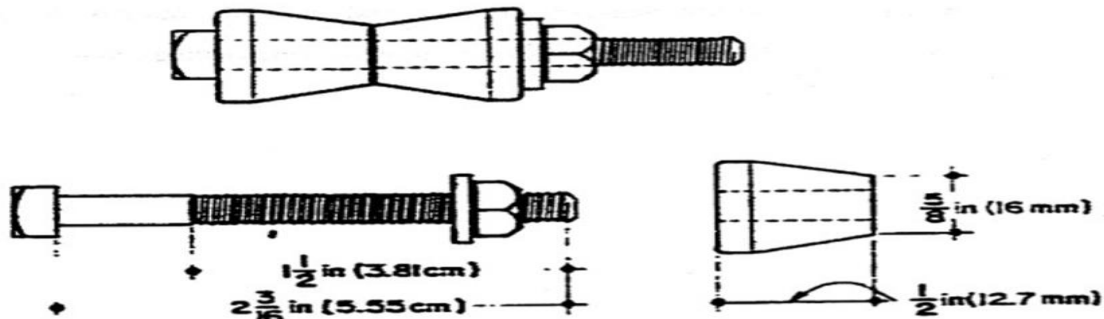
GALVANIZING:

After fabrication clamps shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82[2], as needed.

FINISH:

Clamps shall be free of rough or uneven surfaces and edges so as to ensure safety in handling and installation.

CLAMP, ANCHOR ROD, BONDING



CLAMP, LOOP DEADEND:

Loop deadend clamps shall conform in all respects to the dimensional and performance requirements of this document. The text, figures and references to other standards supplement each other and are considered part of this specification.

MATERIAL:

A loop deadend clamp shall have a body made of three parts using U-bolts and nuts as clamping hardware.

The top and bottom pressure pads shall be castings of high strength aluminum alloy 356 in accordance with ASTM B686-82 [1] and heat treated to T6 temper in accordance with ASTM B597-83 [2]. The top pressure pad shall be attached to the U-bolt.

The spacer shall be made of highly conductive aluminum, be designed to interlock with the U-bolts and be provided with guide fingers to ensure alignment of the conductors. The spacer shall be designed so that it cannot be removed without removing the nuts and lower pressure pad.

The clamp shall also provide optimum contact areas for conductor contact, with flared ends to reduce conductor stresses.

The U-bolts shall be made of steel which conforms to the physical requirements of ASTM specifications A663-82 [3] or A675-82 [4]. The steel hex nuts shall meet the requirements of ANSI B18.2.2-1972 [5].

Lock washers shall comply with the requirements of ANSI B18.21.1-1983 [7].

DIMENSIONS:

Loop deadend clamp dimensions shown in Figure I are specified on the basis of the size of the conductor with which it is to be used.

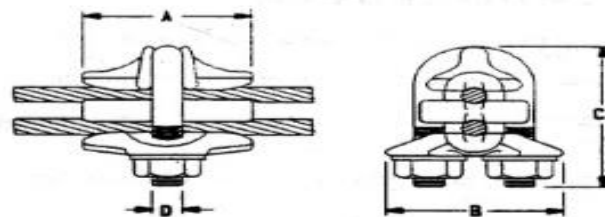
FINISH:

The steel U-bolts and nuts shall be hot-dip galvanized in accordance with ASTM A153-82 [6]. The surfaces of the clamp shall be smooth and free from blemishes, irregularities and other imperfections which are inconsistent normal commercial practice. The manufacturer's identification mark or symbol shall be located on each part of the clamp body and on each U-bolt, in a manner and location which does not impair the function of the clamp. .

STRENGTH:

Two loop deadend clamps must be used if the holding value of the connection is to develop 95% or more of the conductor's rated strength. Connections using one loop deadend clamp will develop holding values equivalent to:

- a. 80% of rated strength of ACSR .
- b. 90% of rated strength of stranded all aluminum conductor.



NEA CODE NO.	ACSR CONDUCTOR SIZE	DIMENSION (INCHES)			
		A	B	C	D
1172 10 25	#6 - #2/0	2	2	2- $\frac{1}{4}$	$\frac{3}{4}$

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CLAMP, DEADEND STRAIN

MATERIAL:

The clamp body shall be fabricated from high-strength aluminum alloy in accordance with ASTM B686-82.

FINISH:

The clamp shall have smooth surfaces without blemishes, malformations or other defects. The clamp body shall bear the manufacturer's symbol or identification mark and catalog number.

DIMENSIONS:

Dimensions of conductor deadend clamps shall be based on the minimum and maximum conductor size with which use is intended. A typical conductor deadend clamp is shown below.



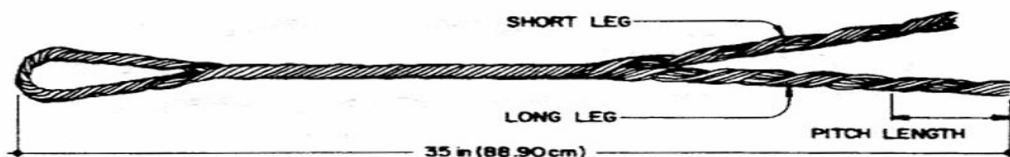
GUY, DEADEND GRIP

MATERIAL:

Galvanized steel or Aluminum clad steel.

FINISH:

1. When the type of stay wire had been confirmed the proper helical dead-ends for stay wire could provide a gripping strength no less than 95% rated broken strength.
2. Galvanized steel and aluminum clad steel material are usually used to make on stream. This ensures that there is no any stranding damage occurred caused by electrolytic or galvanic corrosion.
3. Stress is distributed equally, without any stress focus on the stay wire. It would protect the stay wire very well.
4. Can be set up without any additional tools.



REFERENCE DATA

CONSTRUCTION	W	7
MEAN DIAMETER in (mm)	.360	(9.14)
SIMILAR OR EQUAL	P-GDE-1107	
N.E.A. CODE NO.	1177	20 85

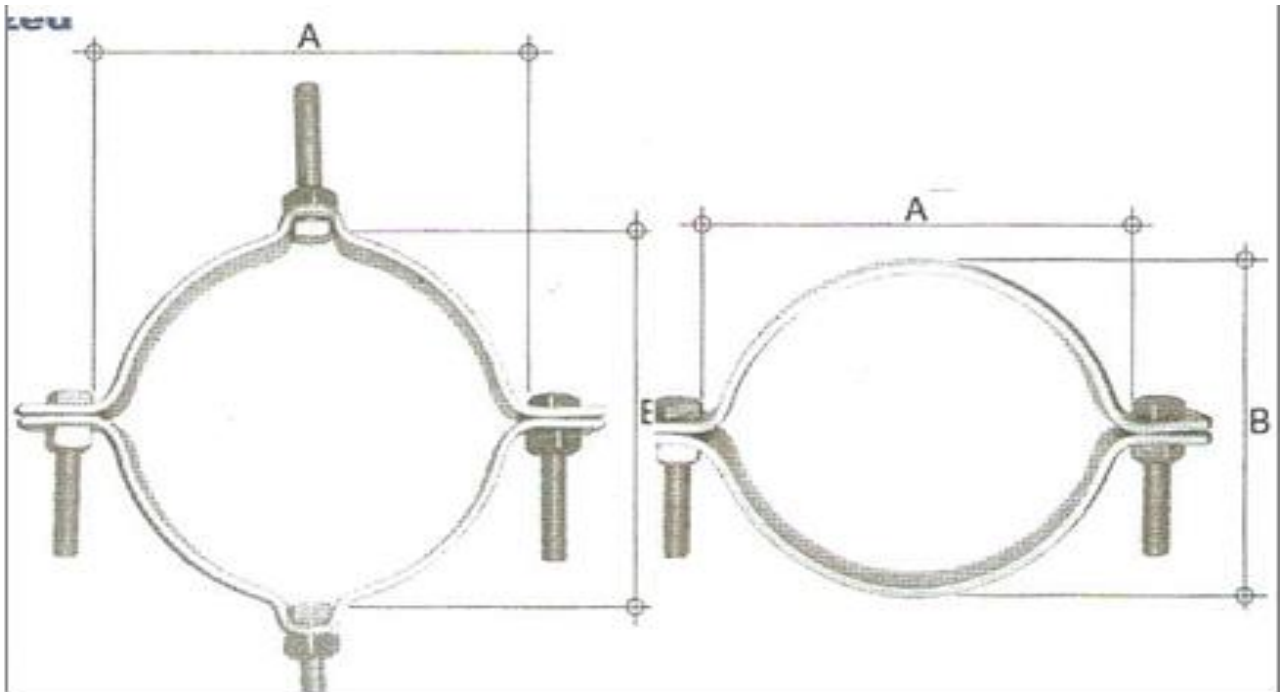
POLE CLAMP

MATERIAL:

Carbon steel, not steel sheet

FINISH:

Hot dip galvanized.



SWINGING CLEVIS WITHOUT SPOOL

Service swinging clevises furnished to NEA specifications shall conform in all respects to the dimensional and performance requirements of this specification. These clevises shall be designed to use 2-118 inch spool insulators, ANSI Class 53-1 and ANSI C29.3-1986 [2]. The text, figures and references to other standards supplement each other and are considered part of this specification.

MATERIAL:

NEA service swinging clevises and clevis pins shall be fabricated from open hearth steel strip that conforms to ASTM A570-79, [3]. The clevis pin shall be made from steel that has a grade and quality that meet the strength requirements of ASTM A675-82, [4]. The self-locking cotter key shall be made of a non-ferrous metal such as hard-drawn copper, aluminum, brass or bronze.

DIMENSIONS:

The dimensions and permitted tolerances of service swinging clevis brackets and clevis pins shall be in accordance with NEMA Pub. No. PH20~1979, [5], and as shown in Figures 1 and 2 are defined as follows:

A = Width of clevis opening

B = Depth of clevis throat

C = Width of clevis body

D = Thickness of clevis bod

R1 = Radius of clevis pin holes

R2 = Radius of clevis body at opening

E = Minimum dimension for NEA spool insulator ANSIClass53-1

Dimensions of clevis pins shown in Figure 2 are defined as follows:

D1 = Diameter of clevis pin head

D2 = Diameter of clevis pin shank

L1 = Overall length of clevis pin shank

L2 = distance between end of clevis pin and center of cotter key hole

FINISH:

Service swinging clevis brackets and clevis pins shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [1]. Each clevis bracket shall bear the manufacturer's symbol or identification mark. All surfaces must be smooth and free from blemishes or other irregularities not consistent with good commercial practice. .

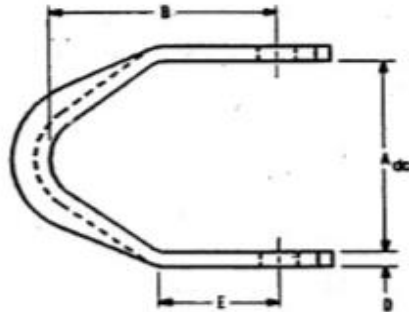
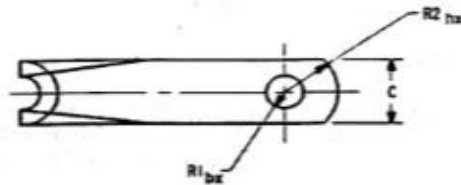
STRENGTH:

Service swinging clevis bracket must be capable of meeting ultimate deadend load requirements of Section 10.1 of NEMA Pub. No. PH20-1979, which for 2 1/8 inch Class 53-1 insulator is 2,000 lbs.

TESTS:

During tests, the bracket shall be fitted with a wet process insulator that complies with ANSI C29.3-1986, [2]. Test procedures described in Section 6 of NEMA Pub. No. PH20-1979, [5], include:

- a. Loads shall be applied by means of a loop of flexible stranded cable of a diameter which shall not exceed the radius of the wire groove of the spool insulator. Failure of the spool insulator shall be regarded as a clevis failure.
- b. During testing the clevis shall be attached to a steel block.



NEA CODE NO.	SPOOL INSULATOR CLASS	NOMINAL DIMENSION (INCHES)						
		A	B	C	D	R1	R2	E (MIN)
1230 14 01	ANSI 53-1	2-1/4	2-1/4	3/4	3/8	7/32	1/2	1-1/4

$a = \frac{3}{16}$
 $b = \frac{3}{16}$
 $c = \frac{3}{16}$
 $d = \frac{3}{16}$
 $e = \frac{3}{16}$

$f = \frac{1}{4}$
 $g = \frac{3}{16}$
 $h = \frac{1}{16}$
 $x = 0$

ALLOWABLE VARIATION (INCHES)
 SINGLE LETTER INDICATES $\pm$ VARIATION. EXAMPLE: $c = \pm \frac{3}{16}$ INCH
 TWO LETTERS INDICATE +FIRST VARIATION, - SECOND VARIATION.
 EXAMPLE: $cx = +\frac{3}{16} - 0$ INCH

THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND A DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD.

FIGURE 1
SERVICE SWINGING CLEVIS

Page 4 of 5
TS 136

SHACKLE, ANCHOR

Anchor shackles furnished to NEA specifications shall conform in all respects to the dimensional and performance requirements stated in this standard. The text, figures and references to other standards supplement each other and shall be considered parts of this standard.

MATERIAL:

An anchor shackle furnished to NEA specifications shall be fabricated from materials that comply with the requirements of ASTM A668-83, [1]. The cotter bolt shall be in accordance with ANSI C135.1-1979, [2]. The self-locking cotter key shall be made from good commercial grade brass, stainless steel, bronze, hard drawn aluminum or hard drawn copper.

FINISH:

The anchor shackle shall be hot-dip galvanized in accordance with ANSI/ASTM A15382, [3]. All anchor shackles shall bear the manufacturer's symbol or identification mark in a location which will not impair its function.

All surfaces shall be smooth, free from blemishes and other imperfections not consistent with commercial practice.

DIMENSIONS:

NEA anchor shackles shall have dimensions shown in drawing, as follows:

A = Diameter of cross section 1

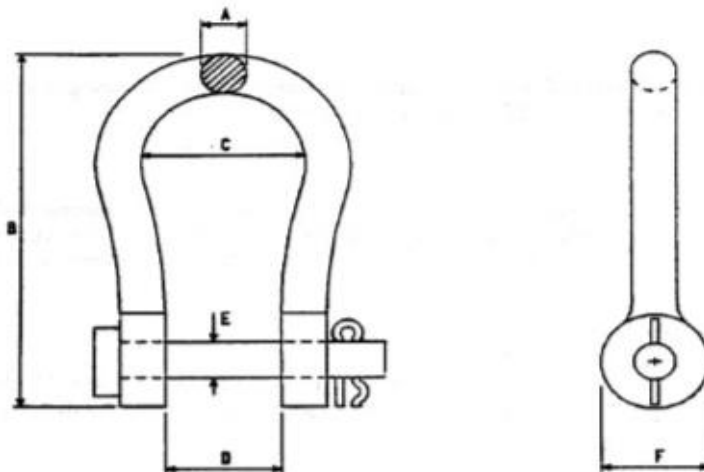
B = Minimum Height of shackle

C = Maximum width of eye

D = Minimum width of opening

E = Bolt diameter

F = Minimum diameter of shackle base



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NEA CODE NO.	DIMENSIONS (INCHES)						PACKAGING	
	A	B	C	D	E	F	QUANTITY	WGT (lbs)
1230 28 00	$\frac{1}{2}$	$3\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$1\frac{1}{8}$	100	93

CONDUCTOR, INSULATED TREE WIRE

SCOPE

Cable description	Cable type
Conductor, Insulated, Tree Wire, ACSR #1/0, AWG 6/1 (23 KV)	XLPE/HDPE ACSR TREE WIRE (Non-Shielded)

REFERENCE STANDARDS

ASTM B-230 ICEA PEC

TYPE AND STANDARD

The type and standard of wire shall be in accordance with Table 1

<Table 1.>

Voltage Rating KV	Size AWG	Conductor		XLPE Insulated Diameter (approx.) mmØ	Overall Diameter (approx.) mmØ	Maximum DC Resistance of Conductor @20°C Ω/km	Jacket thickness (HDPE) mm	Ampacity Ambient Temp. @40°C (Approx.)	Cable Weight (approx.) Kg/Km
		No. of strands	Nom. Single strand diameter mmØ						
23	#1/0	6/1	3.37	10.15	14.11	0.217	1.5	242	216.5

INSPECTION

Inspection shall be made in accordance with Table 1.

PACKING

The cable shall be wound on reel with wooden drum (or Plastic drum) such as to prevent damage during transportation. The batten shall be tightly fixed to the drum.

The following description shall be marked on a flange of the reel.

- Direction of rotation of the reel
- Position of the winding finish end of cable
- Type of the cable
- Number of conductors and size

- Cable length
- Net and Gross weight
- Manufacturer's name
- Year of manufacture
- Reel No.(if required)

MARKING

-Cable marking

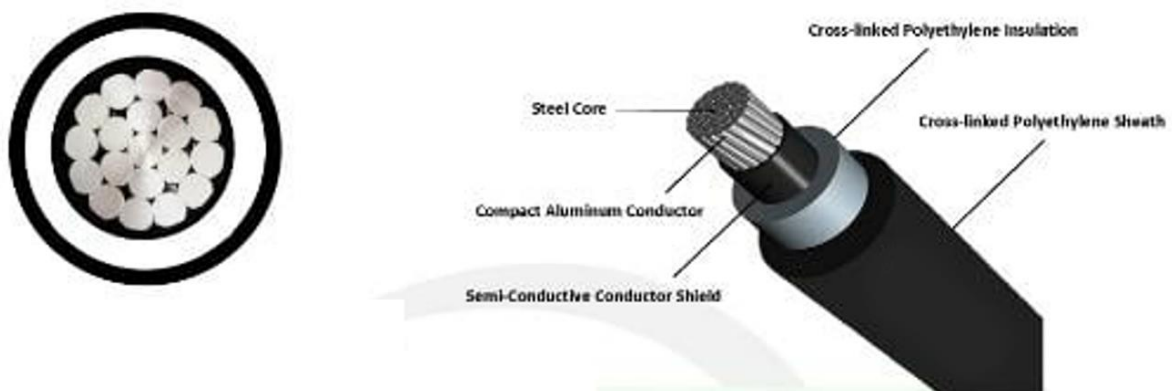
The following information shall be repeatedly indenting on the surface of the cable at regular intervals over the entire length.

Tree	Wire	1/0	Conductor, 23 KV, Insulated, Tree Wire, Non-Shielded
AWG/MCM			HDPE/XLPE ACSR,

LENGTH MARKING

The serial length marking shall be printed or indented on the surface of outer sheath per 1 meter interval throughout the length of cable. If the cable diameter is less than 8mm, the length marking may be omitted.

CROSS-SECTIONAL DRAWING and PHOTO



Bidder shall provide one stripper and cable pulling net as freebee during the delivery of materials.

- It will not damage the conductor part at any circumstance.
- It can be usable on number #1/0 AWG Tree Wire.



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➤ Re



- ❖ SUPPLIER MUST STRICTLY FOLLOW THE CUTTING LENGTH REQUIRED BY THE COOP, FAILURE TO FOLLOW WILL NOT BE ACCEPTED.

ITEM NO.	PARTICULAR - REFERENCES	CONDUCTOR CUTTING LENGTH (Mtrs.)
1	Conductor, Insulated, Tree Wire, ACSR #1/0, AWG 6/1 (23 KV)	1,000 Mtrs. / Reel

➤ **Packaging and Shipping:**

- ❖ All conductors reeling cutting length must meet the standard compliance requirement set:
- ❖ Conductor shall be shipped on non-returnable reels constructed from new treated lumber which shall be square sawn, be of smooth surface, with no splits warps, crooks, loose fibers, decay or insect infestation.

BARE, ACSR CONDUCTOR

ACSR conductors shall conform in all respects to the dimensional and performance requirements of this document which covers:

Steel core wire.

Aluminum wire.

The ACSR conductors shall be classified as Class A as designated in ASTM B232[1].

STEEL CORE:

1. Material

The steel wire shall be fabricated from steel obtained by the open-hearth, electric furnace, of basic oxygen process and conforms to the chemical composition specified in Section 3 of ASTM B498 [2] as follows:

Element	Compositions, Percent (%)
Carbon	0.50 to 0.85
Manganese	0.50 to 1.10
Phosphorus, max.	0.035
Sulphur, max.	0.045
Silicon	0.10 to 0.35

2. Testing

The steel wire shall be tested in accordance with Section S, 6 and 10 of ASTM B498[2].

3. Corrosion Protection

The steel wire shall be coated with zinc to Class A requirements with coating weight described in Table 4 of ASTM B498 [2].

Additional protection for ACSR conductor against corrosion of the steel core shall be provided by use of a suitable corrosion inhibition, grease or oil.

ALUMINUM WIRES:

1. Materials

The round aluminum wire shall be drawn from rods that conform to the chemical requirements of Table 2, ASTM B230 [3].

2. Testing

The aluminum wire shall have tensile strengths depending on temper as shown in Table 1 of ASTM B233 [4].

3. Resistivity

The electrical resistivity limits and values of the aluminum rods are presented in Table 4 of ASTM B230 [3].

4. General

Aluminum wires used shall meet the requirements of ASTM B230 [3].

LAY FACTOR:

The lay factor of the aluminum wire shall be not less than 12 nor more than 14.5 times the outside diameter of the conductor. The preferred lay factor is 13 times the diameter, with the lay in a right hand direction.

CONSTRUCTION:

The number and diameter of aluminum and steel wires and the stranding shall conform to the requirements of Table 1, 2 and 3 of ASTM B232 [1].

CONDUCTOR STRENGTH:

The rated strength shall be the aggregate strength of the steel and aluminum wires determined by the methods described in Section 9.1 of ASTM B232 [1].

MATERIAL DENSITY:

In accordance with Section 10 of ASTM B232 [1], the density of aluminum wire is assumed to be 2.705 g/cm³ (0.0975 lb/in.³) at 200°C on the basis of 99.45 percent purity. The density of galvanized wire is assumed to be 7.78 g/cm³ (0.2811 lb/in.³) at 20 °C.

WEIGHT AND ELECTRICAL RESISTANCE:

The weight and electrical resistance of the stranded conductor shall be determined by the methods described in Section 11 of ASTM B232 [1].

VARIATION:

Limits with variation of the cross section of the aluminum wires shall be described in Section 12 of ASTM B232 [1].

CHARACTERISTICS:

ACSR conductors shall have the following characteristics:

NEA CODE NO.	SIZE AWG or MCM	STRANDS No. & SIZE-INCHES		OVERALL DIAMETER (inches)	DC Resistance Ohms/mile @ 25°C	Ultimate Strength Pounds
		Aluminum	Steel			
	6	6 x .0661	1 x .0661	0.198	3.56	1,170
	4	6 x .0834	1 x .0834	0.250	2.24	1,830
1511 02 61	2	6 x .1092	1 x .1092	0.316	1.41	2,790
1511 10 61	1/0	6 x .1327	1 x .1327	0.398	0.885	4,280
1511 20 61	2/0	6 x .1490	1 x .1490	0.447	0.702	5,345
1511 30 61	3/0	6 x .1672	1 x .1672	0.502	0.556	6,675
1511 40 61	4/0	6 x .1878	1 x .1878	0.563	0.441	8,420
1511 33 26	336.4	6 x .1137	1 x .1137	0.721	0.278	14,050

FINISH:

The conductor shall be free of imperfections, sharp protrusions and blemishes not consistent with good commercial practice.

TESTS & INSPECTION:

The manufacturer shall conduct conductor tests and inspections in accordance with Section 16 of ASTM B232[1] or IEC888, [5], in so far as applicable. NEA reserves the right to witness factory tests and inspections and shall request test reports. The manufacturer shall also conduct conductor reel tests and inspections and submit test reports before shipment to verify that the reels and lagging comply with the requirements of this Standard. NEA shall also have the prerogative to inspect conductor reels at any time to ensure compliance of this standard. Non-conforming reels and lagging are unacceptable.

INSULATED, ACSR CONDUCTOR

ACSR conductors shall conform in all respects to the dimensional and performance requirements of this document which covers:

Steel core wire.

Aluminum wire.

The ACSR conductors shall be classified as Class A as designated in ASTM B232[1].

STEEL CORE:

1. Material

The steel wire shall be fabricated from steel obtained by the open-hearth, electric furnace, of basic oxygen process and conforms to the chemical composition specified in Section 3 of ASTM B498 [2] as follows:

<u>Element</u>	<u>Compositions, Percent (%)</u>
Carbon	0.50 to 0.85
Manganese	0.50 to 1.10
Phosphorus, max.	0.035
Sulphur, max.	0.045
Silicon	0.10 to 0.35

2. Testing

The steel wire shall be tested in accordance with Section S, 6 and 10 of ASTM B498[2].

3. Corrosion Protection

The steel wire shall be coated with zinc to Class A requirements with coating weight described in Table 4 of ASTM B498 [2].

Additional protection for ACSR conductor against corrosion of the steel core shall be provided by use of a suitable corrosion inhibition, grease or oil.

ALUMINUM WIRES:

1. Materials

The round aluminum wire shall be drawn from rods that conform to the chemical requirements of Table 2, ASTM B230 [3].

2. Testing

The aluminum wire shall have tensile strengths depending on temper as shown in Table 1 of ASTM B233 [4].

3. Resistivity

The electrical resistivity limits and values of the aluminum rods are presented in Table 4 of ASTM B230 [3].

4. General

Aluminum wires used shall meet the requirements of ASTM B230 [3].

LAY FACTOR:

The lay factor of the aluminum wire shall be not less than 12 nor more than 14.5 times the outside diameter of the conductor. The preferred lay factor is 13 times the diameter, with the lay in a right hand direction.

CONSTRUCTION:

The number and diameter of aluminum and steel wires and the stranding shall conform to the requirements of Table 1, 2 and 3 of ASTM B232 [1].

CONDUCTOR STRENGTH:

The rated strength shall be the aggregate strength of the steel and aluminum wires determined by the methods described in Section 9.1 of ASTM B232 [1].

MATERIAL DENSITY:

In accordance with Section 10 of ASTM B232 [1], the density of aluminum wire is assumed to be 2.705 g/cm³ (0.0975 lb/in.³) at 20°C on the basis of 99.45 percent purity. The density of galvanized wire is assumed to be 7.78 g/cm³ (0.2811 lb/in.³) at 20 °C.

WEIGHT AND ELECTRICAL RESISTANCE:

The weight and electrical resistance of the stranded conductor shall be determined by the methods described in Section 11 of ASTM B233 [1].

VARIATION:

Limits with variation of the cross section of the aluminum wires shall be described in Section 12 of ASTM B232 [1].

CHARACTERISTICS:

ACSR conductors shall have the following characteristics:

NEA CODE NO.	SIZE AWG - or MCM	STRANDS No. & SIZE-INCHES		OVERALL DIAMETER (inches)	DC Resistance Ohms/mile @ 25°C	Ultimate Strength Pounds
		Aluminum	Steel			
	6	6 x .0661	1 x .0661	0.198	3.56	1,170
	4	6 x .0834	1 x .0834	0.250	2.24	1,830
1511 02 61	2	6 x .1092	1 x .1092	0.316	1.41	2,790
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1511 20 61	2/0	6 x .1490	1 x .1490	0.447	0.702	5,345
1511 30 61	3/0	6 x .1672	1 x .1672	0.502	0.556	6,675
1511 40 61	4/0	6 x .1878	1 x .1878	0.563	0.441	8,420
1511 33 26	336.4	6 x .1137	1 x .1137	0.721	0.278	14,050

FINISH:

The conductor shall be free of imperfections, sharp protrusions and blemishes not consistent with good commercial practice.

INSULATION:

1. General

The aluminum cables shall be provided with filled or unfilled cross-linked polyethylene insulation. A filled insulation contains a minimum of ten percent (10%) carbon black and/or mineral fibers by weight. An unfilled insulation contains a maximum of two and one-half percent (2-112%) carbon black for cables up to 5.0 KV.

The insulation shall be free from voids, contaminants or porosity detectable with less than five times magnification.

2. Physical and Aging Requirements

The insulation shall meet the requirements of ICEA standards Publication No. S66-524 (NEMA WC7), [14].

The insulation should exhibit the following performances:

1. Unaged Condition

Minimum tensile strength (lb/in.2) 1800

Minimum elongation at rupture (%) 250

2. Aged condition after oven test at 121°C + /-1°C for 168 hours.

Minimum tensile strength at rupture (% of unaged value) 75

Elongation at rupture (% of unaged value) 75

Heat distortion (% of unaged value)

4/0 AWG and smaller (30)

Larger than 4/0 AWG (10)

3. Insulation Thickness

Insulation jacket thickness of cables are listed below:

Conductor Size AWG	Insulation Thickness (mils)
4	45
2	45
1/0	60
2/0	60
4/0	60

4. Electrical Properties

a. Insulation Resistance

Cable insulation resistance is the resistance of the insulation to the radial flow of direct current from the conductor to the outer coverings of the cable. The test procedure shall conform to the methods outlined in Section 6.15 of ICEA 5-66-524 (NEMA WC7), [14] at 600oF(15.6°C). The resistance shall not be less than the value calculated as follows:

$$R = K 10g1oD/d$$

Where: R = Insulation resistance (meg-ohms per 1000 ft)

K = Insulation constant

D = Diameterover insulation

d = Diameterunder insulation

5. Performance Requirement

The cable shall be tested to demonstrate compliance with the requirements of Section 6 of ICEA S-66-524 (NEMA WC7) , [14], in so far as applicable.

The insulation tests shall include:

Tensile strength

Set test

Elongation test

Oxygen pressure test

Air oven test

Solvent extraction test

Heat distortion

Capacity and power factor tests

Volume resistivity

Ac voltage test

Dc voltage test

Ac spark test

Dc spark test

Insulation resistance tests

Permittivity and dielectric strength

TESTS & INSPECTION:

The manufacturer shall conduct conductor tests and inspections in accordance with Section 16 of ASTM B232[1] or IEC888, [5], in so far as applicable. NEA reserves the right to witness factory tests and inspections and shall request test reports. The manufacturer shall also conduct conductor reel tests and inspections and submit test reports before shipment to verify that the reels and lagging comply with the requirements of this Standard. NEA shall also have the prerogative to inspect conductor reels at any time to ensure compliance of this standard. Non-conforming reels and lagging are unacceptable.

INFORMATION REQUIRED:

The bidder shall provide the following information with the bid:

1. Resistance and density of the aluminum and ACSR conductors.
2. Insulation material type, thickness and electrical properties.
3. Manufacturer's catalog showing catalog number of proposed conductor assembly.
4. Exceptions to this standard should be clearly identified.
5. Test report on mechanical and electrical performance of aluminum cable, ACSR conductor and/or conductor assembly 13 times the diameter, with the lay in the right hand direction.

Required Cutting Length:

- ❖ SUPPLIER MUST STRICTLY FOLLOW THE CUTTING LENGTH REQUIRED BY THE COOP, FAILURE TO FOLLOW WILL NOT BE ACCEPTED.

ITEM NO.	PARTICULAR - REFERENCES	CONDUCTOR CUTTING LENGTH (Mtrs.)
1	Conductor, Bare, ACSR #1/0, AWG 6/1	2,000 Mtrs. / Reel
2	Conductor, Insulated, ACSR #1/0, AWG 6/1 (600 V)	2000 Mtrs. / Reel

➤ **Packaging and Shipping:**

- ❖ All conductors reeling cutting length must meet the standard compliance requirement set:
- ❖ Conductor shall be shipped on non-returnable reels constructed from new treated lumber which shall be square sawn, be of smooth surface, with no splits, warps, crooks, loose fibers, decay or insect infestation.
- ❖ Tagging shall be attached to the inside and outside of the reel containing the following information:
 - Gross and net weights
 - Conductor size, type and number of strands.
 - Conductor length
 - Manufacturer's name and identification symbol
- ❖ All Bidders' are required to submit manufacturer's data technical specification of products base on standard as follows:
 - **LAYFACTOR:**
 - ✓ The lay factor of the aluminum alloy wire shall be in a right hand direction and shall be not less than 10 or more than 16 times the outside diameter of the conductor. The referred lay factor is 13.5 times the diameter.
 - **CONSTRUCTION:**
 - ✓ The number and diameter of aluminum alloy wires and the stranding shall conform to the requirements of Tables 1, 2 and 3 of ASTM 8399-86.
 - **CONDUCTOR STRENGTH:**
 - ✓ The rated conductor strength shall be the aggregate strength of the aluminum wires determined by the methods described in ASTM 8399-86.
 - **MATERIAL DENSITY:**
 - ✓ In accordance with Section 10 of ASTM 8399-86, the density of aluminum alloy wire was assumed to be 2.690 gm/cm³ (0.097 lb/in.³) at 20°C based on the chemical composition as given in ASTM 8398-85.
 - **WEIGHT AND ELECTRICAL RESISTANCE:**
 - ✓ The weight and electrical resistance of the stranded conductor shall be determined by the methods described in ASTM 8399-86.
 - **VARIATION IN AREA:**
 - ✓ Limits of variation of the cross section of the aluminum wires shall be as described in ASTM 8399-86.

CONNECTOR, COMPRESSION

Compression connectors furnished shall conform in all respects to the design and performance requirements established in this document. The connectors shall accommodate ACSR, aluminum and copper conductors in various conductor size and type combinations for taps, splices and deadend terminals.

MATERIAL:

Compression connectors, of a type shown in Figure 1, for hand operated mechanical compression tools shall be made from an alloy and shall be easily deformed to provide the pressure necessary for retention of the clamped conductors with the connector body. The connectors shall have strength and conductivity for their application.

Connectors joining aluminum and copper conductors shall be provided with one of the following accommodations for the copper conductor:

1. A copper insert cast integrally with the aluminum connector body or swaged permanently in place or soldered, provided all corrosive fluxes are removed from the bond area.
2. A bimetallic strip of aluminum and copper bonded together. This strip shall be firmly attached to the aluminum clamp body.

Connector materials are chosen by application as follows:

1. Aluminum conductor to aluminum conductor; the connector body shall be made of aluminum alloy and contact surfaces shall be coated with an oxide inhibiting compound.
2. Aluminum conductor to copper conductor; same as 1, with accommodations for copper conductors.
3. Copper conductor to copper conductor; connector made of copper.

DESIGN REQUIREMENTS:

Connectors used on NEA distribution circuits shall meet the following design considerations:

1. Conductor-grooves shall be designed so that the conductor shall not be damaged when the connector is compressed.
2. Connectors used with stranded conductors shall be designed so that all strands in the outer layer shall be in good contact with the connector.
3. Moisture must not be allowed to collect at the junction between copper and aluminum components of connectors used to join copper and aluminum conductors.
4. Each connector shall provide a good fit for a limited range of conductor sizes. The contact length shall not be less than five times the diameter of the largest conductor or which the connector is designed.

TESTS:

The performance of compression connectors shall be determined by the following tests (as described in NEMA Pub. No. CC-3[1]).

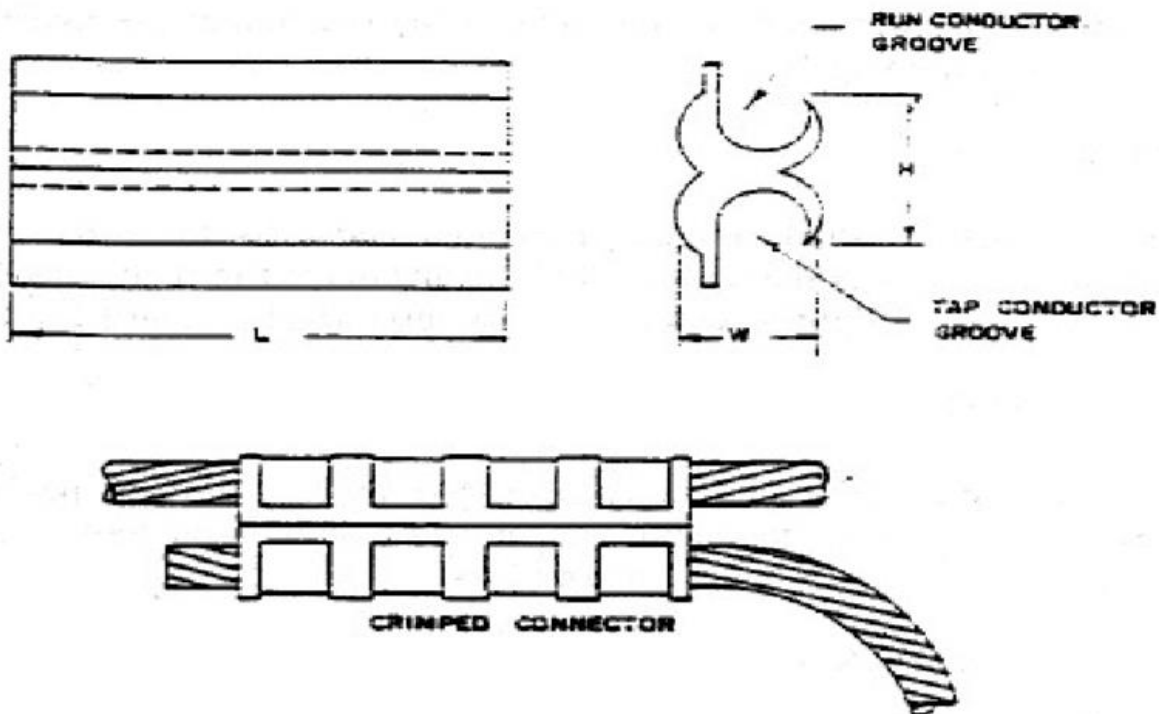
1. Heat cycle tests.

2. Electrical tests - resistance and conductivity.

3. Mechanical tests -tension.

FINISH:

Compression connectors described in this document shall have smooth surfaces free from blemishes and other imperfections. The connectors shall also bear the Manufacturer's identification mark or symbol, connector catalog No. and the index number of the compatible die for the compression tool. This information shall be presented in a location and manner which will not impair the function of the connector and will remain visible after crimping.



CONNECTORS APPLIED WITH MECHANICAL
COMPRESSION TOOL

NEA Code No.	CONDUCTOR RANGES	
	RUN	TAP
1701 16 02	#6 to #4 A1 - ACSR	#14 to #8 A1 - Cu
1701 16 35	#6 to #4 A1 - ACSR	#6 to #4 A1 - ACSR
1701 16 39	#2 to #4/0 A1 - ACSR	#6 to #2 A1 - ACSR
1701 16 51	#1/0 to #2/0 A1 - ACSR	#1/0 to #2/0 A1 - ACSR
1701 16	#2/0 to #4/0 A1 - ACSR	#2/0 TO #4/0 A1 - ACSR

GROUND ROD CLAMP:

MATERIAL:

Drop forged ground rod clamp bodies shall be made of malleable steel compatible with ASTM A663-82, [1] or ASTM A675-82, [2]. The retaining screw shall also be made of steel that complies with ANSI Standard C135.1-1979, [3] and shall have a square or hexagonal head. Each material shall have a quality and grade that satisfies the requirements of this standard.

FINISH:

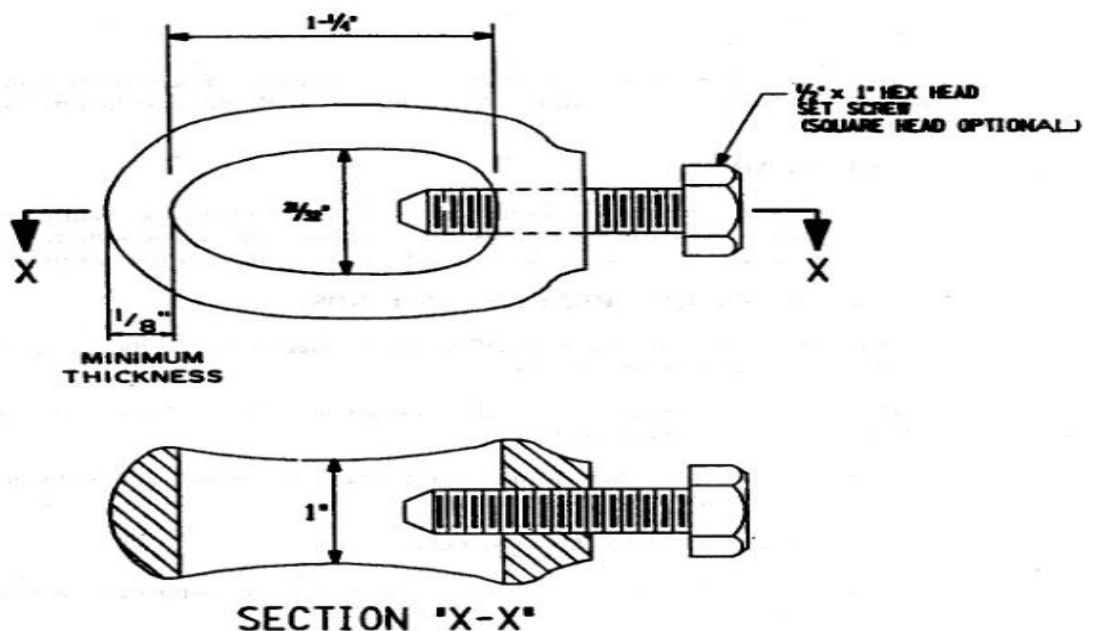
A ground clamp body shall be hot-dip galvanized in accordance with ANSI/ASTM A15382, [4]. The retaining screw shall be cadmium plated in accordance with ASTM A16580, [5]. The surfaces of the clamp body and screw should be smooth and free from blemishes.

DIMENSIONS:

Dimensions of ground rod clamps shall be specified on the basis of ground rod diameter and NEA ground wire diameters (0.460 inch and 0.128 inch)

The manufacturer is responsible for the design of the clamps in order to meet the requirements of this standard. .

Approximate dimensions of a typical NEA ground rod clamp are shown in Figure I.



THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND A DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD.

CONNECTOR, PIGTAIL STEM:

The connector features a tin-plated aluminum bareel for installation on either copper or aluminum cable conductors. It is rated up to 35 kV voltage applications.

Typical Properties	
Barrel Style	Standard Barrel
Brands	3M™
Case Quantity	10
Compatible Conductor Size (Metric)	70 mm² (Stranded)
For Use With	Aluminum or Copper Conductors
Indoor/Outdoor	Both
Lug Base Metal	Aluminum
Lug Type	Compression Lugs
Maximum Operating Voltage	35 Kilovolt
Number of Holes	0 none
Product Series	SC
Product Type	Stem Connector
Stem Diameter (Metric)	6.35 mm
Stem Length (Metric)	152.4 mm
Units per Case	10



FUSE CUT OUT ASSEMBLY, 100 AMPS with LIGHTNING ARRESTER

- **CUTOUT**

All Cut Out must be a Type “C” or “C” shape frames that support the fuse holder and a porcelain insulator that electrically isolates the conductive portions of the assembly from the support to which the insulator is fastened. All products must be AB Chance.

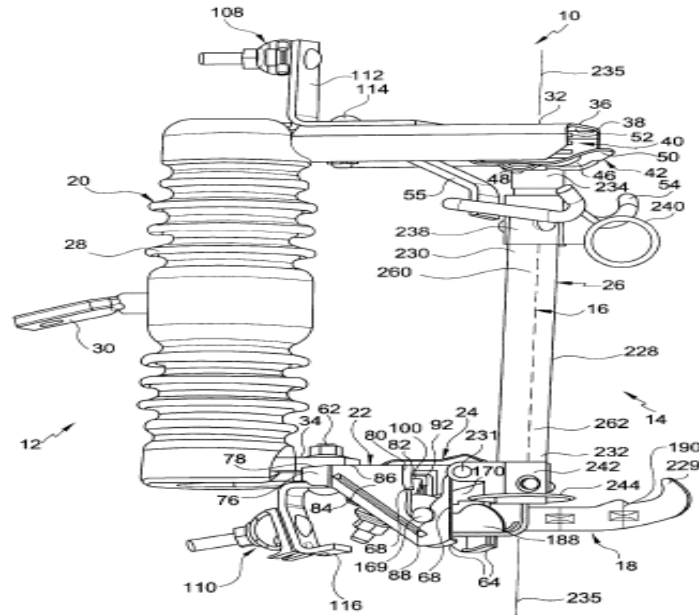
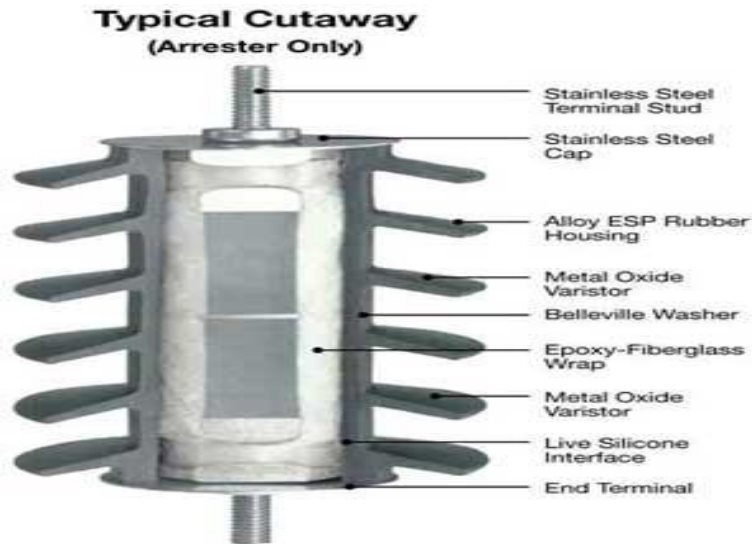


FIG.1

- **LIGHTNING ARRESTER, 10 KV, Polymer**

A polymer surge arrester has internal elements including a plurality of disc-shaped nonlinear resistors disposed in a stacked manner, electrodes disposed at both ends of the nonlinear resistors, and a plurality of insulating rods coupling the electrodes; an insulating outer skin formed outside.

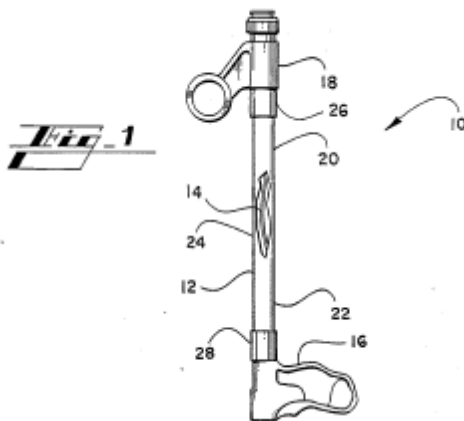
- ❖ All lightning arrester must be polymer, 10 kV and AB Chance product.



- **FUSE HOLDER, 100 Amps, and 10 kV**

The fuse holder often called the "fuse tube" or "door", which contains the interchangeable fuse element and also acts as a simple knife switch. When the contained fuse operates or blows, the fuse holder will drop open, disengaging the knife switch, and hang from a hinge assembly. This hanging fuse holder provides a visible indication that the fuse has operated and assurance that the down-stream circuit is electrically isolated.

- ❖ All fuse holders must be 100 Amps, 10 kV and AB Chance product.



INSULATOR, SPOOL AND PIN TYPE

Porcelain insulator types furnished to NEA specifications shall each conform in all respects to ANSI specifications as follows (non-porcelain to conform in-so-far as applicable):

NEA Code No.	Type	Class	ANSI Specification
3428 10 11	Clevis Suspension	52-1	C29.2-1983, [1]
3426 10 11	Spool	53-1	C29.3-1986, [2]
3426 20 11	Spool	53-2	"
3426 40 11	Spool	53-4	"
3422 31 10	Medium Voltage pin	55-3	C29.5-1984, [3]
3422	Medium Voltage pin	55-5	"

MATERIALS:

All porcelain insulators covered by this specification shall be fabricated from good Commercial wet-process porcelain. All other insulators shall be of a material that has demonstrated suitability and long life in service, or through aging tests, for use as insulators. Ferrous parts of clevis type suspension insulators, other than stainless steel or aluminum, shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [5].

MARKING:

Each insulator shall bear the manufacturer's symbol and year of manufacture.

FINISH:

Each insulator shall have a smooth glazed surface, free from imperfections or blemishes which can impair service life and performance;

TESTS:

Each insulator type shall be tested using methods described in ANSI C29.1-1982, [6], or IEC 383:1983, [7]. Tests required for specific insulator types are described in their' associated ANSI specifications listed in Section 2. These tests are as follows:

1. Electrical tests including:
 - a. Low-frequency dry flashover voltage
 - b. Low-frequency wet flash overvoltage
 - c. Low-frequency dry with stand voltage
 - d. Low-frequency wet with stand voltage
 - e. Impulse with stand voltage
 - f. Radio-influence voltage
 - g. Visual corona
 - h. Puncture
2. Mechanical tests selected from:

- a. Tensile strength
 - b. Cantilever strength if applicable
 - c. Compression strength if applicable
 - d. Torsional strength if applicable
 - e. Transverse strength if applicable
 - f. Mechanical impact strength if applicable
3. Combined mechanical and electrical strength test for suspension insulators only.
 4. Time-load-withstand-strength test.
 5. Porosity test.
 6. Thermal test.
 7. Pinhole gauging test.
 8. Galvanizing test in accordance with ANSI/ASTM B499-75 (1980), [7].
 9. Routine electrical tests including:
 - a. High-frequency tests
 - b. Low-frequency tests
 10. Routine mechanical tests for suspension insulators.

PERFORMANCE REQUIREMENTS:

Insulators shall meet the following minimum performance ratings:

A. Suspension Insulators (ANSI C29.2-1983.rm.

Item	ANSI Class 52-1	Refer to ANSI C29.1-1982 Section
1. Electrical:		
a. Low-frequency dry flashover (Kv)	60	4.2
b. Low-frequency wet flashover (Kv)	30	4.3
c. Critical impulse flashover, positive (Kv)	100	4.7
d. Critical impulse flashover, negative (Kv)	100	4.7
e. Low-frequency puncture (Kv)	80	4.11
2. Radio-influence voltages (RIV):		
a. Low-frequency test voltage (rms-ground) Kv	7.5	4.9
b. Maximum RIV @ 1.0 Mhz micro-volts	50	4.9

Item	ANSI Class 52-1	Refer to ANSI C29.1-1982 Section
3. Mechanical:		
a. Combined mechanical and electrical strength (lbs)	10,000	5.2
b. Mechanical impact Strength (inch-lbs)	45	5.1.2.2
c. Tension proof (lb)	5,000	7.2.1
d. Time load (lb)	6,000	5.3
4. Dimensions:		
a. Leakage distance (inches)	7	2.5.2

B. Spool Insulators (ANSI C29.3-1986, [2]).

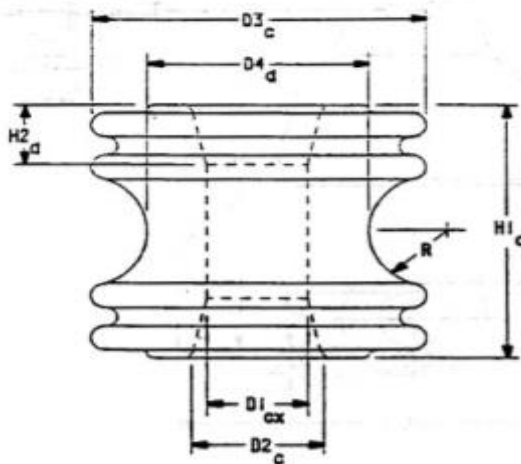
	53-1	ANSI Class		Refer to ANSI C29.1982 Section
		53-2	53-4	
1. Electrical:				
a. Low frequency dry flashover (Kv)	20	25	25	4.2
b. Low frequency wet flashover (Kv)				
1. Vertical	8	12	12	4.3
2. Horizontal	10	15	15	4.3
2. Mechanical:				
a. Transverse Strength (lbs)	2,000	3,000	4,500	5.1.6

C. Pin Insulators (ANSI C29.5-1984, [3]).

Item	ANSI Class 55-3	Refer to ANSI C29.1-1982 Section
1. Electrical:		
a. Low-frequency dry flashover (Kv)	65	4.2
b. Low-frequency wet flashover (Kv)	35	4.3
c. Critical impulse flashover, positive (Kv)	100	4.7
d. Critical impulse flashover, negative (Kv)	130	4.7
e. Low-frequency puncture (Kv)	95	4.11
2. Radio-influence voltages (RIV):		
a. Low-frequency test voltage (rms-ground) Kv	10	4.9
b. Maximum RIV @ 1.0 Mhz micro-volts	50	4.9
3. Mechanical:		
a. Cantilever strength(lb)	2,500	5.1.3
4. Dimensions:		
a. Leakage distance (inches)	7	2.5.2
b. Dry arcing distance(inches)	4.5	2.5.3
c. Minimum pin height(inches)	5	

8. DIMENSIONS AND PERMITTED TOLERANCES:

Principal dimensions and permitted tolerances, after galvanizing, are presented in Figures 1 to 6, and are measured in inches. These dimensions (and tolerances) are defined as follows:

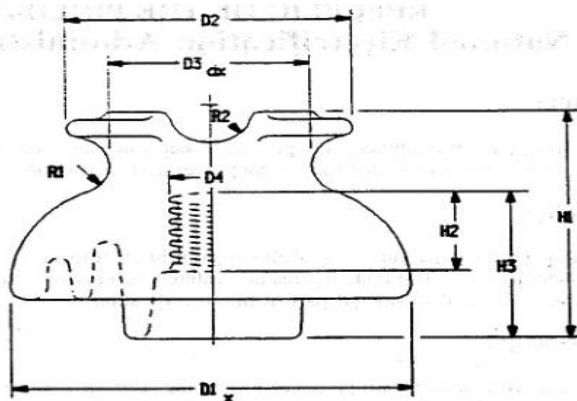


NEA CODE NO.	NOMINAL DIMENSION (INCHES)						
	D1	D2	D3	D4	H1	H2	R
3426 10 11	$\frac{9}{16}$	$\frac{7}{8}$	$2\frac{1}{4}$	$1\frac{1}{2}$	$2\frac{1}{8}$	$\frac{1}{2}$	$\frac{7}{16}$

$a = \frac{1}{64}$
 $b = \frac{1}{32}$
 $c = \frac{1}{16}$
 $d = \frac{1}{8}$
 $x = 0$

ALLOWABLE VARIATION (INCHES)
 SINGLE LETTER INDICATES $\pm$ VARIATION. EXAMPLE: $d = \pm \frac{1}{16}$ INCH
 TWO LETTERS INDICATE +FIRST VARIATION, - SECOND VARIATION.
 EXAMPLE: $cx = +\frac{1}{16} - 0 = +\frac{1}{16}$

THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND A DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD.



NEA CODE NO.	NOMINAL DIMENSION (INCHES)								
	D1	D2	D3	D4	H1	H2	H3	R1	R2
3422 31 10	4-3/4	3-1/2 MAX	2-1/4	1	4	1-7/8 MIN	2-1/2	5/8	13/16

$a = \frac{1}{64}$
 $b = \frac{1}{32}$
 $c = \frac{1}{16}$
 $d = \frac{1}{8}$
 $x = 0$

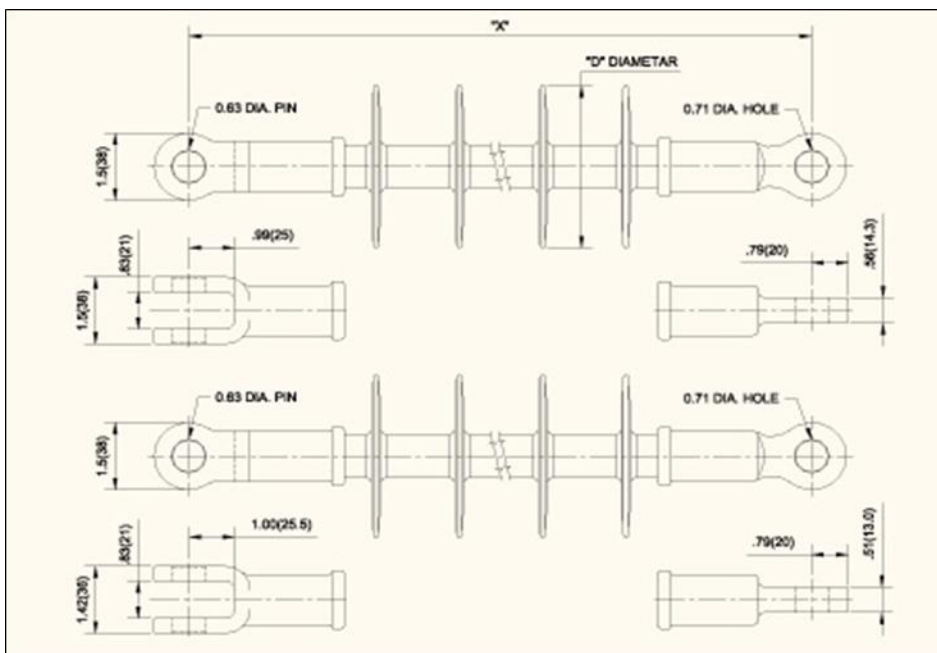
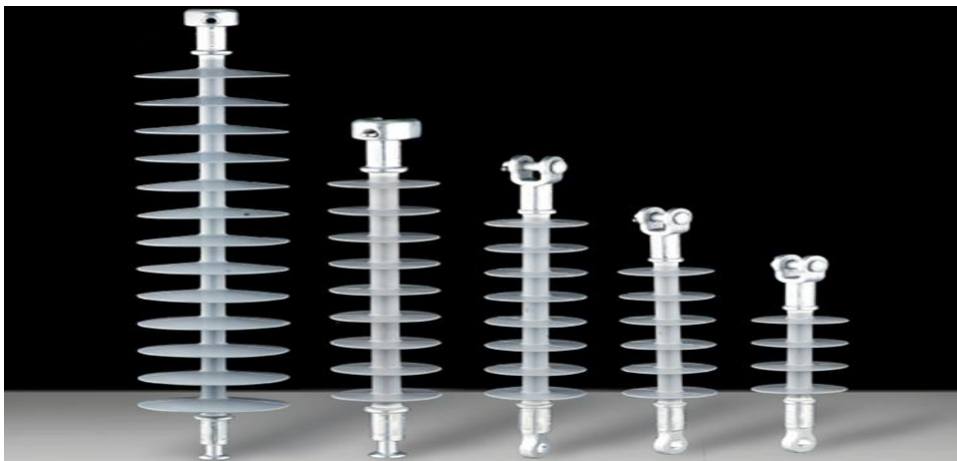
ALLOWABLE VARIATION (INCHES)
 SINGLE LETTER INDICATES $\pm$ VARIATION. EXAMPLE: $d = \pm \frac{1}{8}$ INCH
 TWO LETTERS INDICATE +FIRST VARIATION, - SECOND VARIATION.
 EXAMPLE: $cx = +\frac{1}{16} - 0 = +\frac{1}{16}$

INSULATOR, SUSPENSION (POLYMER)

All polymer insulators must be 15 KV and 25KV rating with 100 % silicone rubber, EPDM material made insulator not acceptable.

(Note: China made Manufactured not accepted products).

1. Basic Insulation Level (BIL) conform of each insulator must conform to International Standards
2. They are of polymer material and conform to the ANSI Standard.
3. Shall bear the manufacturer symbol and year manufactured.
4. Shall have smooth glazed surface, and free from imperfection and without any observable cracks and creaks.
5. Bidder's must submit the following for evaluation;
 - 5.1. Manufacturer's product technical specification.
 - 5.2. Test Result Electrical.
 - 5.3 Test Result Mechanical



FUSE LINK, BOTTOM HEAD, TYPE K

Fuse links shall conform in all respects to the requirements of this document. The fuse links covered in this specification are intended for use in open-type distribution fuse cutouts. The fuse links shall be of the button head-type to be used in the overcurrent protection of distribution transformers and circuits and are intended to coordinate with oil-circuit reclosers. The fuse links shall meet the electrical and mechanical interchangeability requirements for fuse links used in open-type cutouts as described in Section 3.2 of ANSI C37.42 [1].

RATINGS:

Voltage and current ratings of the fuse links shall be based on the service conditions defined in ANSIC37.40and as specified in ANSIC37.42.

1. Service Conditions:

- a. Temperature - up to 400C
- b. Altitude - up to 1500meters.

2. Rated maximum voltage which is determined by the highest voltage rated cutout with which the fuse link is designed to be used and yet conform to the interchangeability requirement of Section 3.2.1 of ANSI C37.42.

3. Rated continuous current based on the temperature rise tests described in ANSI C37.41 [3]. Continuous current ratings of NEA Type K fuse links are listed in Table 1. .

TESTS:

- 1. Fuse links shall be tested in accordance with ANSI C37.41, Sections 11 and 12.
- 2. Temperature rise tests shall be conducted in accordance with ANSI C37.41, Section 3.3. 1.
- 3. Time-current tests shall be conducted in accordance with ANSI C37.41, Section 12. Standard time-current curves, based upon tests made in accordance with this standard, shall be furnished with each proposal to furnish fuse links to NEA. The curves shall be presented for both minimum melting and total clearing time current characteristics in accordance with ANSI C37.41, Section 12.3.

MECHANICAL INTERCHANGE ABILITY:

The diameter of the button head, the size and shape of the fuse links, and minimum overall length and thickness of bending sections shall be in accordance with the requirements of Section3.2.2 ofANSI37.42.,

MARKINGS:

Each fuse link shall bear the manufacturer's identification mark or symbol and rated continuous current followed by the fuse type identifier.

OTHER STANDARDS:

The requirements for NEA button head fuse links, base on other internationally recognized standards are acceptable only if the requirements of such standards are equivalent to or exceed the requirements quoted in this document. The time-current characteristics of this document shall strictly adhered to.

TABLE I		
NEA Fuse Links (Button - Head)		
NEA Code No.	Rated Continuous Current	Speed Type
3612 00 03	3 Amps.	K
3612 00 06	6 Amps.	K
3612 00 12	12 Amps.	K
3612 00 25	25 Amps.	K
3612 00 40	40 Amps.	K

Activate Windows



LOCK NUT

Square galvanized steel nuts shall conform in all respects to the dimensional and performance requirements stated in this document. The text, figures and references to other standards supplement each other and shall be considered parts of this document.

MATERIAL:

Nuts shall be made from hot-rolled steel which has been produced by the open hearth, basic-oxygen or electric furnace process in accordance with the requirements of ANSI Standard C135.1-1979 [1].

FINISH:

The nut described in this standard shall be hot-dip galvanized in accordance with ANSI/ASTM A153-73 [2]. Each nut shall bear a permanent symbol or identification mark of the manufacturer in a place and manner which will not adversely affect the integrity or utilization of the nut. The nut shall have smooth surfaces free from blemishes and imperfections after galvanization.

DIMENSIONS:

NEA galvanized square nut dimensions shall conform to Table A and B of this document and as illustrated in ANSI Standard C135.1-1979 [1] and ASME/ANSI B18.2.2-1978 [3].

THREADS:

The internally threaded parts shall be tapped in accordance with ANSI C135.1-1979, Table 8 [1].

Threads shall be Unified Standard, Class 2B, of the series specified in the notes on respective dimensional tables in accordance with Unified Inch Screw Threads (UN and UNR Thread form), ANSI B1.1-1982 [4].

STRENGTH:

Threads of the nut shall not strip below the specified minimum tensile strength of the bolts on which the nuts are to be threaded as listed in Table 10 of ANSI C135.1-1979 [1].

Table A								
Dimensions of Square Nuts in Inches *								
Nominal Bolt Size	<u>With Across Flats</u>			Width Across Corners		Thickness Of Nuts		
	Basic	Maximum	Minimum	Maximum	Minimum	Basic	Maximum	Minimum
3/8	5/8	.625	0.606	0.551	0.832	21/64	0.246	0.310
1/2	13/16	.812	0.788	1.149	1.082	7/16	0.458	0.418
5/8	1	1.00	0.969	1.414	1.330	35/64	0.569	0.525
3/4	1-1/8	1.125	1.088	1.591	1.494	21/32	0.680	0.632

Table B							
Dimensions for Nuts and Tapered Parts in Inches							
Nominal Bolt Size	Per Inch	Internal Threads					
		Pitch Diameter		Minor Diameter		Major Diameter Minimum	Nominal Tap Size OD
3/8	16	0.350	0.356	0.323	0.377	0.039	0.390-16
1/2	13	0.470	0.476	0.437	0.454	0.520	0.520-13
5/8	11	0.587	0.594	0.548	0.567	0.646	0.646-11
3/4	10	0.706	0.714	0.663	0.684	0.771	0.771-10

NOTE:

- [1] The maximum width across flats applies at all points. No transverse section through the nuts between 25% and 75% of the nut thickness as measured from the bearing face shall be less than the minimum width across flats.
- [2] The tops of the nuts shall be flat and chamfered or washer crowned. The diameter of the chamfer circle shall be equal to the maximum across flats within a tolerance of -15%.
- [3] The bearing surface shall be at right angles to the axis of the threaded hole within a tolerance of three (3) degrees for size one (1) inch nuts or smaller and two (2) degrees for nuts larger than one (1) inch.
- [4] The axis of the tapped hole shall be concentric with the axis of the nut body within a tolerance equal to 5% (10% FIR) of the maximum width across flats.
- [5] Threads shall be unified coarse thread series (UNC Series) class 28.

POLE TOP PIN

Pole-top pins furnished shall conform in all respects to the requirements of this specification. The text, figures and references to other standards supplement each other and shall be considered parts of this specification.

MATERIAL:

1. Pins

Pole-top pins shall be made from either iron or steel of a grade and quality to meet the strength and performance requirements of this standard.

2. Lead Threads

Lead threads shall be made of a lead alloy of a grade and quality suitable to meet the strength and performance requirements specified in this standard.

DIMENSIONS:

Pin dimensions shown in Figure 1 are defined as follows:

A = Overall length of pin

B = Separation between centers of upper mounting hole and bottom slot

C = Diameter of lead thread

D = Diameter of upper mounting hole

E = Diameter of ends of bottom slot

F = Overall length of bottom slot

G = Separation between center of bottom slot and bottom of pin

H = Separation between pin shoulder and center of upper mounting hole

I = Width of pin body

J = Height of pin body

K = Thickness of material

Lead threads shall conform to the dimensions presented in Figure 2.

STRENGTH:

Tests described in ANSI C135.22-1979 (1) shall determine the performance criteria of NEA pole-top pins. These tests include:

1. Cantilever Tests

These tests, illustrated in Figure 3, determine the minimum transverse and longitudinal loads that the pin can carry to obtain a 10degree deflection. The pin shall recover to its original state when the loads are removed. The minimum necessary loading is presented n Table 1 (page6).

2. Lead Thread Test

Lead alloy threads shall develop the strength specified in the torsion and tensile tests specified below.

a. Torsion Test: After an initial application of 150 inch-pounds of torque to the steel thimble, the lead threads shall withstand an additional 180 degrees of tightening rotation without damage to the thread by stripping or breaking of the bond between the pin body and the thread:

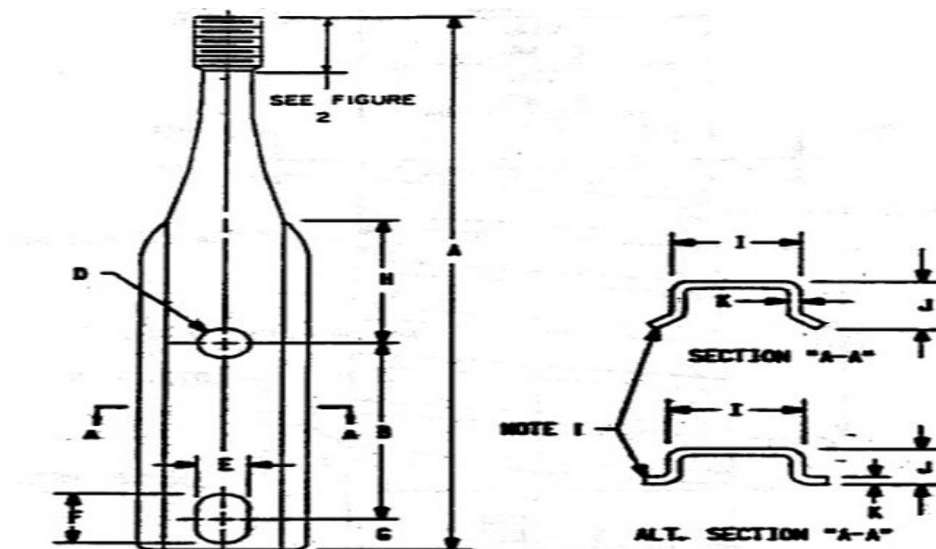
b. Tensile Test: After installing the steel thimble on the lead thread with a torque of 150inch-pounds,the lead thread shall with stand a minimum load of 3,000 pounds in tension with outstripping or pulling off the pin. The load shall be applied to the thimble while the pin is restrained by the shank.

GALVANIZING:

After fabrication and prior to casting of the lead threads, iron and steel pole-top pins shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [2].

FINISH:

NEA pole-top pins shall be free of rough or uneven surfaces and edges so as to ensure safety in handling and installation. Each pole-top pin shall bear the manufacturer's symbol or identification mark in a location and manner which shall not impair its function.



NEA CODE NO.	DIM. UNIT	DIMENSIONS OF POLE TOP PIN (INCHES)										
		A	B	C	D	E	F	G	H	I	J	K
4561 21 20	IN.	20	8	1	11/16	11/16	1-1/4	1	NOTE 3	1-7/8	NOTE 2	NOTE 2
	IN.	20	8	1-3/8	11/16	11/16	1-1/4	1	NOTE 3	1-7/8	NOTE 2	NOTE 2
TOLERANCE (INCHES)	±	1/4 1/8	1/16 1/16	SEE FIG. 2	1/32 0	1/32 0	1/16 1/16	—	—	1/16 1/16	—	—

NOTE 1 CHANNEL LEGS MAY BE FLANGED OR OTHERWISE FORMED TO MEET STRENGTH REQUIREMENTS.

NOTE 2 THIS DIMENSION MAY BE VARIED TO PROVIDE REQUIRED STRENGTH.

NOTE 3 THIS DIMENSION SHALL NOT BE LESS THAN 4 INCHES.

NOTE 4 THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND A DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD.

FIGURE 1
DIMENSIONS OF POLE TOP PINS WITH 1 INCH AND 1-3/8 INCH
DIAMETER LEAD THREADS

Activate Windows
Go to Settings to activate Windows.

ANCHOR ROD

Anchor rods and heavy square nuts furnished to specifications shall conform in all respects to the dimensional and performance requirements stated in this standard. The text, tables,

figures and references to other standards supplement each other and shall be considered parts of this standard.

MATERIAL:

Anchor rods and heavy square nuts shall be made of hot-rolled steel that complies with ASTM A663-82 or ASTM A675-82, [2]. The material shall be of a grade and quality which is suitable to meet the requirements of this standard.

DIMENSIONS:

Dimensions and tolerances of anchor rods and heavy square nuts shall be in accordance with ANSI C135.2-1979, [3] and as listed in Figure 1.

FINISH:

Anchor rods and heavy nuts shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [4]. The finish must be smooth and free from blemishes.. Each anchor rod and nut shall be provided with the manufacturer's mark or identification symbol and the rod length in feet. These marks should be permanent and located near the eye.

THREADS:

Thread details of eye anchor rods and compatible nuts shall be in accordance with ANSI C135.2-1979. [3] As listed in Tables 1 and 2.

The anchor rod threads shall be concentric with the rod axis and shall be machine rolled to dimensions listed in Table 1.

After galvanizing, the nuts shall be tapped oversize to dimensions listed in Table 2.

The threaded portion of the anchor rods shall permit the nuts to be turned by hand over the entire threaded length without the aid of tools.

STRENGTH:

Tensile Tests:

Anchor rods shall be capable of withstanding tensile stresses specified in ANSI C135.2-1979, [3]. The rods shall fail only in the threaded portion or in the shank. Threads shall not fail at stress levels below the listed minimum.

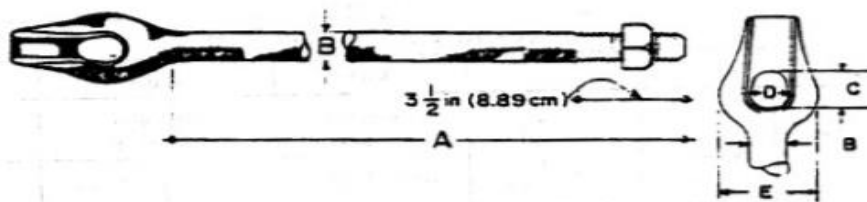
Rod Size (Inches)	Minimum Load (Pounds)
5/8	16,000
3/4	25,000

Bending Tests:

All cold bend test at room temperature shall permit the unthreaded portion of the rod to be bent through a 90 degree angle on a radius equal to the rod diameter without breaking the rod.

TABLE 1 ANCHOR ROD THREAD DIMENSIONS ROLLED THREADS								
Code No.	Nominal Rod Size (Inches)	Threads Per Inch	Pitch		Minor		Major	
			Diameter (Inches)		Diameter (Inches)		Diameter (Inches)	
			Min.	Max.	Min.	Max.	Min.	Max.
5361 85 07	5/8	11	0.6354	0.6426	0.5964	0.6154	0.6944	0.695-11
5361 43 08	3/4	10	0.7613	0.7690	0.7183	0.7393	.082363	0.826-10

TABLE 2 HEAVY NUT THREAD DIMENSIONS								
Nominal Rod Size (Inches)	Thread Type	Thread Series and Class	Rod		Major		Pitch	
			Diameter (Inches)		Diameter (Inches)		Diameter (Inches)	
			Min.	Max.	Min.	Max.	Min.	Max.
5/8	Rolled	11-UNS-2A	0.602	0.616	0.6536	0.6718	0.6058	0.6113
3/4	Rolled	10-UNS-2A	0.726	0.741	0.7841	0.8034	0.7305	0.7364



DIMENSION IN INCHES				
B	C	D	E	
5/8	11/16	9/16	1-1/2	
3/4	13/16	11/16	1-5/8	

REFERENCE DATA

DIMENSION A	ft (m)	7 (2.134)	8 (2.438)
DIMENSION B	in (mm)	5/8 (16)	3/4 (19)
ULTIMATE STRENGTH	lbs (kg)	16,000 (7272)	23,000 (10,454)
SIMILAR OR EQUAL		J-7417	J-7428
N.E.A. CODE NO.		5361 85 07	5361 43 08

PREFORMED RODS

Preformed rods shall conform to the dimensional and performance requirements of this document. The text, figure and references to other standards supplement each other, and are considered parts of this standard.

MATERIAL:

Armor rods and line guards shall be made of an aluminum alloy which conforms to the requirements of ASTM B211 Heat Treated Alloy 6061, [1], or equivalent.

DIMENSIONS:

Rods and guards shall be bundled into specific numbers of rods (sets) and each set shall be provided with a tag indicating the size of conductor with which the rods are to be used. Rods shall have the following characteristics.

Armor and Line Guard, Preformed (Cont.)

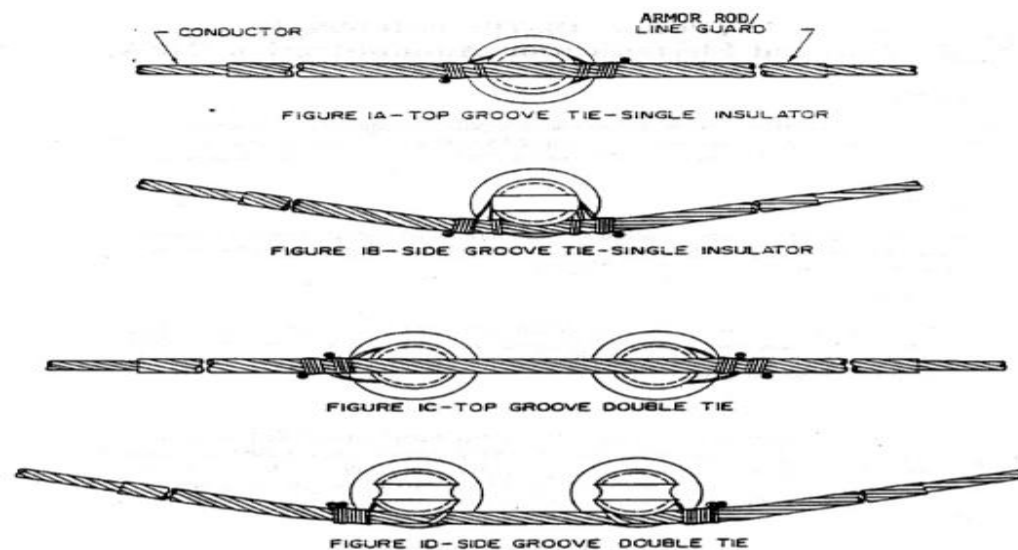
ARMOR RODS							LINE GUARDS				
Nominal Conductor Size		Length (in)		Rods per Set	Sets per CTN	Rod & Guard Color Code	Length (in)		Rod Per Set	Set Per CTN	Color Code
AWG	MCM	Single	Double				Single	Double			
6	6/1	40	52	7	100	Blue	17	29	7	100	
4	6/1	40	52	8	100	Brown	19	31	8	100	
2	6/1	44	56	8	50	Red	21	33	9	100	
1/0	6/1	52	64	9	50	Yellow	25	37	11	100	
2/0	6/1	54	66	10	50	Blue	27	39	13	50	
3/0	6/1	56	68	11	25	Orange	29	41	14	50	
4/0	6/1	60	72	11	25	Red	31	43	15	50	
336.4	26/7	72	84	12	18	Green	Use Armor Rods				

FINISH:

Preformed armor rods and line guards shall have smooth surfaces and rounded ends, and shall fit the conductor snugly. At the center starting cross-over mark, of each size set of rods, there shall be a color code applied as indicated in the Table under Dimensions of this document.

STRENGTH:

Preformed armor rods and line guards shall exhibit strength characteristics equivalent to those of the conductor to which they are applied.



THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND A DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD

GROUND ROD

Ferrous ground rods furnished to NEA specifications shall conform in all respects to the dimensional and performance requirements of this specification. These ground rods shall be used with the clamp described in NEA Specification 140 [1].

MATERIAL:

1. Ferrous ground rods shall be fabricated from one of the materials listed below.

The material shall have a quality and grade which satisfies the performance requirements of this specification.

- a. Hot rolled high carbon steel produced by the open-hearth, basic oxygen or electric-furnace process in accordance with ASTM A663-82[2] or ASTM A67582 [3].
- b. Malleable iron castings in conformity with ASTM A47-77 [4].

FINISH:

NEA ground rods shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82, [5]. The ground rods shall have smooth surfaces free from blemishes, sharp projections and other irregularities which can be hazardous to personnel and are inconsistent with normal commercial practice. The manufacturer's identification mark or symbol and rod length (in feet) shall be located on each ground rod.

If ferrous castings are specified, embrittlement of the zinc coating must be avoided by either selecting a suitable material composition or by cooling the castings from the annealing process.

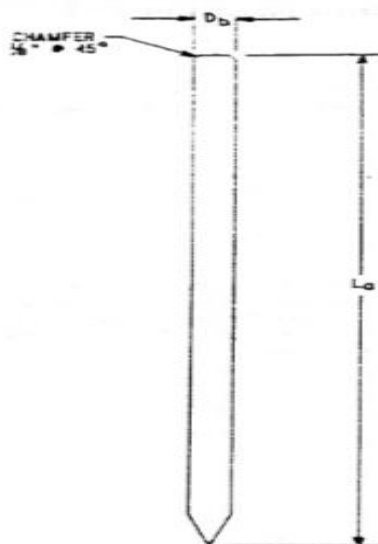
Ground rod dimensions shown in Figure 1 are defined as follows:

L = Length of rod

D = Diameter of rod

STRENGTH:

The ground rod shall be of sufficient strength and rigidity to resist bending and excessive mushrooming of the top.



NEA CODE NO.	DIMENSIONS		PACKAGING	
	ROD SIZE (INCHES)	ROD LENGTH (FT)	QUANTITY	WEIGHT (lbs)
-	3/4	6	10	60
-	3/4	8	5	40
5386 85 10	3/4	10	5	47.5

ALLOWABLE VARIATION

a = ±3.0 INCHES

b = ±1/16 INCH

THIS IS A CONCEPTUAL DRAWING. THE MANUFACTURER IS RESPONSIBLE FOR THE PREPARATION OF DRAWINGS AND A DESIGN WHICH MEETS THE DIMENSIONAL, STRENGTH, AND OTHER PERFORMANCE REQUIREMENTS OF THIS STANDARD.

PIPE SPACER

Spacers furnished shall conform in all respects to the requirements of this specification. The text, figures and references to other standards supplement each other and shall be considered parts of this specification. .

MATERIAL:

Pipe Spacers shall be made from steel, Grade 1010, and in accordance with ASTM A570-75 [1].

DIMENSIONS:

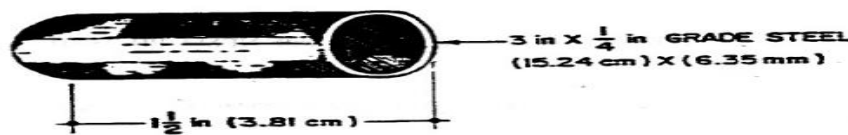
Nominal dimensions of the pipe spacer are 1 1/2" long by 1/4" thick steel with the inside diameter of the pipe equal to 3/4". A sketch of a typical spacer is shown in Figure 1.

GALVANIZING:

After fabrication, spacers shall be hot-dip galvanized in accordance with ANSI/ASTM A153-82 [2].

FINISH:

Pipe spacers shall be free of rough or uneven surfaces and edges so as to ensure safety in handling and installation.



DISTRIBUTION TRANSFORMERS

Scope:

All distribution transformers must be compliant on the specified manufacturer standard pre-ordered basis in term of standard transformer loss specified. Windings are specified **copper to copper**.

General Guidelines:

All participating bidders should submit the following data:

1. Transformer Standard Losses.
2. Certificate of accredited manufacturer's distributor.
3. DENR Compliance on PCB clearance type of oil use.
4. Manufacturer manual on technical specification.
5. Warranty certificate not less than 2-yrs.
6. Complete test result of each rating.

TECHNICAL SPECIFICATION:

This specification covers the electrical, mechanical and performance requirements for a single phase, mineral oil filled and overhead type distribution transformer for use on 7,620/13,200 – Volts, 60 HZ. Y-grounded, 120/240 volts secondary, with externally operated tap changer Coop distribution system. Distribution transformer furnish shall conform in all respect to the requirements of this document. The transformer will be suitable used in a hot tropical climate with high humidity and high annual rain fall. All units offered by the bidder's must be brand new; re-condition not accepted all transformers' material core is made of high grade silicone metal.

TRANSFORMER TYPES:

CONVENTIONAL: A pole mounted transformer with two primary bushings is sometimes referred to as "conventional". It can be used individually to provide single-phase power or it can be banked with two like transformers to provide three-phase power.

Amorphous metal transformer (AMT): Is a type of **energy efficient transformer** found on electric grids. The **magnetic core** of this transformer is made with a **ferromagnetic amorphous metal**. The typical material (**Metglas**) is an alloy of **iron** with **boron**, **silicon**, and **phosphorus** in the form of thin (e.g. 25 µm) foils. These materials have high **magnetic susceptibility**, very low **coercivity** and high **electrical resistance**. The high resistance and thin foils lead to low losses by **eddy currents** when subjected to alternating magnetic fields. On the downside amorphous alloys have a lower saturation induction and often a higher **magnetostriction** compared to conventional crystalline iron-silicon electrical steel.

This specification covers the requirements with copper to copper winding from high voltage to low voltage. All technical productive devices will be provided by the suppliers.

RATING:

Test results are submitted by the manufacturer showing % IR, % IZ and Percent total impedance for each type transformer size.

Nominal Rating

1. High Voltage Winding (HV) -7.62 / 13.2 KV (10KVA to 50KVA)
2. Low Voltage Winding (LV) -120 / 240 – Volts

Basic Insulation Level (BIL)

1. High Voltage Winding (HV)- 95 KV to 110 KV
2. Low Voltage Winding (LV) - 30 KV

Operating Frequency – 60 Hz.

Transformer shall guarantee to have the following impedance:

Size (KVA)	% Impedance (Z)	Tolerance
10 KVA to 50 KVA	2.0	+ / - 10 %

AMBIENT AIR TEMPERATURE:

Average winding temperature rise above shall not exceed 65 Degree Celsius when measured by the resistance method. The hottest spot temperature rise of the winding shall not exceed 85 Degree Celsius over ambient. Temperature rise of the insulating liquid shall not exceed 65 Degree Celsius above ambient when measured near the tap of the tank. Temperature limits shall not be exceeded when the transformer is operated at rated KVA output and secondary voltage for twenty four (24) Hours.

TRANSFORMER LOSSES:

Note: exceeding the following limits is not acceptable and will be automatically non-acceptable:

1. Guaranteed loss for each unit must be submitted together with test report from manufacturer.
2. Owning cost acceptance if the actual tested losses of the transformer (based on purchaser's laboratory test) exceed the supplier's guaranteed losses, the supplier will be penalized for each calculated watt loss or a fraction thereof in the amount of P1,500.00 pesos for core losses, and P1,500.00 pesos for copper losses.
3. Distribution Transformers with losses exceeding 10% of the limits tabulated below is not acceptable and automatically rejected.

TXR Rating	Core Loss (No-Load Loss)		Copper Loss (Load Loss)	
	(Watt)	Acceptable Limit	(Watt)	Acceptable Limit
10 KVA	28	25 - 31	121	109 - 133
15 KVA	34	31 - 37	226	203 - 239
25 KVA	59	53 - 65	289	260 - 318
37.5 KVA	82	74 - 90	378	340 - 416
50 KVA	110	99 - 121	515	464 - 567
75 KVA	138	124 -152	635	572 - 699

POLARITY:

All transformer winding must be ADDITIVE polarity and specified marking on primary and secondary as standard required for customization.

DESIGN:

1. Transformer shall be design in accordance with the latest revision of ANSI standard C57.12.00 and C57.12.20.
2. Transformer shall be class OA (Self Cooled), core type and have two (2) windings of high conductive copper.
3. Transformer shall have a high voltage no-load tap changer installed in the external tank, with 2-1/2% tap below and 2-1/2% tap above rated voltage. The no-load tap changer shall be operable by an external handle or lever in provision to prevent un-authorized and inadvertent operation of the mechanism.
4. High voltage bushing shall be made of industry standard outdoor type porcelain material. Connectors shall be bolted ring type suitability for copper and aluminum conductors.
5. Low voltage bushing shall be made of industry standard outdoor type porcelain material. Connectors shall be bolted ring type suitability for copper and aluminum conductors. (Note: POLYMER secondary bushing not acceptable)
 - a. Transformer tank shall be sealed type design complete with cover and gasket.
 - b. Tank shall be supplied with a tank grounding bolted ring type connector suitable for use in copper and aluminum conductor with size from #6 to #2 AWG.
 - c. There shall be a low voltage (no internal ground) grounding provision with a grounding strap.
 - d. Transformer tank shall have permanent lugs for lifting the complete unit.
 - e. Tank shall be painted with (2) coats of light gray paint ANSI color # 70 over a suitable prime coat.
 - f. The transformer nameplate shall be made of stainless steel and shall have engraved letters filled with black enamel. Name plate information shall include the following:

- | | |
|---------------------|------------------------|
| 1. Serial Number | 8. Ambient Temp. Rise |
| 2. Class | 9. Total Weight (Kgs.) |
| 3. Number of Phases | 10. Manufacturer |
| 4. Frequency | 11. Production Date |
| 5. Voltage Rating | 12. Winding Specs |
| 6. Polarity | 13. Type of Oil |
| 7. Impedance | |

TEST RESULT REQUIRED:

All tests must be in compliant to ANSI standard C57.12.90 factory test shall include the following:

1. Resistance measurement on each winding.
2. Turn Ratio Test
3. Polarity and test relation test

4. Losses (No-load / load)
5. Excitation current at rated voltage
6. Impedance Voltage.
7. Di-electric test of oil.

PACKAGING:

1. Lumber use in the fabrication of shipping crates shall be new, sound well seasoned and free of knots and decay.
2. Crates shall be provided with a skid base suitable for forklift handling, transformer shall be strap, bolted, braced or other wise bolted , brace or other wise secured to the crate base during shipment and hauling.
3. Particular attention should be given to protection of the porcelain bushing to avoid damage during shipment.
4. Crates shall be sufficiently strong to prevent damage from stacking and handling.

OTHER SPECIFICATION:

1. WINDING

All high and low winding material are made of high quality copper conductors, winding wounding must have a constant tension and tightness of coil, compact winding reinforced with strong clamp construction guarantee high short circuit strength withstand capability, high cooling efficiency resulting in higher overload capacity.

2. CORE

Construction designs are made of high grade silicone steel, low no-load loss losses, minimum characteristic to low noise level.

3. INSULATION PAPER

All insulation material is high grade cellulose paper to obtain high die-electric strength.

4. BUSHING

High and low voltage bushing are made of quality porcelain in finest electrical grade, Terminal eyebolt are made from aluminum bronze design to withstand corrosion.

5. TANK

Transformer tank design must be made of High quality steel sheet. All painting must be corrosion resistant.

6. POLARITY

All transformer winding must be ADDITIVE polarity standard required for customization.

7. GROUNDING

All construction design must comply with the standard grounding probation in compliance with "PHILIPPINE ELECTRICAL CODE (PEC) compliance standard.

8. DI-ELECTRIC OIL

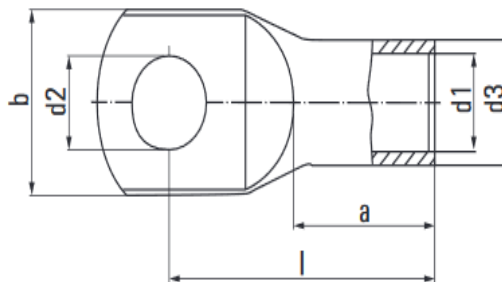
All insulating oil must be a mineral base and non PCB compliance. Oil di-electric strength must not be less than 30 KV.

TERMINAL LUG

Terminal lugs furnished to NEA specification shall conform in all respects to the physical and dimensional requirements stated in this standard. And shall not adversely affect the electrical and mechanical characteristics of the conductors it connects. The text, figures and references to other standards supplement each other and are considered parts of this standard.

MATERIAL:

Terminal lugs described in this specification shall be considered a general purpose and be capable of joining aluminum or copper conductors without experiencing contact deterioration resulting from galvanic corrosion or exposure to the weather.



WASHERS

Washers furnished to NEA specifications shall conform in all respects to the specific dimensional and material requirements stated in this standard. The text, figures and references to other standards supplement each other and shall be considered as parts of this standard.

MATERIAL:

Washers shall be made from one of the following materials:

1. Hot or cold rolled steel produced in accordance with either ASTM A569-72 (R-1979), [1], ASTM A570-79, [2], ASTM A575-81, [3], or ASTM A635-81, [4].
2. Malleable type washers shall be made from malleable iron specified in ASTM A19779, [5].
3. Ductile type washers shall be made from a grade specified in ASTM A536-80, [6].

DIMENSIONS:

Dimensions of washers specified by NEA shall conform to NEMA Pub. No. PH10-1977, [7]. Typical washers used by NEA are shown in Figure 1 with dimensions before galvanizing defined as follows:

1. Round ferrous washer:

A = Diameter of central hole

B = Outside diameter of washer

T = Thickness of washer

2. Flat square ferrous washer:

A = Diameter of central hole

B = Length of side

T = Thickness of washer

3. Curved square ferrous washer:

A = Diameter of central hole

B = Length of side

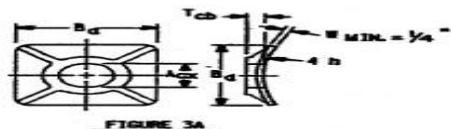
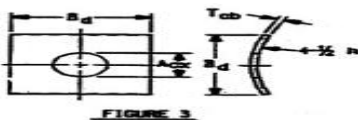
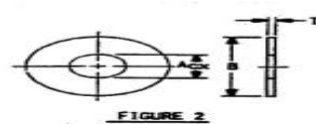
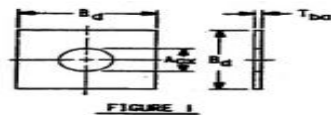
T = Thickness of washer

R = Radius of curvature

NEA washers shall be defined by the above dimensions and the bolt size.

FINISH:

Washers shall be hot-dip galvanized after fabrication in accordance with ANSI/ASTM A153-82, [8]. All surfaces and edges shall be smooth and free from blemishes and irregularities not consistent with good commercial practice.



NEA CODE NO.	FIG. NO.	TYPE	BOLT SIZE	A	B	T
7103.59 31	2	ROUND	1/2	9/16 cx	1 3/8 bx	12 ga.
7102 04 51	1	SQUARE (FLAT)	5/8	1 1/16 cx	2 1/4 d	3/16
7102 28 51	1	SQUARE (FLAT)	3/4	1 3/16 cx	4 d	3/16
7102 35 81	1	SQUARE (FLAT)	3/4	1 3/16 cx	4 d	1/2
7101 30 71	3	SQUARE (CURVED)	7/8	1 5/16 cx	4 d	1/4
7107 17 41	3	SQUARE (CURVED)	5/8	1 1/16 cx	3 d	1/4

a-1/64"
b-1/32"
c-1/16"

d-1/8"
e-3/16"
f-1/4"

g-3/8"
h-1/2"
x-0"

ALLOWABLE VARIATIONS
SINGLE LETTER INDICATES SAME + OR -. a ± 1/64"
TWO LETTERS INDICATE 1ST + 2ND -. a X = 1/64" - 0"

FIGURE 1

TIE WIRE

This specification establishes the physical requirements of bare solid annealed aluminum wire used as the wires to secure conductors and hardware on Coop electric distribution lines.

MATERIAL:

The aluminum shall be fabricated from an alloy rod which complies chemically, physically and electrically with the requirements of ASTM Specification B233 [1].

STRENGTH:

Tensile requirements of the aluminum shall be in accordance with Section 6 and Table I of ASTM B609 [2].

RESISTIVITY:

The electrical resistivity shall be determined by methods and procedures specified in ASTM B193 [3] and ASTM B609 [2].

DENSITY:

In order to calculate weights and cross section, the density of the aluminum alloy shall be 2.705 gm/cm³ (0.0975 lb/in.³) at 20°C (68°F). "

WIRE DATA:

Wire diameter and allowable tolerances shall comply with ASTM B609 [2]. Wire sizes are summarized below:

Wire Size (AWG)	Strand Diameter (inch)	Number of Strands	Breaking Strength (lbs)	Weight Lbs/1000ft	Resistance at 25°C ohms/1000ft
4	0.2043	1	369	38.4	0.4073

TAPE ARMOR

Armor tape shall consist of a flat aluminum alloy ribbon approximately 0.5 inches wide by 0.03 inches thick. Armor tape will be used to wrap aluminum and ACSR conductors to provide mechanical protection to the conductor from various attachments and connectors.

MATERIAL:

Armor tape shall be an aluminum alloy suitable for the use as described in 2. above.

FINISH:

Armor tape shall be free of rough or uneven surfaces and edges so as to ensure safety in handling and installation.

GUY WIRE

ITEM NO.	DESCRIPTION	SPECIFICATION
1	Type	Extra High Strength Steel Grade
2	Material	Galvanized steel Wire
3	Strand Construction	7 X 3.05 mm
4	Diameter Tolerance	3.05 + - 0.10 mm
5	Min. Breaking Strength of Strand	15,400 Lbf
6	Min. Elongation of Strand	4 %
7	Max. Lay Ratio	16
8	Max. Lay Length	146 mm
9	Direction of Lay	Left Hand Lay
10	Class of Galvanizing	Class AA
11	Min. Weight of Zinc Coating	259 Gram / Mts.^2
12	Approx. Over all Diameter	9.15 mm
	PACKAGING :	
13	Cutting Length	2,150 ft. / reel
14	Packing Material	Wooden Reel

DISTRIBUTION STEEL POLES

Purpose:

The intent of this guide specification is to provide Rural Development Electrification Program with a basis for procuring adequate single pole structures. Use of this specification should help eliminate ambiguities that might arise in the evaluation process of competitively bid steel pole procurements. Representatives will need to complete and add to this specification as

appropriate. Modifications to this specification may be necessary to consider special applications or preferences of the owner.

Scope:

This suggested purchase specification covers the technical aspects of design, materials, welding, inspection, delivery, and protective coatings of single circuit steel pole .user of this specification should add these documents, including general conditions and any supplemental instructions to the bidders. This specification covers the design , materials ,welding ,inspection ,protective coatings .The proposal submitted by the manufacturer shall include field bolts, locknuts, vangs , attachment provisions for arms and/or insulators, anchor bolts, base plates, and other necessary items to make a complete structure.

Pole specification:

Technical Description
Pole, Steel, 30', Bare-3.5 mm, 86 Micron, 1000 kgs. (Minimum Load Break)

- Steel poles shall be fabricated from structural quality hot rolled steel which conforms to ASTM A570-79 standard specification for hot rolled carbon steel sheet and strip structural quality.
- All Steel Poles are high grade steel hot dip galvanized in accordance with ASTM A123 standard material distribution suited classification with conformee to the technical specification set by NEA .
- All pole holes and boring must comply to NEA set standard, all pole must have the probation for step holes and grounding and all steel plates use must conform to ASTM A36 Standard with 345 MPa yield strength.

Welding, Drilling and Punching:

All welding, drilling and punching shall be completed prior to galvanizing care shall be taken to clean all filings and weld splatters from the pole surface prior to finishing. The weld shall have 60% percent fusion in welds between plates having a thickness of 3/8 inch or less and 80% where plate thickness is greater than 3/8 inch, no cracking under cutting of weld metel or weld blow holes shall be permitted.

Finishing Galvanized:

The pole shall be clean of scale, rust, oil, paint and other surface contaminants. Steel poles shall be hot dip galvanized in accordance with ANSI/ASTM A153-82, standard specification for zinc coating (Hot Dip) on iron and steel hardware requires a minimum zinc coating. The coating shall be continuous, smooth, reasonably uniform in thickness and free of blemishes and other imperfection which are inconsistent with commercial practice. Galvanized articles shall be free from coated areas, blister, flux deposit, block spots and all holes shall be clean and reasonably free from excess zinc.

Fasteners:

All fasteners, such as thread inserts, shall be of non-corrosive and or non-rusting material compatible with the steel and its coating. All holes shall be filled with plastic or other suitable insert to reduce wind noise from whistling pole holes and to reduce potential damage to holes.

Pole Sections:

All poles are segmented provided into two sections, it shall have at least two (2) ft. slip joint and shall be keyed so the pole only can be field assembled as intended by the manufacturer.

Material Strength:

The strength of the pole is specified as force acting at 90 degrees to the center line of it at the point two feet from the top of the pole each classification must be able to withstand without damage.

Markings:

1. Each steel pole shall be identified by the vendor by stamping into the pole, prior to coating, with letters less than ½" high squarely on face of the pole at ten (10) ft. from the butt of the pole. The following information shall be stamp in the pole and shall be legible after application of the protective coating:

- a.) Vendors Name
- b.) Month and Year of Manufacture
- c.) Length of Pole
- d.) Class of Pole
- e.) Type of Coating
- f.) Pole Production and Serial Number

2. Each pole shall be coated with coal tar paint/epoxy.

	Length of coated Coal tar from the Butt
30 ft.	5.5 feet

Handling:

Each Pole must have sufficient strength, durability and ability to withstand inertial loading so that it will not be damaged when transporting.

Codes and Standards:

Codes, standards or other documents referred in this specification shall be considered as part of it. The following codes and standards are referenced:

- American Society of Civil Engineers (ASCE) Standard, Design of Steel Transmission Pole Structures, Manual 72, latest edition.
- American Society for Testing and Materials (ASTM), various standards, latest revision.
- American Concrete Institute (ACI), Building Code Requirements for Reinforced Concrete, ACI 318, latest edition.
- American Welding Society (AWS), Structural Welding Code, AWS D1.1, latest edition.

- American National Standards Institute (ANSI), National Electrical Safety Code, ANSI C2, latest edition.
- Society for Protective Coatings (SSPC, formerly Steel Structure Painting Council)/ National Association of Corrosion Engineers (NACE) Surface Preparations Specification, SSPC/NACE SP-6/NACE 3.

DESIGN:

- Pole designs shall be prepared from the attached configuration drawings (Attachments A and B of this Specification) and design loads (Attachment B of this Specification). The structure shall be capable of withstanding all specified loading cases including secondary stresses from foundation movements when specified in Attachment B of this Specification but not considering the possible restraining effect of conductors or shield wires. The structure shall withstand the loads without failure, permanent distortion, or exceeding any specified deflection limitations.
- Wind pressures shown in the loading criteria shall be multiplied by the appropriate shape factor applied to the poles.
- The maximum design unit stress shall be the minimum yield strength as stated in applicable ASTM specifications for the particular application and types of loads, including load factors.
- Poles shall be designed with a minimum number of joints. Field welding shall not be allowed as part of the design of a new pole. The shaft joints to be made in the field shall be slip joints or bolted flange joints. Slip joint length shall be at least 1-1/2 times the largest inside diameter of the female section. Manufacturer shall verify slip joint fit before shipment. Joints should not interfere with joints, step nuts, ladder clips, or jacking nuts. Sufficient jacking lugs and permanent orientation marks shall be provided at all slip joints to ensure proper alignment and complete overlap of the joint.
- The ultimate load in guys shall not exceed 65 percent of the rated breaking strength of the guy.
- Design of anchor bolts shall be in accordance with the ACI-318-1983 Edition, Building Code Requirements for Reinforced Concrete, assuming a concrete strength as specified by the owner. When anchor bolts are specified, they shall have the top 2 feet galvanized. Anchor bolts shall be threaded at the top end a distance equal to the base plate thickness plus the thickness of two anchor bolt nuts plus 2-1/2". Each anchor bolt shall include two heavy hex nuts. Welding on anchor bolts will only be allowed in the bottom 12 inches. Only one length of anchor bolt shall be used on each pole. Anchor bolts/clusters shall be plainly marked to indicate the structure type, structure number, orientation, and top of concrete. Anchor bolts shall be designed to be shipped as a rigid cage with top and bottom plates holding the anchor bolts in place. The anchor bolt thread shall be protected during shipping. The anchor bolts shall be welded to the holding plate in the bottom of the cage. The top template shall be designed to be removable and to support the assembled cage during lifting and setting operations without detrimental deformations. Bolt clusters shall be designed to be rigid enough to withstand the normal jolts of shipping, handling and installation with no displacement of bolts from the proper positions within the cluster. The removable template at the top shall be marked to show the centerline for tangent structures and the angle bisector for angle structures. Matching marks are to be on the base plate of the structure so proper alignment can be made.
- Minimum plate thickness for all pole components shall be 3/16 inch.

- Structures which are to be direct embedded shall have bearing plates and ground sleeves. Bearing plates shall have a diameter not more than 2 inches greater than the maximum pole diameter. Galvanized poles shall have a drain hole at the bottom. The drain hole shall not be more than 20% of the bottom plate surface area. When a painted finish is specified, poles shall be hermetically sealed. Ground sleeves shall have a minimum length of 3 feet for single pole structures and 4 feet for H-frames. The ground sleeve shall have a minimum thickness of 3/16 inch and shall be centered at the ground line. A seal weld shall be provided around the ground sleeve. The ground sleeve shall not be considered in strength calculations.
 - Poles shall have nearly a uniform taper throughout their entire length. The maximum difference in tapers between two pole sections measured by the diameters shall be .20 inch/ft. for poles with variable taper.
 - Poles with elliptical cross sections shall have a minor axis dimension equal to at least 75 percent of the major axis dimension.
 - All unguyed angle poles or unguyed tangent dead ends shall be pre cambered to remain plumb when the calculated deflection at the top of the pole exceeds 1.5 percent of the pole height under an initial conductor tension loading of 60°F, no wind, and no load factors. Pole height shall be the height of the pole from the top of the baseplate, or designated ground line, to the top. Tangent poles with unbalanced vertical loadings shall be pre cambered for the previously stated conditions.
-
- Arms shall be designed so the end of it is at the specified height under a loading of initial conductor tension, 60°F, no wind, and no load factors. Arms shall not deflect vertically more than 12 inches at the end of the arm under heavy ice conditions (without any load factors applied). Arms shall be upswept or straight, tapered, steel tubular members of any cross-sectional type which meet the dimensions shown on the attached drawings (Attachment D of this Specification). Arm end plate connection details for hardware attachment shall be typical of those shown on the attached drawings. The arms shall be hermetically sealed when a painted finish is specified. Galvanized arms shall have drain holes where appropriate. If weathering steel is used for the arms, attachments and the arm shall be designed to avoid trapping or holding moisture.
 - Lifting lugs are optional. The manufacturer shall supply all instructions for handling and erection of poles and arms.
 - In the design of connections for vangs, brackets, or stiffeners attached to the pole shaft, care shall be taken to distribute the loads sufficiently to protect the wall of the pole from local buckling.
 - Each pole shall be permanently marked on the pole shaft 60 inches above ground line and on the bottom of base plate or bearing plate with the following identifying information: structure type, height, structure number, ultimate ground line moment, owner name, and date manufactured. The method of identification shall be approved by the owner.
 - Weathering steel structures shall be designed to eliminate water and refuse traps. Tubular sections shall be sealed from moisture entering the inside of the pole. Factory drilled pole holes shall be plugged to prevent moisture intrusion during shipping. For field drilled poles and factory drilled poles, manufacturer shall provide silicon sealant to seal all through-bolt holes. Non drilled poles when assembled shall be effectively sealed to prevent moisture intrusion. Connections shall be designed to reduce the effect of pack-out by preventing moisture from entering the joint or by designing the connection to allow moisture to easily drain

off. Plastic plugs shall be installed in all nuts welded to the structure and all tapped holes.

MATERIALS:

- All materials shall comply with the applicable requirements of ASTM specifications. Any modifications to ASTM specifications must be approved by the owner's representative prior to bidding.
- Poles, arms and conductor brackets shall conform to ASTM A36, ASTM A572, ASTM 581A, ASTM A588, ASTM A871 or ASTM A595.
- Base plate shall conform to ASTM A572, ASTM A588, ASTM A633, or ASTM A595.
- Anchor bolts shall conform to ASTM A615, Grade 60 or 75. 5.2.5. Other bolts and nuts shall conform, as applicable, to ASTM A307, ASTM A325, ASTM A354, ASTM A394, or ASTM A687. Locknuts shall be provided for each structure bolt, or American Nut Company (ANCO) type self-locking nuts may be used. Locknuts shall be the galvanized MF type or ANCO type.
- Anchor bolts, structural plate and weld material shall meet ASCE requirements for Charpy tests.
- For galvanized structures, steel used for the pole shaft and arms shall have a silicon content less than .06 percent.

Fabrication:

- All welding shall be in accordance with the AWS D1.1, latest edition. Welders shall be qualified in accordance with AWS D1.1 welding procedures.
- One hundred percent penetration welds shall be required in but not limited to the following areas:
 - Circumferential welds (C-welds) joining structural members;
 - Longitudinal welds in the female portion of the joint within the slip joint area;
 - Welds at the butt joints of back-up strips;
 - Base plate to shaft weld.
 - Longitudinal welds for a minimum length of 3 inches where there are adjacent C-welds, flange welds, base welds and ends of tubes.
- Full penetration or equivalent 90 percent partial penetration with fillet overlay shall be used for arm-to-arm base, vang-to-plate shaft, and arm box joints.
- Quality and acceptability of every inch of the full penetration welds shall be determined by visual and ultrasonic inspection.
- All other penetration welds shall have 60 percent minimum penetration. Quality and acceptability of all welds other than full penetration welds shall be determined by visual inspection, supplemented by magnetic particle, ultrasonic or dye penetrant inspection.
- All weld back-up strips shall be continuous the full length of the welds. Care shall be exercised in the design of welded connections to avoid areas of high stress concentration which could be subject to fatigue or brittle fractures.
- Field welding shall not be permitted except with owner's approval and the manufacturer's direction in repairing a pole.
- All parts of the structure shall be neatly finished and free from kinks or twists. All holes, blocks, and clips shall be made with sharp tools and shall be clean-cut without torn or ragged edges.

- Before being laid out or worked in any manner, structural material shall be straight and clean. If straightening is necessary, it shall be done by methods that will not damage the metal.
- Shearing and cutting shall be performed carefully and all portions of the work shall be finished neatly. Copes and re-entrant cuts shall be filleted before cutting.
- All forming or bending during fabrication shall be done by methods that will prevent embrittlement or loss of strength in the material being worked.
- Holes for connection bolts shall be 1/16 inch larger than the nominal diameter of the bolts. Holes in the flange plates for bolted splices shall be 1/8 inch larger than the bolt diameter. Holes in the base plates for anchor bolts shall be 3/8 inch larger than the nominal diameter of the anchor bolts. The details of all connections and splices shall be subject to the approval of the owner or his representatives.
- Holes in steel plates which are punched must be smooth and cylindrical without excessive tear out or depressions. Any burrs that remain after punching shall be removed by grinding, reaming, etc.
- Holes of any diameter may be drilled in plate of any thickness. Care shall be taken to maintain accuracy when drilling stacks of plates.
- Holes may be made by use of a machine guided oxygen torch. Flame cut edges shall be reasonably smooth and suitable for the stresses transmitted to them.
- The overall length of the assembled structure should not be less than 6 inches of the specified length and not more than 12 inches.
- Field drilled holes must be approved by the owner. If the manufacturer is aware of the owner's intent to field drill holes, the manufacture must supply a galvanizing touch-up kit for galvanized poles or a silicon sealant for weathering steel poles.
- A grounding connection shall be welded to the pole shaft, 18 inches above the ground line or 6 inches above the ground collar. The grounding connection will be either the two-hole NEMA pad, or a nut, or a threaded insert installed in the pole, or an approved alternative.
- Grounding pad face shall not be painted or covered with other coatings. The grounding nut thread and grounding pad threads shall be protected from coatings.
- Threaded inserts installed for grounding shall be made of Type 316 stainless steel and provided with standard ½ inch, 13 UNC threads. Threads shall be protected from coatings.

CLIMBING DEVICE:

Design Loads

- Step Bolts and removable steps: The step bolts, removable steps and attachment to the pole shall be designed to support a minimum of a 300 pound worker and equipment multiplied by a load factor as defined in paragraph 5.6.2. The load shall be at the outer edge of the step or bolt.
- Removable Ladders: The ladder and each attachment to the pole shall be designed support a minimum of a 300 pound worker and equipment multiplied by a load factor.
- Load Factor: A load factor of 2.0 shall be applied to the design loads in 5.6.1. These loads shall be supported without permanent deformation.
- Location: Climbing devices shall start 8 feet above ground line and extend to the pole top unless specified by the owner. The climbing device shall be spaced such that each step is 1 foot 6 inches apart and orientated to provide maximum ease of climbing. They shall be located to avoid interference with other attachments

Finishes

The following finishes are acceptable: galvanizing, zinc primer and painting, weathering steel and below grade coating.

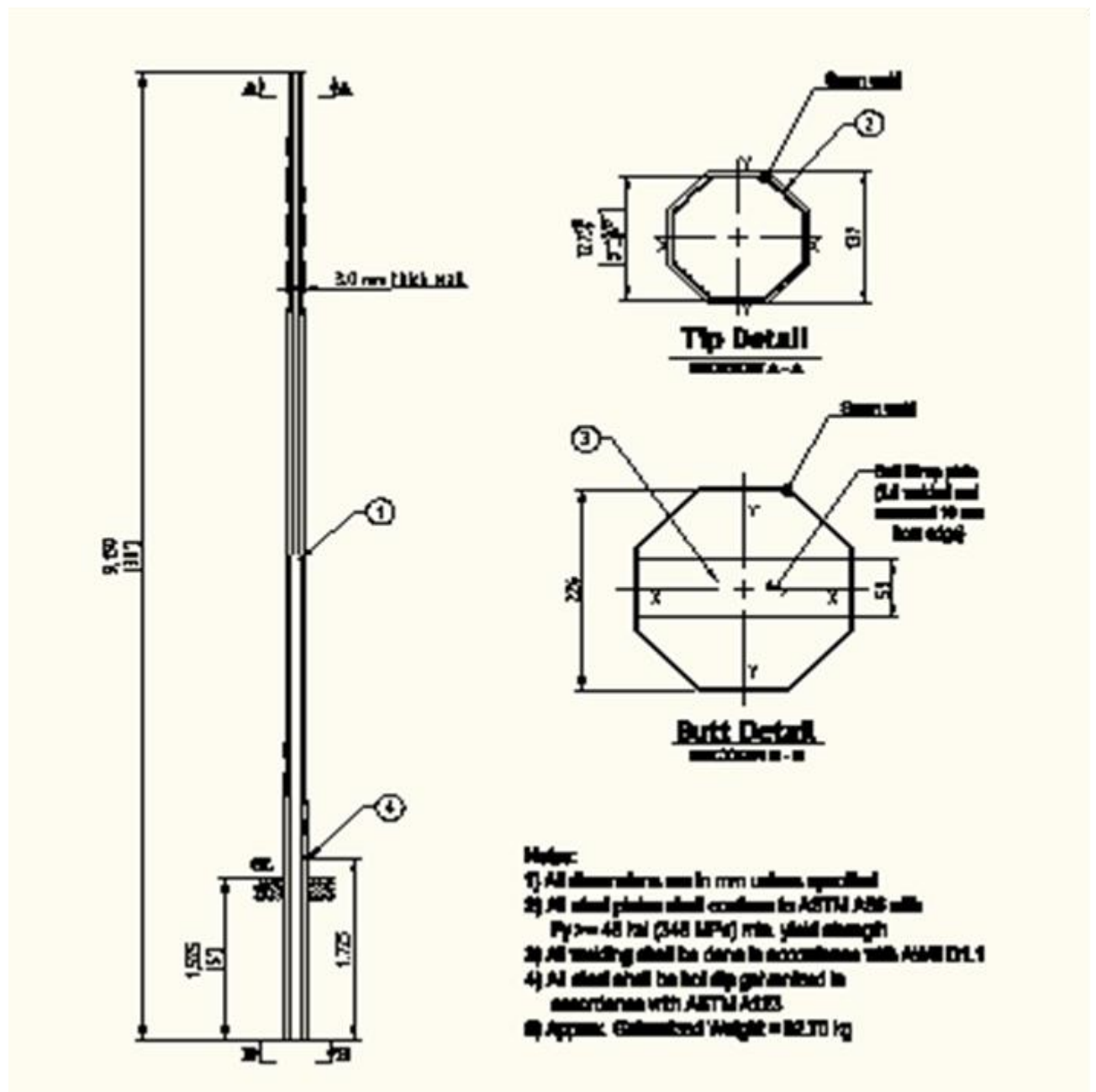
- Galvanizing - All structures and structural components which are hot-dip galvanized shall meet all the requirements of ASTM A123 or ASTM A153. Measures shall be taken to prevent warping and distortion according to ASTM A384 and to prevent embrittlement according ASTM A143. Poles made of ASTM A588 steel shall not be galvanized due to the high silicon content of the steel. One gallon of zinc enriched paint shall be provided with each five poles.
- Zinc Primer and Painting - Poles which are to be painted shall be hermetically sealed to prevent corrosion of interior surfaces. After shot or sand blasting and cleaning in accordance with the surface preparations specification, SSPC/NACE SP-6/NACE 3, a zinc primer of 3 mils dry film thickness (DFT) and two coats of finish paint, each 3 mils DFT shall be applied to all exterior surfaces in accordance with the paint supplier's recommendations. One gallon each of primer and finish paint shall be supplied with each five poles. A guarantee against flaking or fading of the paint for a minimum of 5 years shall be provided.
- Weathering Steel - Steel shall conform to ASTM A588 or A871. After fabrication, poles made of weathering steel shall be cleaned of oil, scale, etc., in accordance with the surface preparation specification SSPC/NACE SP-6/NACE 3, to ensure uniform and rapid formation of the protective oxide layer.
- Coatings for the Embedded Portion of the Pole - When poles are to be directly embedded, a 16 mil (minimum dry film thickness), two component hydrocarbon extended polyurethane coating that is resistant to ultraviolet light shall be applied on the exposed surface of the Embedded portion of the pole. The coating shall extend from the butt to the top of the ground sleeve. Other coatings shall be approved by the owner prior to their use. Bolts and nuts with yield strengths under 100,000 psi shall be hot-dip galvanized per ASTM A153 and ASTM A143, or mechanically coated with zinc in accordance with ASTM B454, Class 50. Bolting materials with yield strengths in excess of 100,000 psi shall not be hot dip galvanized. Instead, they shall be painted with zinc enriched paint or mechanically coated with zinc per ASTM B454, Class 50.
- Compliance with coating thickness requirements shall be checked with a magnetic thickness gauge.

Inspection and Testing

- The owner and the owner's designated agents shall have free entry at all times while work is being carried on, to all parts of the manufacturer's plant to inspect any part of the production of the poles covered by this specification.
- Steel members which are bent or warped or otherwise improperly fabricated shall be properly repaired or replaced.
- The cost of tests made by the manufacturer (except full scale load tests on poles), including cost of the certified test reports shall be considered included in the price.
- The manufacturer shall make tests in accordance with ASTM A370 and ASTM A673 to verify that the material used in the structures meets the impact properties.
- Mill test reports showing chemical and physical properties of all material furnished under this specification shall be maintained by the manufacturer for a period of 5 years and shall be traceable to the structure.
- All plates to lamellar over 1-1/2 inches thick shall be ultrasonically tested to assure against defects which could lead tearing.
- Welders or welding operators shall be qualified in accordance with the provisions of AWS D1.1.
- The manufacturer shall make certified welding reports for each structure. The reports covering welding shall include all welds of each structure. Each weld shall be clearly identified; and the report shall consist of the method of testing, whether the weld is acceptable, the identification of the structure, the date, and the name and signature of the inspector.

Structure Testing

- The structures which are to have full-scale load tests performed on them are listed in Attachment C of this Specification.
- Details of the test procedures and methods of measuring and recording test loads and deflections shall be specified by the manufacturer prior to testing and shall be subject to the review and approval of the owner or his representative.
- Deflections shall be recorded in the transverse and longitudinal directions when applicable. Deflection measurements shall be taken under the no load condition both before and after testing.
- Material procurement for test poles shall be identical to material procurement procedures for regular production run poles.
- A full report listing results shall be submitted after completion of all testing. Copies of mill test reports shall be included in the load test report. The report shall also include a complete description of the load tests with diagrams and photographs.
- The owner or his representative reserves the right to be present during testing and shall be notified 2 weeks prior to the start of structure fabrication.



BLOCK, ANCHOR CONCRETE

Composition of 1 sack cement, 2 sacks gravel and 3 sacks sand.

DISTRIBUTION TRANSFORMERS

Scope:

All distribution transformers must be compliant on the specified manufacturer standard pre-ordered basis in term of standard transformer loss specified. Windings are specified **copper to copper**.

General Guidelines:

All participating bidders should submit the following data:

7. Transformer Standard Losses.
8. Certificate of accredited manufacturer's distributor.
9. DENR Compliance on PCB clearance type of oil use.
10. Manufacturer manual on technical specification.
11. Warranty certificate not less than 2-yrs.
12. Complete test result of each rating.

TECHNICAL SPECIFICATION:

This specification covers the electrical, mechanical and performance requirements for a single phase, mineral oil filled and overhead type distribution transformer for use on 7,620/13,200 – Volts, 60 HZ. Y-grounded, 120/240 volts secondary, with externally operated tap changer Coop distribution system. Distribution transformer furnish shall conform in all respect to the requirements of this document. The transformer will be suitable used in a hot tropical climate with high humidity and high annual rain fall. All units offered by the bidder's must be brand new; re-condition not accepted all transformers' material core is made of high grade silicone metal.

TRANSFORMER TYPES:

CONVENTIONAL: A pole mounted transformer with two primary bushings is sometimes referred to as "conventional". It can be used individually to provide single-phase power or it can be banked with two like transformers to provide three-phase power.

Amorphous metal transformer (AMT:) Is a type of **energy efficient transformer** found on electric grids. The **magnetic core** of this transformer is made with a **ferromagnetic amorphous metal**. The typical material (**Metglas**) is an alloy of **iron** with **boron**, **silicon**, and **phosphorus** in the form of thin (e.g. 25 µm) foils. These materials have high **magnetic susceptibility**, very low **coercivity** and high **electrical resistance**. The high resistance and thin foils lead to low losses by **eddy currents** when subjected to alternating magnetic fields. On the downside amorphous alloys have a lower saturation induction and often a higher **magnetostriction** compared to conventional crystalline iron-silicon electrical steel.

This specification covers the requirements with copper-to-copper winding from high voltage to low voltage. All technical productive devices will be provided by the suppliers.

RATING:

Test results are submitted by the manufacturer showing % IR, % IZ and Percent total impedance for each type transformer size.

Nominal Rating

3. High Voltage Winding (HV) -7.62 / 13.2 KV (10KVA to 50KVA)
4. Low Voltage Winding (LV) -120 / 240 – Volts

Basic Insulation Level (BIL)

3. High Voltage Winding (HV)- 95 KV to 110 KV
4. Low Voltage Winding (LV)- 30 KV

Operating Frequency – 60 Hz.

Transformer shall guarantee to have the following impedance:

Size (KVA)	% Impedance (Z)	Tolerance
10 KVA to 50 KVA	2.0	+ / - 10 %

AMBIENT AIR TEMPERATURE:

Average winding temperature rise above shall not exceed 65 Degree Celsius when measured by the resistance method. The hottest spot temperature rise of the winding shall not exceed 85 Degree Celsius over ambient. Temperature rise of the insulating liquid shall not exceed 65 Degree Celsius above ambient when measured near the tap of the tank. Temperature limits shall not be exceeded when the transformer is operated at rated KVA output and secondary voltage for twenty four (24) Hours.

TRANSFORMER LOSSES:

Note: exceeding the following limits is not acceptable and will be automatically non-acceptable:

4. Guaranteed loss for each unit must be submitted together with test report from manufacturer.
5. Owing cost acceptance if the actual tested losses of the transformer (based on purchaser's laboratory test) exceed the supplier's guaranteed losses, the supplier will be penalized for each calculated watt loss or a fraction thereof in the amount of P1,500.00 pesos for core losses, and P1,500.00 pesos for copper losses.
6. Distribution Transformers with losses exceeding 10% of the limits tabulated below is not acceptable and automatically rejected.

TXR Rating	Core Loss (No-Load Loss)		Copper Loss (Load Loss)	
	(Watt)	Acceptable Limit	(Watt)	Acceptable Limit
10 KVA	28	25 - 31	121	109 - 133
15 KVA	34	31 - 37	226	203 - 239
25 KVA	59	53 - 65	289	260 - 318
37.5 KVA	82	74 - 90	378	340 - 416
50 KVA	110	99 - 121	515	464 - 567
75 KVA	138	124 - 152	635	572 - 699

POLARITY:

All transformer winding must be ADDITIVE polarity and specified marking on primary and secondary as standard required for customization.

DESIGN:

6. Transformer shall be design in accordance with the latest revision of ANSI standard C57.12.00 and C57.12.20.
7. Transformer shall be class OA (Self Cooled), core type and have two (2) windings of high conductive copper.
8. Transformer shall have a high voltage no-load tap changer installed in the external tank, with 2-1/2% tap below and 2-1/2% tap above rated voltage. The no-load tap changer shall be operable by an external handle or lever in provision to prevent un-authorized and inadvertent operation of the mechanism.
9. High voltage bushing shall be made of industry standard outdoor type porcelain material. Connectors shall be bolted ring type suitability for copper and aluminum conductors.
10. Low voltage bushing shall be made of industry standard outdoor type porcelain material. Connectors shall be bolted ring type suitability for copper and aluminum conductors. (Note: POLYMER secondary bushing not acceptable)
 - g. Transformer tank shall be sealed type design complete with cover and gasket.
 - h. Tank shall be supplied with a tank grounding bolted ring type connector suitable for use in copper and aluminum conductor with size from #6 to #2 AWG.
 - i. There shall be a low voltage (no internal ground) grounding provision with a grounding strap.
 - j. Transformer tank shall have permanent lugs for lifting the complete unit.
 - k. Tank shall be painted with (2) coats of light gray paint ANSI color # 70 over a suitable prime coat.
 - l. The transformer nameplate shall be made of stainless steel and shall have engraved letters filled with black enamel. Name plate information shall include the following:

- | | |
|---------------------|------------------------|
| 1. Serial Number | 8. Ambient Temp. Rise |
| 2. Class | 9. Total Weight (Kgs.) |
| 3. Number of Phases | 10. Manufacturer |
| 4. Frequency | 11. Production Date |
| 5. Voltage Rating | 12. Winding Specs |
| 6. Polarity | 13. Type of Oil |
| 7. Impedance | |

TEST RESULT REQUIRED:

All tests must be in compliant to ANSI standard C57.12.90 factory test shall include the following:

8. Resistance measurement on each winding.
9. Turn Ratio Test
10. Polarity and test relation test

11. Losses (No-load / load)
12. Excitation current at rated voltage
13. Impedance Voltage.
14. Di-electric test of oil.

PACKAGING:

5. Lumber use in the fabrication of shipping crates shall be new, sound well seasoned and free of knots and decay.
6. Crates shall be provided with a skid base suitable for forklift handling, transformer shall be strap, bolted, braced or other wise bolted , brace or other wise secured to the crate base during shipment and hauling.
7. Particular attention should be given to protection of the porcelain bushing to avoid damage during shipment.
8. Crates shall be sufficiently strong to prevent damage from stacking and handling.

OTHER SPECIFICATION:

9. WINDING

All high and low winding material are made of high quality copper conductors, winding wounding must have a constant tension and tightness of coil, compact winding reinforced with strong clamp construction guarantee high short circuit strength withstand capability, high cooling efficiency resulting in higher overload capacity.

10. CORE

Construction designs are made of high grade silicone steel, low no-load loss losses, minimum characteristic to low noise level.

11. INSULATION PAPER

All insulation material is high grade cellulose paper to obtain high die-electric strength.

12. BUSHING

High and low voltage bushing are made of quality porcelain in finest electrical grade, Terminal eyebolt are made from aluminum bronze design to withstand corrosion.

13. TANK

Transformer tank design must be made of High quality steel sheet. All painting must be corrosion resistant.

14. POLARITY

All transformer winding must be ADDITIVE polarity standard required for customization.

15. GROUNDING

All construction design must comply with the standard grounding probation in compliance with "PHILIPPINE ELECTRICAL CODE (PEC) compliance standard.

16. DI-ELECTRIC OIL

All insulating oil must be a mineral base and non PCB compliance. Oil di-electric strength must not be less than 30 KV.

Section VII. Drawings

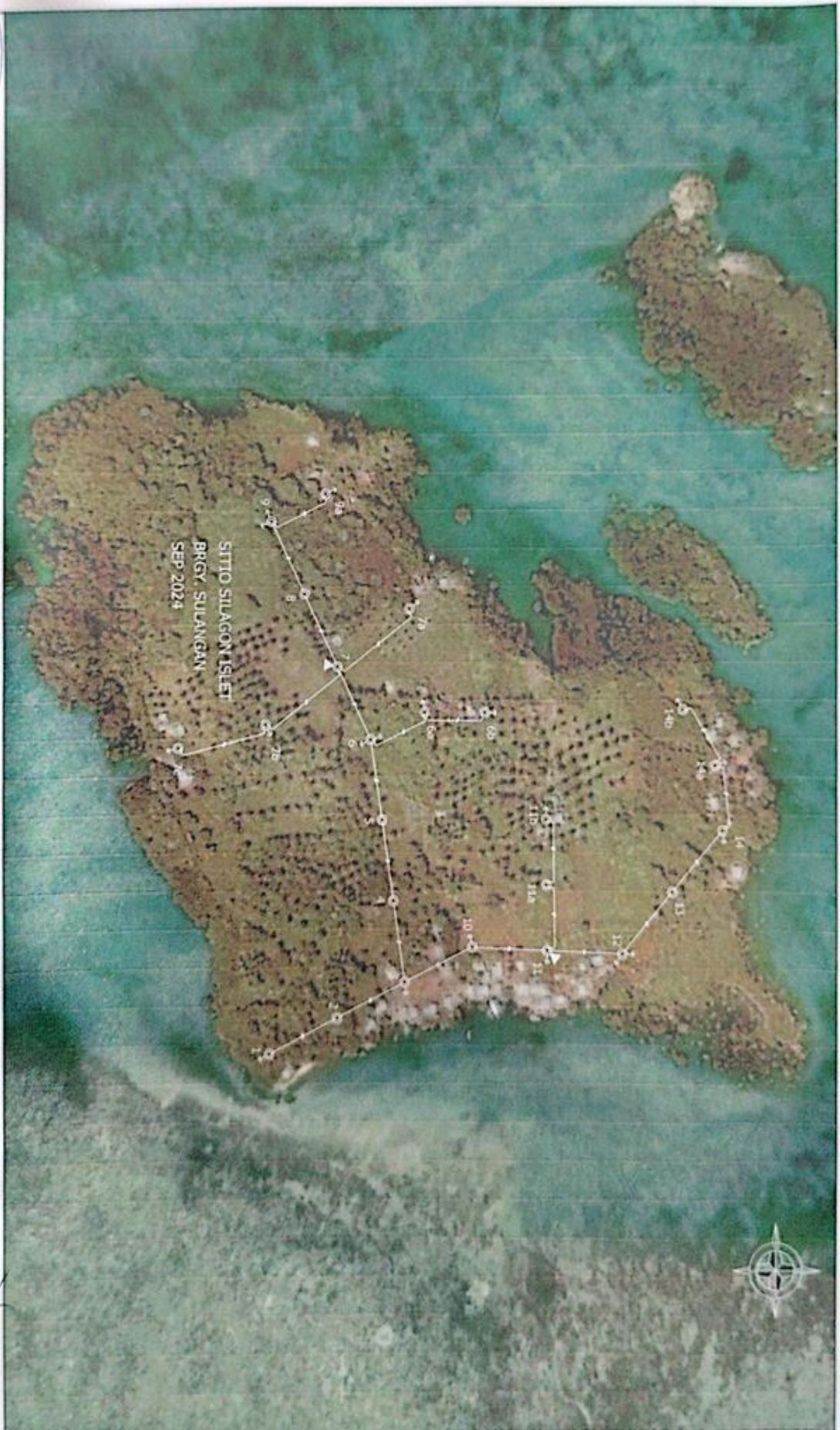
Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section or annexed in a separate folder.

Silagon, Sulangan

PREPARED BY:
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RECOMMENDING APPROVAL BY:
ENRI ROMAN DUARTE
Manager, TSD Department

APPROVED BY:
ENRI ROMAN DUARTE
General Manager



Mambacayao Dako, Lipayran

SKETCH

(N)

NATIONAL ELECTRIFICATION ADMINISTRATION



QUEZON CITY



STAKING SHEET (AS-PLAN)

SHEET NO. 1

SEP PROJECT SEP 2024

Checked By: _____ Staked By: _____
Date: 5/7/2024 4:15 P.M. Date: 5/7/2024 4:15 P.M.

SEE SHEET NO.

PRIMARY COND. 58mm TREE WIRE
NEUTRAL COND. 10 6/1 ACRES
RILLING SPAN 50.00 METERS

PROJECT NAME: BROG LIPAYAN 1 PHASE PRIMARY LINE EXTENSION
SUBSTATION: 23 MW ISLA MOTE ENERGY CORPORATION (MIEC)
LINE: PROPOSED SINGLE PHASE SUBMACHINE CABLE (BLUE)
EXTENSION OF 12 SPAN SINGLE PHASE PRIMARY LINE 4.8 SPAN OPEN SEC. LINE IN SITIO MAMUACAYAO DAKO BROG LIPAYAN, BARTAYAN, CEBU

MAP REF. OF 2

Released By: _____
Final Inv. By: _____

SEE

ATTACHED

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POLE NO.	PRI. BACK SPAN MTRS.	POLE HIG. (A,B,C)	PRIM. POLE TOP UNIT	LINE ANGLE	TRANS. FORMER "Q"	GRND. "W"	GUY "E"	LEAD "M"	ANCH. "F"	SPAN MTRS.	SEC. OR UB	WIRE SIZE	SEC. "J"	SERVICE DROP N I Z O	MISC. UNIT "W"	RMV -R1-	C O N S	MEMBERS NAME AND NUMBER AND OR "REMARKS"
TP	QTY C	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	QTY	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	COMPUTER-CODING
1	50	1 30 SP 1	A5			1 2-11A	1 1-2	12	1 2-1	50	IUB	#2	1 6		1 3-4B			
2	50	1 30 SP 1	A1			1 2-11A	1 1-2	12	1 2-1	50	IUB	#2	1 5					
2a		1 30 SP				1 2-9				40	IOS	#2	1 15					
2b		1 30 SP				1 1-2	12	1 2-1	2-10	40	IOS	#2	2 10					
2c		1 30 SP				1 2-11A	1 1-2	12	1 2-1	40	IOS	#2	2 6					
3	50	1 30 SP 1	A1			1 2-11A				50	IUB	#2	1 5		1 3-4B			INSTALL 25 KVA TSE. CONVENTO-
4	50	1 30 SP 1	A1			1 2-11A	1 1-2	12	1 2-1	50	IUB	#2	1 5		2 5-2B			NAL TYPE (RESIDENTIAL)
4a		1 30 SP				1 2-11A	1 1-2	12	1 2-1	40	IOS	#2	2 6					
5	50	1 30 SP 1	A1			1 2-9				50	IUB	#2	1 5					
6	50	1 30 SP 1	A1			1 2-9				50	IUB	#2	1 5					
7	50	1 30 SP 1	A1			1 2-11A	1 1-2	12	1 2-1	50	IUB	#2	1 5					
7a		1 30 SP				1 1-2	12	1 2-1	2-10	40	IOS	#2	2 10					
7b		1 30 SP				1 2-9				40	IOS	#2	1 8					
QUANTITY	C	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	QTY	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	Q CODE	CODE
350	10	13 30 SP 1	A5			1 G9-25 4 M2-9	8 E1-2			F1-2	240	IOS	8	J5				ACSR
20		SP 6	A1			G9-	7 M2-11A	E2-1	8	F2-2			5	J8				590 D#10 INSULATED
36								E2-2					2	J8				350 58mm ² TREE WIRE
DC										350	IUB		4	J10				N
										590	NEU		6	J15				D
350	TTL									1,180	TTL							1,630 METERS

PREPARED BY:

RAKME A DUARTE
Manager, SP-1 & Division

RECOMMENDING APPROVAL BY:

ENGR RONALDO D. ALOYAN
Manager, TSD Department

APPROVED BY:

ENGR LEE D. RIVERA
General Manager

②

NATIONAL ELECTRIFICATION ADMINISTRATION



QUEZON CITY



STAKING SHEET (AS-PLAN)

SEP PROJECT: SEP 2024

Checked By _____ Staked By _____

Date: 5/7/2024 4:15 P.M. Date: 5/7/2024 4:15 P.M.

SEE SHEET NO.

PRIMARY COND.	1/0	TREE WIRE
NEUTRAL COND.	1/0	6/1 ACRS
RULING SPAN	50.00	METERS

PROJECT NAME: BROY LIPATON 1 PHASE PRIMARY LINE EXTENSION
SUBSTATION: 23 MM ISLA MORTE ENERGY CORPORATION (TMO)
LINE: PROPOSED SINGLE PHASE SUBMERGEE CABLE (BULEP)
EXTENSION OF 12 SPAN SINGLE PHASE PRIMARY LINE & 8 SPAN OPEN SE

SHEET NO. 2
OF 2
MAP REF. _____
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Released By:
 FBI BATAVIA, OHIO

Final Inv. By:

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PREPARED BY

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Manager, TSD Department

APPENDIX

ENGR. LEED RIVERA
General Manager

SITTO MAMBACAYAO DAKO BARANGAY LIPAYRAN BANTAYAN CEBU
 SINGLE PHASE PRIMARY LINE EXTENSION
 AS-PLAN



PREPARED BY:
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APPROVED BY:
 ENGR. LEE O. RIVERA
 General Manager

Mambacayao Diot, Lipayran

SKETCH



QUEZON CITY



STAKING SHEET (AS-PLAN)

SEP 2024
Checked By: _____ Staked By: _____
Date: 5/7/2024 3:32 P.M. Date: 5/7/2024 3:32 P.M.

SEE SHEET NO.

PRIMARY COND. 1/0 TREE WIRE 6/1 ACRES
NEUTRAL COND. 1/0 6/1 ACRES
RULING SPAN 40.00 METERS

PROJECT NAME: BIRYO LIPAYAN 1 PHASE PRIMARY LINE EXTENSION
SUBSTATION: 23 MW ISA NORTH ENERGY CORPORATION (NICO)
LINE: PROPOSED SINGLE PHASE SUBMERSE CABLE (SLEP)
EXTENSION OF 14 SPAN SINGLE PHASE PRIMARY LINE IN SITIO MAMAGAYAO DIOT BIRYO LIPAYAN BANTAYAN, CEBU

SHEET NO. 1 OF 1

Released By: _____ Final Inv. By: _____

POLE NO.	PRI. BACK SPAN MTRS.	POLE UNIT	PRM. POLE TOP UNIT (A,B,C)	LINE ANGLE	TRANS. FORMER "G"	GRND. "W"	GUY "E"	LEAD "M"	ANCH. "F"	SPAN MTRS.	SEC. OR UB	WIRE SIZE	SEC. "J"	DROP MTRS.	N Z	K"	UNIT "W"	P/W -R-	C O N S	MEMBERS NAME AND NUMBER AND OR "REMARKS"
1	40	1 30 SP 1	A5			1 2-11A	1 1-2	12	1 2-1	40	IUB	#2	1 6							
2	40	1 30 SP 1	A1			1 2-9				40	IUB	#2	1 5							
3	40	1 30 SP 1	A1			1 2-11A	1 1-2	12	1 2-1	40	IUB	#2	1 5							
3a	40	1 30 SP 1	A5-1			1 9-15	1 2-11A	1 1-2	12	1 2-1	50	IUB	#2	1 15						INSTALL 15 KVA TSF CONVENTION- NAL TYPE (RESIDENTIAL)
3b	40	1 30 SP 1	A5			1 2-11A	1 1-2	12	1 2-1	40	IUB	#2	1 6							
3c	40	1 30 SP 1	A2					1 1-2	12	1 2-1	40	IUB	#2	1 10						
3d	40	1 30 SP 1	A1			1 2-9				40	IUB	#2	1 5							
3e	40	1 30 SP 1	A5			1 2-11A	1 1-2	12	1 2-1	40	IUB	#2	1 6							
4	40	1 30 SP 1	A2					1 1-2	12	1 2-1	40	IUB	#2	1 10						
5	40	1 30 SP 1	A1			1 2-9				40	IUB	#2	1 5							
6	40	1 30 SP 1	A1			1 9-15	1 2-11A			50	IUB	#2	1 5							INSTALL 15 KVA TSF CONVENTION- NAL TYPE (RESIDENTIAL)
7	40	1 30 SP 1	A2					1 1-2	12	1 2-1	40	IUB	#2	1 10						
8	40	1 30 SP 1	A2					1 1-2	12	1 2-1	40	IUB	#2	1 10						
9	40	1 30 SP 1	A5			1 2-11A	1 1-2	12	1 2-1	40	IUB	#2	1 6							
QUANTITY																				
560	18	14	30	SP 2	AS-1	2	G9-15	3	M2-9	10	E1-2		F1-2							
20				SP 4	AS		G9-7		M2-11A		E2-1		10	F2-1						
30				A2			G9-		E3-2		F2-2									
DC				A1						560	IUB		4	J10						
										560	NEU		2	J15						
560	TTL									1,120	TTL									

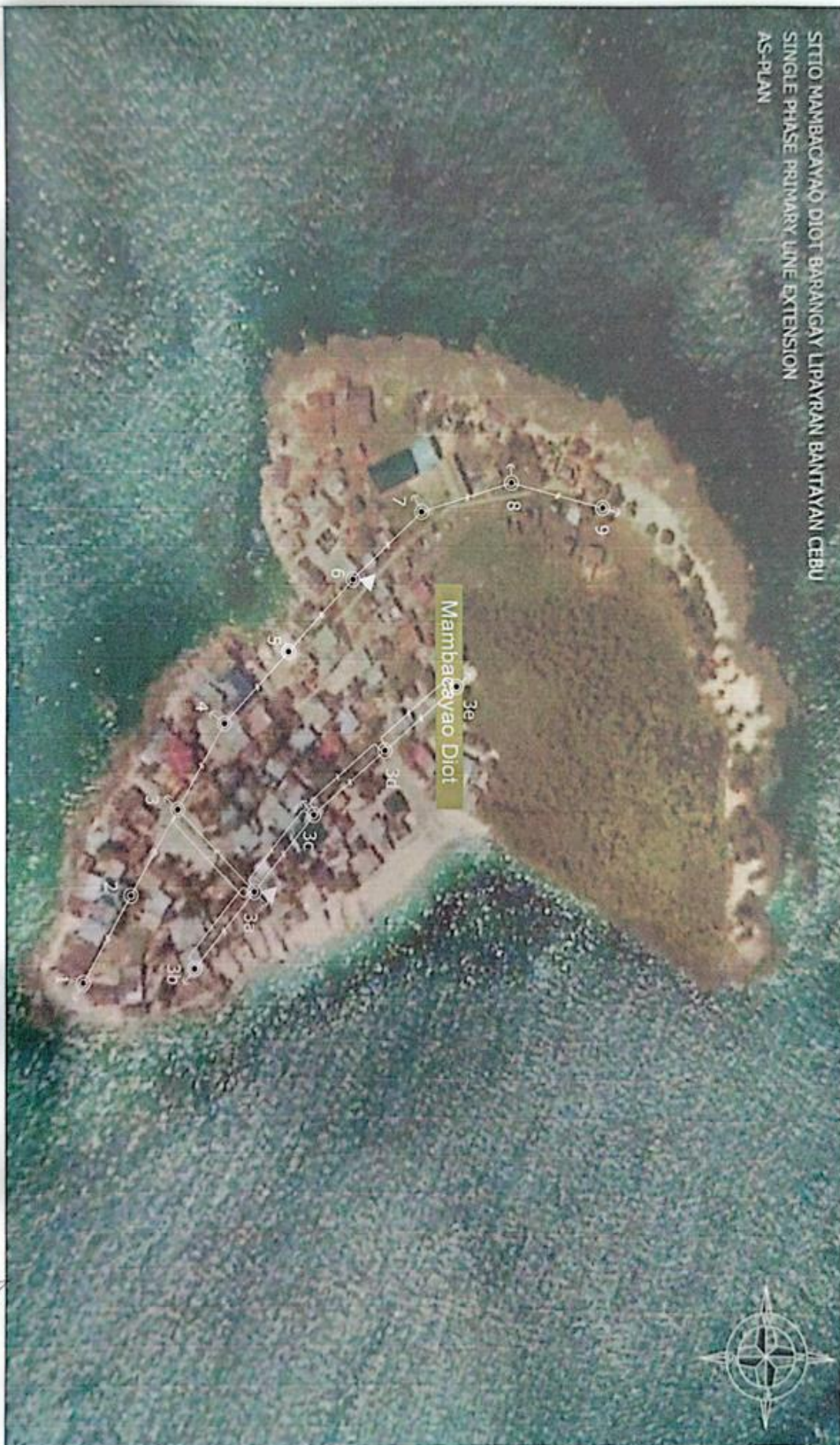
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Manager, SP-LC, Division

RECOMMENDING APPROVAL BY: ENGR. RONALD D. ALOYAN
Manager, ISD Department

APPROVED BY: ENGR. LEE D. RIVERA
General Manager

SEE
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SKETCH
PLAN

STIO MAMBAAYAO DIOT BARANGAY LIPAYRAN BANTAYAN CEBU
SINGLE PHASE PRIMARY LINE EXTENSION
AS-PLAN



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ENRIK LEE D. RIVERA
General Manager

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

- a) to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and
- b) when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and brief as possible.

Daywork Schedule

A Daywork Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Entity of the realism of rates quoted by the Bidders, the Daywork Schedule should normally comprise the following:

- a) A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.
- b) Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Procuring Entity's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors (refer to **GCC** Clause 7) should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the winning Bidder as prime Contractor for the use and convenience of the specialist contractors, each related

provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

A signature box shall be added at the bottom of each page of the Bill of Quantities where the authorized representative of the Bidder shall affix its signature. Failure of the authorized representative to sign each and every page of the Bill of Quantities shall be a cause for rejection of its bid.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final documents.

BILL OF QUANTITIES					
	Description	Quantity	Unit	Price	Total
	Construction of Distribution Lines per Assembly				
1	A1	23	sets		
2	A2	6	sets		
3	A4	2	sets		
4	A5	9	sets		
5	A5-1	5	sets		
6	G9	5	sets		
7	M2-11A	31	sets		
8	M2-9	16	sets		
9	E1-2	43	sets		
10	F2-1	43	sets		
11	J5	27	sets		
12	J6	48	sets		
13	J8	4	sets		
14	J10	18	sets		
15	POLE, 30 FT.	58	pieces		
16	CONDUCTOR, BARE, #1/0, AWG, ACSR	3.036	kms.		
17	CONDUCTOR, INSULATED, #1/0N, AWG, ACSR	5.175	kms.		
18	M3-4B	9	sets		
19	M5-28A (Type CA)	3	sets		
20	M5-29 (Mounting Bracket)	10	sets		

TOTAL
Duly authorized to sign the Bid for and behalf of: [Insert Bidder's Name] [Signature over Printed Name] [Position/Designation] [Date]

BILL OF MATERIALS		
<i>Description</i>	Quantity	Unit
Bolt, Thimble Eye, 5/8" x 8"	43	pieces
Bolt, Double Upset, 5/8" x 10"	27	pieces
Bolt, Oval Eye, 5/8" x 9"	36	pieces
Bolt, Oval Eye, 5/8" x 10"	48	pieces
Bolt, Machine, 5/8" x 8"	89	pieces
Bolt, Machine, 5/8" x 9"	1	pieces
Bolt, Machine, 5/8" x 10"	64	pieces
Bolt, Single Upset, 5/8" x 8"	23	pieces
Bolt, Single Upset, 5/8" x 10"	4	pieces
Bracket, Angle, 5/8" without Spool	24	pieces
Bracket, Mounting for Cutout and Arrester	9	pieces
Bracket, Transformer Pole Mounting for Single Transformer	10	sets
Clamp, Hot Line, #2 - #2/0 ACSR Main to #2 - #2/0	12	pieces
Clamp, Anchor Rod Bonding, Single Eye	43	pieces
Clamp, Loop Deadend, #2/0 ACSR	132	pieces
Clamp, Deadend Strain, #1/0 ACSR	18	pieces
Guy, Deadend Grip, 3/8"	86	pieces
Clamp, Pole, 5" - 6", Type CA	3	pieces
Clevis, Secondary Swinging without Spool	66	pieces
Shackle, Anchor, Forged Steel, Galvanized	18	pieces
Conductor, Insulated, Tree Wire, ACSR #1/0, AWG 6/1 (23 KV)	2,139	meters
Conductor, Bare, ACSR #1/0, AWG 6/1	2,828	meters
Conductor, Insulated, ACSR #2, AWG 6/1 (600 V)	618	meters
Conductor, Insulated, ACSR #1/0, AWG 6/1 (600 V)	2,828	meters

Conductor, Insulated, Copper Wire, ACSR #6, AWG 6/1 (600 V)	25	meters
Conductor, Insulated, Copper Wire, ACSR #2, AWG 6/1 (600 V)	18	meters
Conductor, Insulated, Copper Wire, ACSR #1/0, AWG 6/1 (600 V)	25	meters
Connector, Compression, YHO 150, #3 - #1/0 ACSR Run To #6 - #2	133	pieces
Connector, Compression, YHD 300, #1/0 - #2/0 ACSR Run To #1/0 - #2/0	32	pieces
Connector, Ground Rod (Clamp) for 5/8" Steel Rod	31	pieces
Connector, Pigtail Stem, #1/0	16	pieces
Cutout and Arrester Combination, Porcelain	9	sets
Insulator, Pin Type, Porcelain, ANSI, Class 55 - 4	12	sets
Insulator, Pin Type, Porcelain, ANSI, Class 55 - 5	23	pieces
Insulator, Spool, 1-3/4", ANSI, Class 53 - 2	78	pieces
Insulator, Spool, 3", ANSI, Class 53 - 4	66	pieces
Insulator, Suspension, 4 Shed, Polymer, 15KV	18	pieces
Link, Fuse, Universal, Bottom Head, Type K, 2 Amperes	4	pieces
Link, Fuse, Universal, Bottom Head, Type K, 3 Amperes	1	pieces
Link, Fuse, Universal, Bottom Head, Type K, 6 Amperes	3	piece
Nut, Lock, Mf Type, 5/8"	283	pieces
Pin, Pole Top, Channel, 1" Thread, 1-3/8" x 25" Long	35	pieces
Rod, Anchor, Threaded, Single Eye, 5/8" x 7'	43	pieces
Rod, Armor, Preformed, #1/0 ACSR, Single Support	78	sets
Rod, Tapping, Preformed, #1/0 ACSR	5	sets
Rod, Ground Steel, Galvanized, 5/8" x 10'	31	pieces
Spacer, Pipe, 3/4" x 1-1/2"	12	pieces
Transformer, Pole Type, Conventional, Silicon, 15 KVA, Cu-Cu-Al Winding	4	units
Transformer, Pole Type, Conventional, Silicon, 25 KVA, Cu-Cu-Al Winding	1	units
Terminal Lug, #6	20	pieces
Terminal Lug, #2	10	pieces
Washer, Square, Flat, 2-1/4" x 2-1/4" x 3/16", 13/16" Diameter Hole	271	pieces
Wire, Tie, Aluminum Alloy, Soft, #4 AWG	232	meters
Wire, Tie, Insulated, Soft, #4 AWG	460	meters
Wire, Tape, Armor, Aluminum Alloy, 0.5 " x 0.3"	96	feet
Wire, Guy, Steel, 3/8", 7 Strand	2,150	feet
Pole, Steel, 30', 3.5 mm	58	pieces
Block, Anchor, Concrete	43	pieces

Section IX. Philippine Bidding Documents Related Forms

Notes to the Philippine Bidding Document Related Forms

The Bidder shall complete and submit with its Bid the **Bid Form**, together with the Bill of Quantities, detailed estimates that include 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 by Quarter, in accordance with **ITB** Clause 13, and all those requirements indicated in the Bidding Documents and the format set out in this Section.

When requested in the BDS, the Bidder should provide the **Bid Security**, either in the form included hereafter or in another form acceptable to the Procuring Entity, pursuant to **ITB** Clause 16.

The **Contract Form**, when it is finalized at the time of contract award, should incorporate any correction or modification to the accepted Bid resulting from price corrections. The needed attachments, as aforementioned which form part of the contract should be modified accordingly.

The **Omnibus Sworn Statement** must be completed by all Bidders in accordance with **ITB** Clause 4.3. Failure to do so and submit it with the Bid shall result in the rejection of the Bid and the Bidder's disqualification.

The **Performance Securing Declaration and Bank Guarantee Form for Advance Payment** shall be completed only by the successful Bidder in accordance with one of the forms indicated herein or in another form acceptable to the Procuring Entity and pursuant to **GCC** Clause 12 and its corresponding SCC provision.

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Bid Form for Procurement of Infrastructure Projects

[Note: The duly accomplished form shall be submitted with the Bid]

BID FORM

Project Identification No.: *Voucher 1, Lot 2*

To: *Bantayan Island Electric Cooperative, Inc.*

Having examined the Philippine Bidding Documents (PBD) including the Supplemental Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

- a) I/We have no reservation to the PBD, including the Supplemental Bid Bulletins, for the Procurement Project - **Supply of materials and labor of construction of distribution lines for Barangay Line Enhancement Program;**
- b) I/We offer to execute the Works for this Contract in accordance with the PBD;
- c) The total price of our Bid in words and figures, excluding any discount offered below, is *[insert information]*
- d) The discounts offered and the methodology for their application, if any, are: *[insert information]; or indicate N/A if no discount offered]*
- e) The total bid price in words and figures, after applying the applicable discount, includes the cost of all taxes, such as, but not limited to *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized in the Detailed Estimates.
- f) This Bid shall remain valid within a period stated in the PBD, and it shall be binding upon me/us at any time before the expiration of that period;
- g) If our bid is accepted, I/we commit to enter to a contract and provide a performance security in the form, amounts, and within the times prescribed in the PBD, and hereby acknowledge the consequences under the IRR of RA No. 12009 on forfeiture of Bid Security or enforcement of Bid Securing Declaration and on Blacklisting.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon the Bidder.

I/We understand that you are not bound to accept the Lowest Calculated Bid or any Bid you may receive.

I/We certify/confirm that we comply with the eligibility requirements pursuant to the PBD.

The undersigned is authorized to submit the bid on behalf of *[Name of the Bidder]* as evidenced by the attached *[State the Written Authority]*.

I/We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, shall be a ground for the rejection of our bid.

Duly authorized to sign the Bid for and behalf of:

[Insert Bidder's Name]

[Signature over Printed Name]

[Position/Designation]

[Date]

Contract Form

[Note: The duly accomplished form is not required to be submitted with the Bid but shall be submitted within ten (10) days after receiving the Notice of Award]

CONTRACT FOR [Insert Project Title]

THIS CONTRACT executed on the ____ day of _____ 20____ between:

[Name of Procuring Entity], a government agency of the Republic of the Philippines, hereinafter called “the Entity”;

-and-

[Name of Contractor] Filipino of legal age or a company duly organized and existing under the laws of [city and country], with principal office at [insert address], hereinafter called “the Contractor”.

WHEREAS, the Entity invited Bids for certain goods and ancillary services, particularly *[Brief description of Project]*;

WHEREAS, the Contractor submitted a responsive bid and was awarded the contract for the procurement in the total amount of *[Contract price in words and figures, including currency]*, hereinafter referred to as the “Contract Price.”

NOW, THEREFORE, for and in consideration of the foregoing premises, the parties hereby agree as follows:

- 1) Unless otherwise stated, terms and expressions used in this Contract shall have the same meanings as those assigned to them in the Conditions of Contract, which form an integral part of this Contract.
- 2) The following documents as required by the Implementing Rules and Regulations of Republic Act No. 12009 shall be deemed to form and be read and construed as integral part of this Contract, viz.:
 - a) Philippine Bidding Documents (PBD);
 - i. Drawings/Plans;
 - ii. Scope of Work;
 - iii. Invitation to Bid;
 - iv. Instructions to Bidders;
 - v. Bid Data Sheet;
 - vi. Bid Form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder’s response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity’s bid evaluation;
 - vii. Bill of Quantities;
 - viii. General and Special Conditions of Contract;
 - ix. Supplemental Bid Bulletins, if any; and
 - x. Other contract documents that may be required by existing laws and/or the Entity.
 - b) Winning bidder’s bid, including the Eligibility Requirements, Technical and

Financial Proposals, and all other documents or statements submitted;

- c) Performance Security;
 - d) Notice of Award of Contract; and the Bidder's Conforme thereto; and
 - e) Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBD, such as but not limited to the Notice to Proceed and Warranty Security.
- 3) In consideration of the Contract Price of *[Contract Price in words and figures]*, or such other sums as may be determined in accordance with the terms of the Contract, the Supplier agrees to deliver and perform the items and related services for the *[Project Title]* described herein in accordance with the terms and conditions specified in the Contract and its annexed documents.
- 4) The *[Name of the Procuring Entity]* agrees to pay the above-mentioned sum to the Supplier in accordance with the schedule and manner provided in the Bidding Documents and its annexes.
- 5) Any dispute, difference, or claim arising out of or relating to this Contract, including its existence, validity, interpretation, breach, or termination thereof, may be submitted to arbitration or other form of alternative dispute resolution in accordance with the applicable law, such as Republic Act (RA) No. 9285 (Alternative Dispute Resolution Act of 2004) or Executive Order No 1008, series 1985 (Construction Industry Arbitration Law).

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed in accordance with the laws of the Republic of the Philippines on the day and year first above written

For the Procuring Entity
Head of the Procuring Entity or Duly
Authorized Representative

For the Bidder
Duly authorized to sign the Contract
for and behalf of *[Bidders Name]*:

*[Signature over Printed
Name][Position/Designation]
[Date]*

*[Signature over Printed Name]
[Position/Designation]
[Date]*

Signed in the presence of:

[Name and Signature]

[Name and Signature]

Witness – Procuring Entity

Witness- Supplier

ACKNOWLEDGMENT

BEFORE ME, A Notary Public for and in the _____, City/Province of _____, this _____ day of _____, 20_____, personally appeared the above-named persons who have satisfactorily proven to me their identity, through their identifying documents written below their names and signatures, that they are the same persons who executed and voluntarily signed the foregoing instrument consisting of _____ pages, including this page where this Acknowledgement is written, which they acknowledged before me as their free and voluntary act and deed.

WITNESS MY HAND AND SEAL this ____ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Notarial Commission No. _____

Notary Public for _____ until _____

Roll of Attorneys No. _____

PTR No. __, *[date issued]*, *[place issued]*

IBP No. __, *[date issued]*, *[place issued]*

Doc. No. _____

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Omnibus Sworn Statement Form

[Note: The duly accomplished form shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)

CITY/MUNICIPALITY OF _____) S.S.

OMNIBUS SWORN STATEMENT

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

1) *Select one, delete the others:*

- *If sole proprietorship:* I am the sole proprietor or authorized representative of *[Name of Bidder]* with office address at *[Address of Bidder]*;
- *If 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]*;
- *If individual consultant not registered under a sole proprietorship, in case of Consulting Services:* I am the individual consultant or authorized representative of *[Name of Bidder]* with office address at *[Address of Bidder]*;

2) *Select one, delete the others:*

- *If 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 *[Project Title]* of the *[Name of the Procuring Entity]* *[insert "as supported by the attached duly notarized Special Power of Attorney" for authorized representative]*;
- *If 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 *[Project Title]* of the *[Name of the Procuring Entity]*, as supported by the attached duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary's Certificate, whichever is applicable;
- *If individual consultant not registered under a sole proprietorship, in case of Consulting Services:* As the individual consultant 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 *[Project Title]* of the *[Name of the Procuring Entity]*, as supported by the attached duly notarized Special Power of Attorney *for authorized representative*;

- 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; by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity;
- 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 others:*
 - *If sole proprietorship :* The *[Name of Bidder]* and its spouse are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;
 - *If partnership :* The partnership itself and the partners of *[Name of Bidder]* are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;
 - *If cooperative:* The cooperative itself and members of the board of directors, general manager, or chief executive officer of *[Name of Bidder]* are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;
 - *If corporation, or joint venture:* The corporation or joint venture itself, and officers, directors, and controlling stockholders of *[Name of Bidder]* are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;
 - *If individual consultant not registered under a sole proprietorship, in case of Consulting Services:* The individual consultant and its spouse are not related by consanguinity or affinity up to the third civil degree to the Head of the Procuring Entity, Procurement Agent (if engaged), End-User or Implementing Unit, project consultants, head of the Project Management Office, or the members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat;

- 7) It is understood that failure to faithfully disclose its relationship with the HoPE, members of the BAC, the TWG, and the BAC Secretariat, the head of the PMO or the end-user unit or implementing unit, and the project consultants of the Procuring Entity, or of the procurement agent by consanguinity or affinity up to the third civil degree, as well as its submission of beneficial ownership information containing false entries shall be subject to blacklisting under Section 100 of the IRR of RA No. 12009, without prejudice to criminal and civil liabilities under applicable laws, including their accessory penalties, if any.

Select one, delete the rest:

- *In case of corporations:* [Name of Bidder] declares its beneficial ownership information consistent with its updated General Information Sheet or Beneficial Ownership Declaration Form or any other document duly submitted to the SEC and has maintained a valid and updated file therein in compliance with Sections 20.2.9.1, 81, and 82 of the IRR of Republic Act (RA) No. 12009.
- *In case of Foreign Bidders:* [Name of Bidder] submitted an appropriate equivalent document in English issued by the country of the bidder concerned in accordance with Section 20.2.9.2 of the IRR of RA No. 12009.

- 8) [Name of Bidder] complies with existing labor laws and standards; and

- 9) [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 [Project Title].

- 10) [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.

- 11) In case advance payment was made or given to [Name of Bidder], failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability under existing laws.

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

Duly authorized to sign the Bid for and behalf of:

[Insert Bidder's Name]

[Affiant's Signature over Printed Name]
[Position/Designation]
[Date]

JURAT

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. _____.

WITNESS MY HAND AND SEAL this ____ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Notarial Commission No. _____

Notary Public for _____ until _____

Roll of Attorneys No. _____

PTR No. __, *[date issued]*, *[place issued]*

IBP No. __, *[date issued]*, *[place issued]*

Doc. No. _____

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