

***World Bank Group Report Launch:
Financial Protection of Critical Infrastructure Services***

IGNITE PRESENTATIONS

**Rural Electrification and Resilience in
the Philippines**

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National Electrification Administration
Republic of the Philippines

11 March, 2021





Republic of the Philippines
NATIONAL ELECTRIFICATION ADMINISTRATION
Quezon City

NEA's Insights On Opportunities And Challenges On Strengthening The Resilience Of Infrastructure Services From A Power Utility's Perspective



Presented by:

ENG'R. ARTIS NIKKI L. TORTOLA, MPE
Deputy Administrator for Technical Services

Before the:

APEC Virtual Workshop on
"Financial Resilience of
Critical Infrastructure Services against" Disasters"

March 11, 2021, 11AM (Philippine Time)

NEA Bldg., No. 57 NIA Road, Government Center, Diliman, Quezon City 1100



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NATIONAL ELECTRIFICATION ADMINISTRATION

NEA, ECs and MCOs: Partners in Rural Electrification and Development

"The 1st Performance Governance System-Institutionalized National Government Agency"



Outline of Presentation

- ❑ About The National Electrification Administration (NEA)
- ❑ Impact of Disasters On Distribution System Infrastructures
- ❑ Emergency Response Framework And Protocol
- ❑ Preparedness And Risk Reduction
- ❑ Fund Sources To Cover The Repair Of Damaged Distribution System And Facilities
- ❑ Ways Forward To A Resilient Electric Cooperatives (ECs)





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About The National Electrification Administration (NEA)

The Creation of the National Electrification of the Philippines

- Created on August 4, 1969
 - Objective the total electrification of the Philippines on an area coverage basis.

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Electrification
Agenda





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About The National Electrification Administration (NEA)

New Role of NEA Under the EPIRA

- NEA maintains to provide financial, institutional and technical assistance to the ECs.
- Consequently, NEA had monitored closely the performance of the 119 ECs nationwide to prepare them to operate and compete under the deregulated market and to strengthen their technical and managerial capability and financial viability.

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Impact Of Disasters On Distribution System Infrastructures

Asset Often Damaged	
Network Asset	Non-Network Asset
Poles	Communication Antenna Poles
Cross-arms	Office Building
Conductors, Wires, Cables	
Distribution Transformers	
Kilowatt-hours Meters	





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Impact Of Disasters On Distribution System Infrastructures

ECs (count)	2020 Disaster	Damage Cost (PHP)
2	Volcanic Eruption Taal (Alert Level 4) (January 2020)	792,538
11	Tropical Cyclone (Typhoon) Ambo (May 2020)	183,680,717.91
17	Tropical Cyclone Quinta (Typhoon) (October 2020)	174,847,064.52
14	Tropical Cyclone Rolly (Super Typhoon) (November 2020)	692,513,255.85
1	Tropical Cyclone (Tropical Storm) Siony (November 2020)	1,933,256.75
40	Tropical Cyclone Ulysses (Typhoon) (November 2020)	213,652,079.35
1	Tropical Cyclone Vicky (Tropical Storm) (December 2020)	2,630,310.27

Total 1,270,049,222.65





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The Aftermath: Catanduanes/FICELCO (Super Typhoon Rolly)



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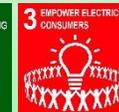
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The Response: PRRD Task Force Kapatid



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The Rehabilitation: PRRD Task Force Kapatid



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- 1 COMPLETE THE RURAL ELECTRIFICATION PROGRAM
- 2 INTENSIFY EC CAPACITY BUILDING
- 3 EMPOWER ELECTRIC CONSUMERS
- 4 ENCOURAGE RURAL DEVELOPMENT
- 5 ENHANCE CORPORATE GOVERNANCE
- 6 ENSURE COGNIZANCE OF LEGISLATIVE AGENDA
- 7 PREPARE FOR FEDERALISM



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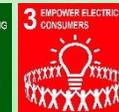
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The Rehabilitation: PRRD Task Force Kapatid



NEA 7-Point Electrification Agenda

1. COMPLETE THE RURAL ELECTRIFICATION PROGRAM
2. INTENSIFY EC CAPACITY BUILDING
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The Administrator On The Ground: PRRD Task Force Kapatid



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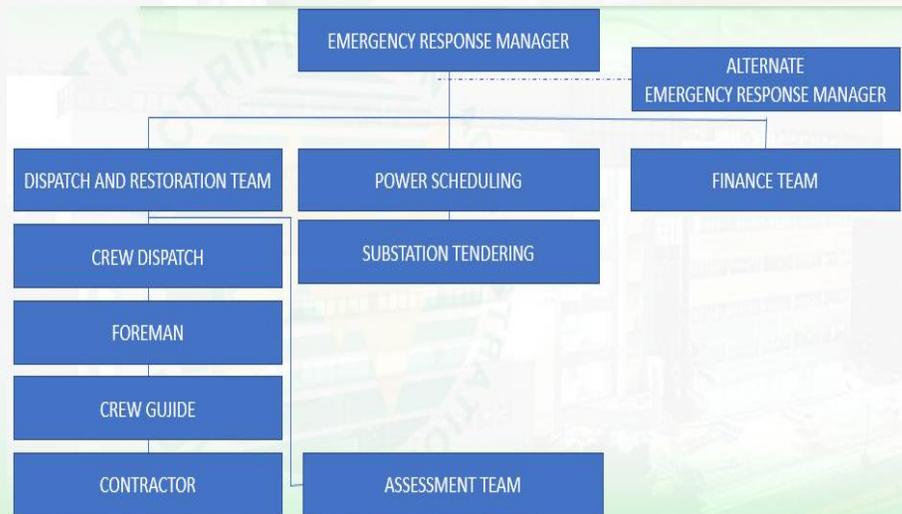
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Emergency Response Framework And Protocol

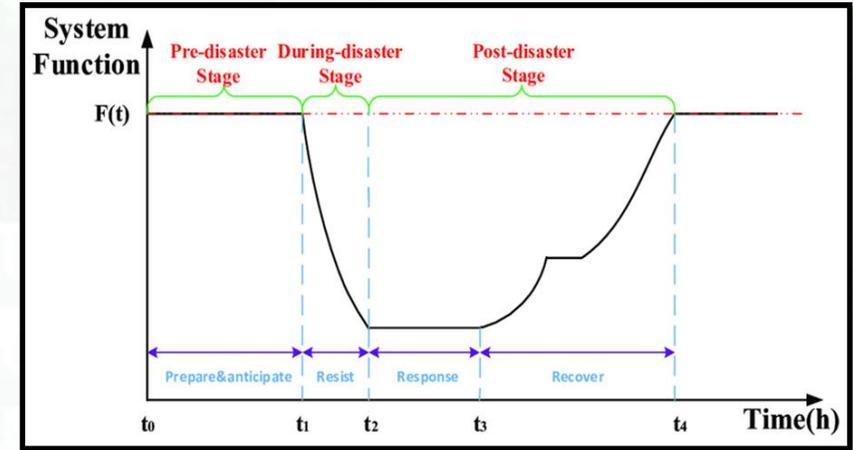


The **Emergency Response Framework** basically provide the protocols, response-period and guidance to the Electric Cooperatives (ECs) and its National and Regional Associations the direction



Typical EC's Emergency Response Organization

Resilience Concept



Source: researchgate.net

for a **coordinated emergency response** to any eventuality and/or a disaster, whether it is natural or non-natural based on the ECs' established Emergency Response Organization (ERO) and Emergency Response Plan (ERP)



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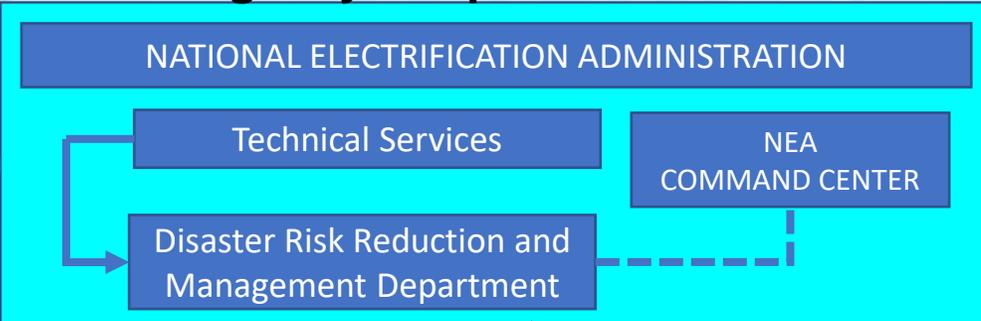
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Emergency Response Framework And Protocol

Emergency Response Framework



Emergency Response Protocol

Provide directions to the ECs in coordination with their National/Regional ECs Associations

Monitor, coordinate, assist the EC's power restoration

Coordinate with concerned NGAs and stakeholders

Coordinate with NEA and disaster affected EC/s on the additional resources of unaffected ECs from other regions for rapid power restoration

Coordinate with NEA and disaster affected EC on the additional resources of unaffected ECs within the region for rapid power restoration

Activate Emergency Response Organization (ERO) to implement Emergency Response Plan (ERP).

Coordinate with NEA, National and Regional EC's Associations, concerned NGAs, LGUs and stakeholders

NEA 7-Point Electrification Agenda





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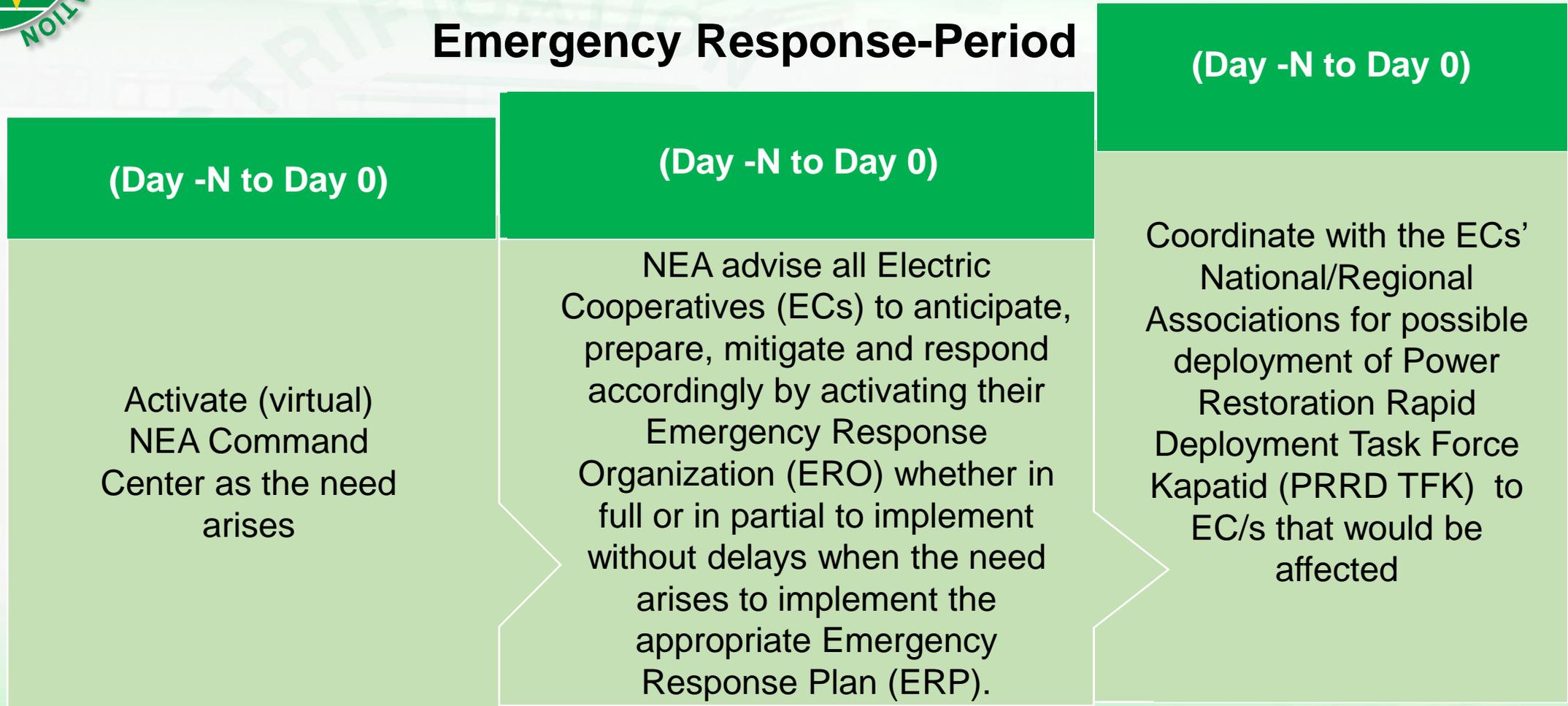
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Emergency Response Framework And Protocol



Emergency Response-Period





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Emergency Response Framework And Protocol



Emergency Response-Period

Affected EC's distribution system and facilities lightly damaged.

(Day +1 to Day+7)

NEA monitor affected EC's power situation/restoration and damage assessment

(Day +1 continuous)

Affected EC/s assess damage and restore distribution system and facilities that are not affected and temporarily shut-off (for safety reason.)

(Day +2 to Day +7)

Affected EC/s continue the repair of damaged distribution system and facilities and power restoration until 100 % power restored at household level.





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Emergency Response Framework And Protocol



Emergency Response-Period

Affected EC's distribution system and facilities moderately/severely damaged.

(Day +1 to Day +30)

NEA monitor affected EC's power situation/restoration and damage assessment

(Day +1 continuous)

Affected EC/s assess damage and restore distribution system and facilities that are not affected and temporarily shut-off for safety reason

(Day +5 to Day +30)

NEA assist EC's power restoration

Affected EC/s and PRRD TFK to continue the repair of damaged distribution system and facilities and power restoration until 100 % power restored at household level.





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Preparedness and Risk Reduction

Preparedness Best Practices	
Manpower orientation, seminar and drill exercises of Emergency Response Organization and Emergency Response Plan respectively	Capability Building
Inventory of equipment and materials	Stocking
Pre-procurement of equipment and materials	Pre-stocking
Pre-hiring of manpower services	





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Preparedness and Risk Reduction

Risk Reduction Best Practices	
Replacement of old poles	Routine Maintenance
Vegetation along the distribution line's ROW	
Underground distribution line standard	Mitigation
Additional down guy standard for new and existing distribution lines	Mitigation
Insertion of pole between existing long span distribution line	Mitigation
Re-routing or relocation of existing critical facilities out-off identified hazards	Mitigation
Facilities for construction are subjected to vulnerability and risk assessment.	Anticipation

Note: Mitigations are based on Vulnerability and Risk Assessments



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Fund Sources To Cover The Repair of Damaged Distribution System and Facilities

- ❑ Electric Cooperatives Emergency and Resiliency Fund (ECERF)
- ❑ National Disaster Risk Reduction and Management Council Fund (NDRRMCF)
- ❑ Reinvestment Fund For Sustainable CAPEX (RFSC)
- ❑ NEA's Calamity Loan Window





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Ways Forward For A Resilient Electric Cooperatives

Revisiting the NEA standards on:

- Equipment and materials
(starting with the poles as the main support structure of the distribution lines)
- Quality Control of equipment and materials
- Construction of distribution systems
- Maintenance of distribution systems
- Initial Discussion On Parametric Insurance





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End of Presentation

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