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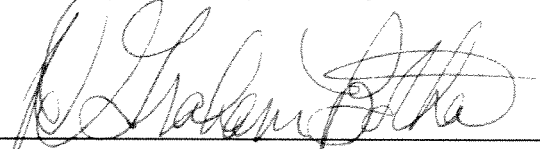
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9 *Attorney for the Guam Power Authority*

10  
11 **BEFORE THE PUBLIC UTILITIES COMMISSION**

12  
13 IN THE MATTER OF ) DOCKET NO.94-04  
14 )  
15 The Guam Power Authority's Filing )  
16 of Quarterly Compliance Reports )  
17 )  
18 \_\_\_\_\_ )  
19 )

20 **COMES NOW**, GUAM POWER AUTHORITY and hereby files GPA's Quarterly  
21 Compliance Reports and Progress Reports for the period October to December 2008. These  
22 consist of Engineering Distribution Capital Improvement Projects for the following projects:  
23 Agana Heights, Barrigada Village, Dededo Kaiser Phase II and Phase III, Agana to Tamuning  
24 and Distribution Automation; Tenjo Diesel and Water Quality Monitoring; and Harmon to  
25 Tanguisson, Macheche to GAA, Marbo to Pagat, San Vitores to Macheche, and System Stability  
26 and Relay Coordination.

27 **RESPECTFULLY SUBMITTED** this 28<sup>th</sup> day of January, 2009, by:

28  
29   
30 \_\_\_\_\_  
31 **D. GRAHAM BOTHA, ESQ.**  
Legal Counsel for the Guam Power Authority

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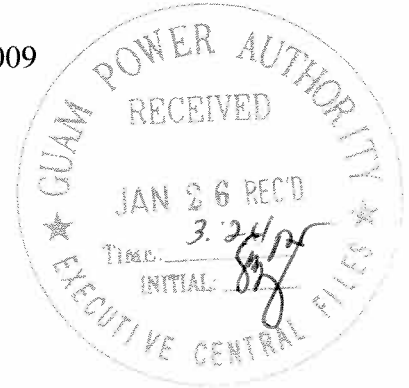
# GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN  
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

January 20, 2009

## MEMORANDUM

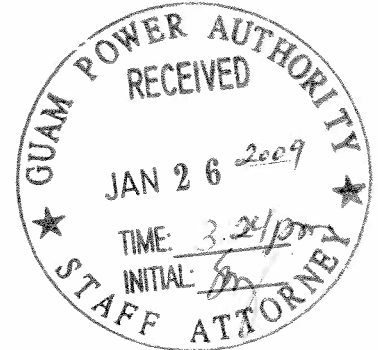
To: Staff Attorney  
Via: General Manager *[Signature]*  
From: Assistant General Manager, Operations  
Subject: Compliance Reports



Please transmit the attached Compliance Reports to the PUC. The reports are for the reporting period October – December 2008.

*[Signature]*  
A. E. BALAJADIA

Cc: CFO  
Assistant CFO  
Manager, Engineering





# GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN  
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

January 20, 2009

## MEMORANDUM

To: General Manager *[Signature]*  
Via: AGMO  
From: Manager, Engineering  
Subject: Compliance Reports

Attached for your review are the project status reports for Engineering Capital Improvement Projects for the Quarter of October - December 2008.

Should you have any questions regarding these CIP reports, please let me know.

*[Signature]*  
Melinda R. Camacho, P.E.

/attachments

Cc: CFO  
Assistant CFO



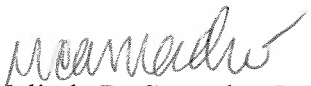
# GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN  
 P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

## Engineering Capital Improvement Projects

Submitted herewith are the October - December 2008 Progress and Compliance Reports for the following projects:

	Project Name	Engineering Section
1	Agana Heights Pole Hardening and Reconductoring	Distribution
2	Barrigada Village Upgrading and Pole Hardening	Distribution
3	Old Dededo Kaiser Pole Hardening Phase II	Distribution
4	Old Dededo Kaiser Pole Hardening Phase III	Distribution
5	Agana to Tamuning and P202 Underground Conversion	Distribution
6	Distribution Automation	Distribution
7	Tenjo Diesel Power Plant	Project Management
8	Water Quality Monitoring System	Project Management
10	Hagatna Substation 115 kV and 34.5 kV Breaker Replacement	Substation/Transmission
9	Harmon to Tanguisson 34.5 kV Underground Lines Conversion	Substation/Transmission
10	Macheche (X133) to GAA (X170) Underground Line Conversion	Substation/Transmission
11	Marbo to Pagat 34.5 kV Line	Substation/Transmission
12	San Vitores (X264) to Macheche (X130) Underground Line Conversion	Substation/Transmission
13	System Stability and Relay Coordination	Substation/Transmission

  
 Melinda R. Camacho, P.E.  
 Engineering Manager

**Engineering Division  
Project Compliance Report Summary  
October - December 2008**

Project Name	PUC Approval	Funding Source	FEMA Funds	Approved Budget	CPA Cost	Latest Eng'g Estimate	% Diff	Commitment to Date	Actual Expenditure	Balance of Approved Budget
1 Hagama Substation 115 kV and 34.5 kV Breaker Replacement	Y	Revenue		\$ 2,940,000.00		\$ 2,940,000.00	0.00%	\$ 4,929.59	\$ 4,929.59	\$ 2,935,070.41
2 Harmon to Tanguisson 34.5 kV Underground Lines Conversion	Below Threshold	FEMA Revenue	\$ 3,667,396.00	\$ 4,387,150.00	\$ 719,754.00	\$ 4,388,172.42	0.02%	\$ 3,978,331.11	\$ 3,602,399.45	\$ 784,750.55
3 Macheche (X133) to GAA (X170) Underground Line Conversion	Y	FEMA Excess Bonds	\$ 1,356,753.00	\$ 3,667,800.00	\$ 2,311,047.00	\$ 3,670,796.51	0.08%	\$ 1,055,227.95	\$ 946,741.98	\$ 2,721,058.02
4 Marbo to Pagat 34.5 kV Line	Y	Bonds		\$ 3,225,000.00		\$ 3,691,254.36	14.46%	\$ 1,62,615.59	\$ 162,615.59	\$ 3,062,384.41
5 San Vitores (X264) to Macheche (X130) Underground Line Conversion	Y	FEMA Excess Bonds	\$ 3,596,465.00	\$ 5,482,110.00	\$ 1,885,645.00	\$ 6,056,123.00	10.47%	\$ 1,985,415.44	\$ 1,810,388.65	\$ 3,671,724.35
6 System Stability and Relay Coordination	Below Threshold	Revenue		\$ 1,144,375.00		\$ 1,151,694.00	0.64%	\$ 541,169.11	\$ 541,169.11	\$ 603,205.89
7 Tenjo Diesel Power Plant	Y	Bonds		\$ 26,217,858.00		\$ 25,459,662.00	-2.89%	\$ 24,679,246.00	\$ 24,679,246.00	\$ 1,538,612.00
8 Water Quality Monitoring System	Y	Bonds		\$ 1,105,000.00		\$ 1,166,055.00	5.53%	\$ 1,110,674.00	\$ 1,110,674.00	\$ (5,674.00)
9 Agana Heights Pole Hardening and Reconductoring	Y	Bonds		\$ 1,685,000.00		\$ 5,314,685	215.41%	\$ 167,102	\$ 167,102	\$ 1,517,898.00
10 Barrigada Village Upgrading and Pole Hardening	Y	Bonds		\$ 1,463,000.00		\$ 3,334,844	127.95%	\$ 1,329	\$ 1,329	\$ 1,461,671.00
11 Old Dededo Kaiser Pole Hardening Phase II	Y	Bonds		\$ 905,000.00		\$ 3,123,163	245.10%	\$ -	\$ -	\$ 905,000.00
12 Old Dededo Kaiser Pole Hardening Phase III	Y	Bonds		\$ 1,072,000.00		\$ 2,914,856	171.91%	\$ 925	\$ 925	\$ 1,071,075.00
13 Agana to Tamuning and P202 Underground Conversion - PUC Approval 5-30-08	Y	FEMA Revenue	\$ 2,911,860.00	\$ 5,608,519.00	\$ 2,696,659.00	\$ 5,608,271	0.00%	\$ 656,332	\$ 438,992	\$ 1,071,075.00
14 Distribution Automation	Y	Bonds		\$ 1,000,000.00		\$ 1,000,000.00	0.00%	\$ 632,947	\$ 622,219	\$ 377,781.00

# **Engineering Distribution Project Status Reports**



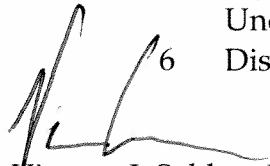
**October - December 2008**



## Engineering Distribution Capital Improvement Projects

Submitted are the October 2008 through December 2008 Progress Reports and Compliance Reports for the following projects:

	<u>Project Name</u>	<u>Engineer</u>	<u>Job Order</u>
1	Agana Heights Upgrading	VJS	100009
2	Barrigada Village Upgrade	VJS	100015
3	Dededo Kaiser Phase II	VJS	100012
4	Dededo Kaiser Phase III	VJS	100013
5	Agana to Tamuning & P202 Underground Conversion	EKC	100064
6	Distribution Automation	EKC	20189900



Vincent J. Sablan, P.E.

**Engineering Distribution  
Project Compliance Report Summary  
October - December 2008**

	Project Name	Approved Budget	Latest Eng'g Estimate	Commitment to Date	Actuals	Balance of Approved Budget
1	Agana Heights Pole Hardening and Reconductoring	\$ 1,685,000	\$ 5,314,685	\$ 167,102	\$ 167,102	\$ 1,517,898
2	Barrigada Village Upgrading and Pole Hardening	\$ 1,463,000	\$ 3,334,844	\$ 1,329	\$ 1,329	\$ 1,461,671
3	Old Dededo Kaiser Pole Hardening Phase II	\$ 905,000	\$ 3,123,163	\$ -	\$ -	\$ 905,000
4	Old Dededo Kaiser Pole Hardening Phase III	\$ 1,072,000	\$ 2,914,856	\$ 925	\$ 925	\$ 1,071,075
5	Agana to Tamuning and P202 Underground Conversion	\$ 3,235,400	\$ 5,608,271	\$ 656,332	\$ 438,992	\$ 2,796,408
6	Distribution Automation	\$ 1,000,000	\$ 1,000,000	\$ 632,947	\$ 622,219	\$ 377,781

## MONTHLY PROGRESS REPORT

**Report Date:** January 15, 2009

**Project:** Distribution Automation

**Business Unit:** 20189900

**Funding Source:** Bond Funds

**Project Description:** Installation of automated switches with remote capability on distribution feeders throughout the island.

**Design:** GPA Engineering

**Construction Contractor:** T&D Overhead

**Contract Amount:**

\$228,000.00	722-000 OP (WESCO) 3 <sup>rd</sup> Set
\$290.00	1408-000 OP (HFP)
\$755.75	1662 OP (Tech Products Inc.)
\$262,890.00	2469-001 OP (WESCO) 4 <sup>th</sup> Set
\$10,130	2443 OP (Second Wind Inc.)
\$10,379	4888 OP (Net Circuit)
\$366	5874 OP (Trans Pac)
\$232.02	5875 OP (Reaction Co.)
\$66,760	7856 OP (Trans Pac)


**Construction Activities:** Switch installations have been completed. T&D will request for Omnicrupter switches to be available as stock. This project is 100% completed. This the last and final quarterly report for this project.

**Project Schedule:**

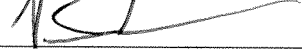
**Completed to Date:** 100% - Installation of Switches

**Progress Payment:** \$622,219 - Project Cost

**Prepared By:**

  
\_\_\_\_\_  
Edward K. Cruz

**Reviewed By:**

  
\_\_\_\_\_  
V.J. Sablan, P.E.

**Approved By:**

  
\_\_\_\_\_  
M. R. Camacho, P.E.

**Distribution Automation  
COMPLIANCE REPORT  
October 2008 - December 2008**

Description of Work/Item	Approved Budget	Latest Eng'g. Estimate	Commitment to Date	Actuals	Balance of Appr'd Budget	Remarks
GPA Purchased Equipment/Materials						
Remote Switches (3rd Set)	200,000	228,000	228,000	228,000	(28,000)	722 OP
Remote Switches (4th Set)	250,000	262,890	262,890	262,890	(12,890)	2469 OP
Pole Tags	756	756	756	756	0	1662 OP
Bandit Straps	290	290	290	290	0	1408 OP
Bandit Buckles/Tags	0	366	366	0	(366)	5874 OP
Bandit Straps/Tag Holders	0	232	232	0	(232)	5875 OP
OmniRupter Switches	0	66,760	66,760	66,760	(66,760)	7856 OP
Total Equipment/Materials	451,046	559,294	559,294	558,696	(108,248)	
Warehouse Furnished Equipment/Materials	1,454	20,000	1,833	1,833	(379)	
Total Equipment/Materials	1,454	20,000	1,833	1,833	(379)	
Construction Management						
Engineering Labor	0	5,000	3,624	3,624	(3,624)	
Garage/Travel/Overhead/Others	0	0	3,371	3,371	(3,371)	
Total Construction Management	0	5,000	6,995	6,995	(6,995)	
Construction by T&D						
Switch Installation (3rd Set)	23,750	23,750	6,207	6,207	17,543	
Switch Installation (4th Set)	23,750	23,750	4,472	4,472	19,278	
Garage/Travel/Overhead/Others	0	0	33,637	33,637	(33,637)	
Total Construction	47,500	47,500	44,316	44,316	3,184	
Switch Communication						
Communication Lines/Equip	500,000	347,678	0	0	500,000	
Transducers	0	10,130	10,130	0	(10,130)	2443 OP
Computer System	0	10,398	10,379	10,379	(10,379)	4888 OP
Total Switch Communication	500,000	368,206	20,509	10,379	479,491	
TOTAL	1,000,000	1,000,000	632,947	622,219	367,053	



**Reviewed By:**



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V.J. Sablan, P.E.

**Approved By:**



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M. R. Camacho, P.E.

**Agana Heights Pole Hardening and Reconductoring  
COMPLIANCE REPORT  
October 2008 - December 2008**

Description of Work/Item	Approved Budget	Latest Eng'g. Estimate	Commitment to Date	Actuals	Balance of Apprd Budget	Remarks
<b>Design</b>						
In-House Labor	15,000	90,000	1,067	1,067	13,933	
Garage/Travel/Overhead/Others	0	5,000	1,034	1,034	(1,034)	
Survey Services (Duenas & Associates)	150,000	165,000	165,000	165,000	(15,000)	2313/6475 OP Completed
<b>Total Design</b>	<b>165,000</b>	<b>260,000</b>	<b>167,102</b>	<b>167,102</b>	<b>(2,102)</b>	
<b>Contractor Furnished Equipment/Materials</b>						
OmniRupter Switches	15,000	0	0	0	15,000	
45' Concrete Poles	200,000	0	0	0	200,000	
35' Concrete Poles	160,000	0	0	0	160,000	
Conductors	175,000	0	0	0	175,000	
Line Hardware	80,000	0	0	0	80,000	
Transformers & Accessories	75,000	0	0	0	75,000	
Pad Mounted Transformer	0	21,825	0	0	0	
Pad Mounted Switch	0	180,000	0	0	0	
Riser Termination	0	3,600	0	0	0	
15 KV Junctions and Elbows	0	61,714	0	0	0	
15 KV Underground Cable	0	300,000	0	0	0	
600 V Underground Cable Ass.	0	349,200	0	0	0	
600 V Underground Cable	0	87,300	0	0	0	
<b>Total Equipment/Materials</b>	<b>705,000</b>	<b>1,003,639</b>	<b>0</b>	<b>0</b>	<b>705,000</b>	
<b>Construction Management</b>						
Engineering Labor	20,000	20,000	0	0	20,000	
T&D Labor	20,000	20,000	0	0	20,000	
<b>Total Construction Management</b>	<b>40,000</b>	<b>40,000</b>	<b>0</b>	<b>0</b>	<b>40,000</b>	
<b>Construction Contractor Work</b>						
Mobilization & Demobilization	40,000	0	0	0	40,000	
Survey & Stakeout/Clearing	30,000	0	0	0	30,000	
45' Concrete Pole Installation	150,000	0	0	0	150,000	
35' Concrete Poles	115,000	0	0	0	115,000	
Pole Framing	80,000	0	0	0	80,000	
Primary Line Installation	95,000	0	0	0	95,000	
Secondary Line Installation	93,000	0	0	0	93,000	
Transformer Installation	45,000	0	0	0	45,000	
Installation of Service Wires	20,000	0	0	0	20,000	
Pole Numbering	2,000	0	0	0	2,000	
Pole/Hardware & Line Removal	100,000	0	0	0	100,000	
Testing & Energization	5,000	0	0	0	5,000	
Primary Handholes	0	205,714	0	0	0	
Secondary Handholes	0	349,200	0	0	0	
Primary Risers	0	4,000	0	0	0	
Switch Pad	0	4,500	0	0	0	
Pad Mtd X-fmr Concrete Pad	0	24,250	0	0	0	
Trenching	0	259,700	0	0	0	
Installation of 2-6" PVC Sch. 40 Conduit	0	36,000	0	0	0	
Installation of 2-4" PVC Sch. 40 Conduit	0	270,000	0	0	0	
Installation of 1-4" PVC Sch. 40 Conduit	0	523,800	0	0	0	
Concrete Encasement	0	519,400	0	0	0	
Asphalt/Concrete Driveway Restoration	0	236,474	0	0	0	
Pad Mounted X-Fmr Termination	0	21,825	0	0	0	
Riser Termination	0	6,000	0	0	0	
15 kv Junction & Elbow Installation	0	46,286	0	0	0	
15 kv U/G Cable Installation	0	90,000	0	0	0	
600 V U/G Cable Installation	0	185,076	0	0	0	
600 V U/G Cable Termination	0	12,440	0	0	0	
Trenching	0	162,960	0	0	0	
Installation of 2" PVC Sch. 40 Conduit	0	325,920	0	0	0	
O/H to U/G Service Entrance Conversion & Pedestal	0	582,000	0	0	0	
Restoration	0	145,500	0	0	0	
<b>Total Construction</b>	<b>775,000</b>	<b>4,011,045</b>	<b>0</b>	<b>0</b>	<b>775,000</b>	
<b>TOTAL</b>	<b>1,685,000</b>	<b>5,314,685</b>	<b>167,102</b>	<b>167,102</b>	<b>1,517,898</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** January 15, 2009

**Project:** Barrigada Village Upgrading and Pole Hardening

**Business Unit:** 100015

**Funding Source:** Bond Funds

**Project Description:** Installation of manholes, handholes, underground conduits, underground conductors and pad mounted transformers to eliminate voltage problems and enhance system reliability.

**Design:** GPA Engineering

**Construction Contractor:**

**Contract Amount:**

**Administrative Activities:** Reprogramming of funds under consideration.  
Request for PUC approval of underground project withdrawn.

**Construction Activities:**

**Project Schedule:** Planned Start Construction:  
Planned Finish:

**Completed to Date:** Survey Base Map - Completed, Design 25%  
Completed

**Progress Payment:**

**Reviewed By:**   
\_\_\_\_\_  
V.J. Sablan, P.E.

**Approved By:**   
\_\_\_\_\_  
M. R. Camacho, P.E.

**Barrigada Village Upgrading and Pole Hardening  
COMPLIANCE REPORT  
October 2008 - December 2008**

Description of Work/Item	Approved Budget	Latest Eng'g. Estimate	Commitment to Date	Actuals	Balance of Apprd Budget	Remarks
Design						
In-House Labor	30,000	90,000	846	846	29,154	
Garage/Travel/Overhead/Others	0	65,000	483	483	(483)	
<b>Total Design</b>	<b>30,000</b>	<b>155,000</b>	<b>1,329</b>	<b>1,329</b>	<b>28,671</b>	
Contractor Furnished Equipment/Materials						
45' Concrete Poles	180,000	0	0	0	180,000	
35' Concrete Poles	202,500	0	0	0	202,500	
Conductors	75,000	0	0	0	75,000	
Line Hardware	100,000	0	0	0	100,000	
Transformers & Accessories	60,000	0	0	0	60,000	
Pad Mounted Transformer	0	12,000	0	0	0	
Pad Mounted Switch	0	180,000	0	0	0	
Riser Termination	0	3,600	0	0	0	
15 KV Junctions and Elbows	0	53,369	0	0	0	
15 KV Underground Cable	0	233,490	0	0	0	
600 V Underground Cable Ass.	0	192,000	0	0	0	
600 V Underground Cable	0	48,000	0	0	0	
<b>Total Equipment/Materials</b>	<b>617,500</b>	<b>722,459</b>	<b>0</b>	<b>0</b>	<b>617,500</b>	
Construction Management						
Engineering Labor	20,000	20,000	0	0	20,000	
T&D Labor	20,000	20,000	0	0	20,000	
<b>Total Construction Management</b>	<b>40,000</b>	<b>40,000</b>	<b>0</b>	<b>0</b>	<b>40,000</b>	
Construction Contractor Work						
Mobilization & Demobilization	35,000	0	0	0	35,000	
Survey & Stakeout/Clearing	15,000	0	0	0	15,000	
45' Concrete Poles w/ Foundation	200,000	0	0	0	200,000	
35' Concrete Poles w/Foundation	298,820	0	0	0	298,820	
Pole Framing	54,870	0	0	0	54,870	
Down Guys w/Anchors	12,760	0	0	0	12,760	
Primary Line Installation	32,500	0	0	0	32,500	
Secondary Line Installation	26,000	0	0	0	26,000	
Relocate Existing Laterals	10,000	0	0	0	10,000	
Underbuild Equip & Secondary	15,000	0	0	0	15,000	
Removals	60,000	0	0	0	60,000	
Pole Numbering	11,550	0	0	0	11,550	
Testing & Energization	4,000	0	0	0	4,000	
Primary Handholes	0	177,897	0	0	0	
Secondary Handholes	0	192,000	0	0	0	
Primary Risers	0	4,000	0	0	0	
Switch Pad	0	4,500	0	0	0	
Pad Mtd X-fmr Concrete Pad	0	13,333	0	0	0	
Trenching	0	155,585	0	0	0	
Installation of 2-6" PVC Sch. 40 Conduit	0	0	0	0	0	
Installation of 2-4" PVC Sch. 40 Conduit	0	233,490	0	0	0	
Installation of 1-4" PVC Sch. 40 Conduit	0	288,000	0	0	0	
Concrete Encasement	0	311,170	0	0	0	
Asphalt/Concrete Driveway Restoration	0	131,936	0	0	0	
Pad Mounted X-Fmr Termination	0	12,000.00	0	0	0	
Riser Termination	0	6,000.00	0	0	0	
15 kV Junction & Elbow Installation	0	40,026.86	0	0	0	
15 kV U/G Cable Installation	0	70,047.00	0	0	0	
600 V U/G Cable Installation	0	101,760.00	0	0	0	
600 V U/G Cable Termination	0	6,840.00	0	0	0	
Trenching	0	89,600.00	0	0	0	
Installation of 2" PVC Sch. 40 Conduit	0	179,200.00	0	0	0	
O/H to U/G Service Entrance Conversion & Pedestal	0	320,000.00	0	0	0	
Restoration	0	80,000.00	0	0	0	
<b>Total Construction</b>	<b>775,500</b>	<b>2,417,385</b>	<b>0</b>	<b>0</b>	<b>775,500</b>	
<b>TOTAL</b>	<b>1,463,000</b>	<b>3,334,844</b>	<b>1,329</b>	<b>1,329</b>	<b>1,461,671</b>	

2,417,385  
3,139,844

844

## MONTHLY PROGRESS REPORT

**Report Date:** January 15, 2009

**Project:** Old Dededo Kaiser Pole Hardening Phase II

**Business Unit:** 100012

**Funding Source:** Bond Funds

**Project Description:** Installation of concrete power poles with concrete foundations. Relocation and upgrade of poles to rights-of-way along traveled roads. Reconductoring and rephasing of primary lines. Upgrade of secondary system to eliminate voltage problems and enhance system reliability.

**Design:** GPA Engineering

**Construction Contractor:**

**Contract Amount:**

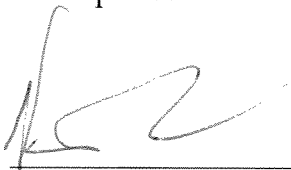
**Administrative Activities:** Reprogramming of funds under consideration. Request for PUC approval of underground project withdrawn.

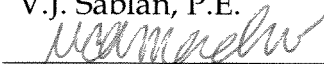
**Construction Activities:**

**Project Schedule:** Planned Start Construction:  
Planned Finish:

**Completed to Date:** Survey Base Map - Completed, Design 30% Completed

**Progress Payment:**

**Reviewed By:**   
\_\_\_\_\_  
V.J. Sablan, P.E.

**Approved By:**   
\_\_\_\_\_  
M. R. Camacho, P.E.

**Old Dededo Kaiser Pole Hardening Phase II  
COMPLIANCE REPORT  
October 2008 - December 2008**

Description of Work/Item	Approved Budget	Latest Eng'g. Estimate	Commitment to Date	Actuals	Balance of Appr'd Budget	Remarks
<b>Design</b>						
In-House Labor	10,000	90,000	0	0	10,000	
Garage/Travel/Overhead/Others	0	65,000	0	0	0	
<b>Total Design</b>	<b>10,000</b>	<b>155,000</b>	<b>0</b>	<b>0</b>	<b>10,000</b>	
<b>Equipment/Materials</b>						
45' Concrete Poles	134,400	0	0	0	134,400	
35' Concrete Poles	37,800	0	0	0	37,800	
Conductors	44,680	0	0	0	44,680	
Line Hardware	100,480	0	0	0	100,480	
Transformers & Accessories	57,000	0	0	0	57,000	
Pad Mounted Transformer	0	13,463	0	0	0	
Pad Mounted Switch	0	160,000	0	0	0	
Riser Termination	0	1,800	0	0	0	
15 KV Junctions and Elbows	0	33,600	0	0	0	
15 KV Underground Cable	0	189,000	0	0	0	
600 V Underground Cable Ass.	0	215,400	0	0	0	
600 V Underground Cable	0	53,850	0	0	0	
<b>Total Equipment/Materials</b>	<b>374,360</b>	<b>667,113</b>	<b>0</b>	<b>0</b>	<b>374,360</b>	
<b>Construction Management</b>						
Engineering Labor	12,000	12,000	0	0	12,000	
T&D Labor	10,000	10,000	0	0	10,000	
<b>Total Construction Management</b>	<b>22,000</b>	<b>22,000</b>	<b>0</b>	<b>0</b>	<b>22,000</b>	
<b>Construction</b>						
Mobilization & Demobilization	35,000	0	0	0	35,000	
Survey & Stakeout/Clearing	15,000	0	0	0	15,000	
45' Concrete Poles w/ Foundation	179,200	0	0	0	179,200	
35' Concrete Poles w/Foundation	67,200	0	0	0	67,200	
Pole Framing	33,600	0	0	0	33,600	
Down Guys w/Anchors	13,200	0	0	0	13,200	
Primary Line Installation	32,760	0	0	0	32,760	
Secondary Line Installation	26,520	0	0	0	26,520	
Relocate Existing Laterals	10,000	0	0	0	10,000	
Underbuild Equip & Secondary	15,000	0	0	0	15,000	
Removals	55,400	0	0	0	55,400	
Pole Numbering	11,760	0	0	0	11,760	
Testing & Energization	4,000	0	0	0	4,000	
Primary Handholes	0	112,000	0	0	0	
Secondary Handholes	0	215,400	0	0	0	
Primary Risers	0	2,000	0	0	0	
Switch Pad	0	4,000	0	0	0	
Pad Mtd X-fmr Concrete Pad	0	14,958	0	0	0	
Trenching	0	160,930	0	0	0	
Installation of 2-6" PVC Sch. 40 Conduit	0	50,400	0	0	0	
Installation of 2-4" PVC Sch. 40 Conduit	0	147,000	0	0	0	
Installation of 1-4" PVC Sch. 40 Conduit	0	323,100	0	0	0	
Concrete Encasement	0	321,860	0	0	0	
Asphalt/Concrete Driveway Restoration	0	145,369	0	0	0	
Pad Mounted X-Fmr Termination	0	13,463	0	0	0	
Riser Termination	0	3,000	0	0	0	
15 kV Junction & Elbow Installation	0	25,200	0	0	0	
15 kV U/G Cable Installation	0	56,700	0	0	0	
600 V U/G Cable Installation	0	114,162	0	0	0	
600 V U/G Cable Termination	0	7,674	0	0	0	
Trenching	0	37,695	0	0	0	
Installation of 2" PVC Sch. 40 Conduit	0	75,390	0	0	0	
O/H to U/G Service Entrance Conversion & Pedestal	0	359,000	0	0	0	
Restoration	0	89,750	0	0	0	
<b>Total Construction</b>	<b>498,640</b>	<b>2,279,050</b>	<b>0</b>	<b>0</b>	<b>498,640</b>	
<b>TOTAL</b>	<b>905,000</b>	<b>3,123,163</b>	<b>0</b>	<b>0</b>	<b>905,000</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** January 15, 2009

**Project:** Old Dededo Kaiser Pole Hardening Phase III

**Business Unit:** 100013

**Funding Source:** Bond Funds

**Project Description:** Installation of concrete power poles with concrete foundations. Relocation and upgrade of poles to rights-of-way along traveled roads. Reconductoring and rephasing of primary lines. Upgrade of secondary system to eliminate voltage problems and enhance system reliability.

**Design:** GPA Engineering

**Construction Contractor:**

**Contract Amount:**


**Administrative Activities:** Reprogramming of funds under consideration. Request for PUC approval of underground project withdrawn.

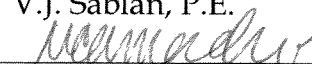
**Construction Activities:**

**Project Schedule:** Planned Start Construction:  
Planned Finish:

**Completed to Date:** Survey Base Map - Completed, Design 65% Completed

**Progress Payment:**

**Reviewed By:**   
\_\_\_\_\_  
V.J. Sablan, P.E.

**Approved By:**   
\_\_\_\_\_  
M. R. Camacho, P.E.

**Old Dededo Kaiser Pole Hardening Phase III  
COMPLIANCE REPORT  
October 2008 - December 2008**

Description of Work/Item	Approved Budget	Latest Eng'g. Estimate	Commitment to Date	Actuals	Balance of Appr'd Budget	Remarks
<b>Design</b>						
In-House Labor	10,000	90,000	334	334	9,666	
Garage/Travel/Overhead/Others	0	65,000	591	591	(591)	
<b>Total Design</b>	<b>10,000</b>	<b>155,000</b>	<b>925</b>	<b>925</b>	<b>9,075</b>	
<b>Equipment/Materials</b>						
45' Concrete Poles	132,000	0	0	0	132,000	
35' Concrete Poles	81,000	0	0	0	81,000	
Conductors	43,720	0	0	0	43,720	
Line Hardware	116,600	0	0	0	116,600	
Transformers & Accessories	70,000	0	0	0	70,000	
Pad Mounted Transformer	0	11,288	0	0	0	
Pad Mounted Switch	0	180,000	0	0	0	
Riser Termination	0	2,700	0	0	0	
15 KV Junctions and Elbows	0	37,371	0	0	0	
15 KV Underground Cable	0	216,000	0	0	0	
600 V Underground Cable Ass.	0	180,600	0	0	0	
600 V Underground Cable	0	45,150	0	0	0	
<b>Total Equipment/Materials</b>	<b>443,320</b>	<b>673,109</b>	<b>0</b>	<b>0</b>	<b>443,320</b>	
<b>Construction Management</b>						
Engineering Labor	12,000	12,000	0	0	12,000	
T&D Labor	10,000	10,000	0	0	10,000	
<b>Total Construction Management</b>	<b>22,000</b>	<b>22,000</b>	<b>0</b>	<b>0</b>	<b>22,000</b>	
<b>Construction</b>						
Mobilization & Demobilization	35,000	0	0	0	35,000	
Survey & Stakeout/Clearing	15,000	0	0	0	15,000	
45' Concrete Poles w/ Foundation	176,000	0	0	0	176,000	
35' Concrete Poles w/Foundation	144,000	0	0	0	144,000	
Pole Framing	54,870	0	0	0	54,870	
Down Guys w/Anchors	12,760	0	0	0	12,760	
Primary Line Installation	32,500	0	0	0	32,500	
Secondary Line Installation	26,000	0	0	0	26,000	
Relocate Existing Laterals	10,000	0	0	0	10,000	
Underbuild Equip & Secondary	15,000	0	0	0	15,000	
Removals	60,000	0	0	0	60,000	
Pole Numbering	11,550	0	0	0	11,550	
Testing & Energization	4,000	0	0	0	4,000	
Primary Handholes	0	124,571	0	0	0	
Secondary Handholes	0	180,600	0	0	0	
Primary Risers	0	3,000	0	0	0	
Switch Pad	0	4,500	0	0	0	
Pad Mtd X-fmr Concrete Pad	0	12,542	0	0	0	
Trenching	0	145,670	0	0	0	
Installation of 2-6" PVC Sch. 40 Conduit	0	63,000	0	0	0	
Installation of 2-4" PVC Sch. 40 Conduit	0	163,500	0	0	0	
Installation of 1-4" PVC Sch. 40 Conduit	0	270,900	0	0	0	
Concrete Encasement	0	291,340	0	0	0	
Asphalt/Concrete Driveway Restoration	0	123,291	0	0	0	
Pad Mounted X-Fmr Termination	0	11,288	0	0	0	
Riser Termination	0	4,500	0	0	0	
15 kV Junction & Elbow Installation	0	28,029	0	0	0	
15 kV U/G Cable Installation	0	64,800	0	0	0	
600 V U/G Cable Installation	0	95,718	0	0	0	
600 V U/G Cable Termination	0	6,434	0	0	0	
Trenching	0	31,605	0	0	0	
Installation of 2" PVC Sch. 40 Conduit	0	63,210	0	0	0	
O/H to U/G Service Entrance Conversion & Pedestal	0	301,000	0	0	0	
Restoration	0	75,250	0	0	0	
<b>Total Construction</b>	<b>596,680</b>	<b>2,064,747</b>	<b>0</b>	<b>0</b>	<b>596,680</b>	
<b>TOTAL</b>	<b>1,072,000</b>	<b>2,914,856</b>	<b>925</b>	<b>925</b>	<b>1,071,075</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** January 15, 2009

**Project:** Agana X042 to Tamuning X209 and P202 Underground Line Conversion

**Business Unit:** 100064

**Funding Source:** FEMA and Revenue Funds

**Project Description:** Underground conversion of the existing overhead 34.5 kV transmission line and 13.8 kV distribution line along Route 1 from Uttams store in Agana to Bank Pacific in Tamuning. This project involves trenching, installation of a conduit system encased in concrete, conversion of customers as well as installation of underground cables and terminations.

**Design:** N.C. Macario and Associates

**Construction Contractor:**

**Contract Amount:** \$651,879.00                      9483 OP (N.C. Macario)

**Construction Activities:**

**Project Schedule:** The Programmatic Agreement between FEMA and Guam HMGP to resolve archaeological issues was signed by GPA on February 27, 2007 and finalized by FEMA on April 12, 2007. FEMA approval for the revised BCA was issued June 12, 2007. FEMA notified GPA on August 27, 2007 that the project completion has been extended to November 24, 2008. The design and archaeological subsurface testing is 100% completed. Bid opening was July 15, 2008 with the Coretech International being the lowest bidder. Due to the high bid costs, GPA submitted a request the GAR to re-scope the project routing on August 25, 2008.


On October 20, 2008, a notice to withdraw from the project was submitted to the GAR based on their recommendation that re-scoping of the project is not a viable option.

**Completed to Date:** 100% - Design, 100% - Archaeological Subsurface Testing


**Progress Payment:**

\$ 434,539.03 - Design

**Prepared By:**

  
\_\_\_\_\_  
Edward K. Cruz

**Reviewed By:**

  
\_\_\_\_\_  
V.J. Sablan, P.E.

**Approved By:**

  
\_\_\_\_\_  
M. R. Camacho, P.E.

**Agana to Tamuning & P202 Underground Conversion**  
**COMPLIANCE REPORT**  
**October 2008 - December 2008**

Description of Work/Item	Approved Budget	Latest Eng'g. Estimate	Commitment to Date	Actuals	Balance of Appr'd Budget	Remarks
<b>Design</b>						
A/E Design	134,704	577,812	651,879	434,539	(517,175)	<i>9483 OP</i>
In-House Labor	58,882	58,882	1,240	1,240	57,642	
Garage/Travel/Overhead/Others	0	0	3,212	3,212	(3,212)	
<b>Total Design</b>	<b>193,586</b>	<b>636,694</b>	<b>656,332</b>	<b>438,992</b>	<b>(462,746)</b>	
<b>Construction Management</b>						
Engineering Labor	134,704	134,704	0	0	134,704	
T&D Labor	134,704	134,704	0	0	134,704	
Garage/Travel/Overhead/Others	0	0	0	0	0	
<b>Total Construction Management</b>	<b>269,408</b>	<b>269,408</b>	<b>0</b>	<b>0</b>	<b>269,408</b>	
<b>Archaeological Services</b>						
Monitoring by Archaeologist	0	193,552	0	0	0	
Preparation of Research	0	2,147	0	0	0	
Laboratory Analysis	0	6,778	0	0	0	
Report Production	0	3,221	0	0	0	
Hand Excavation	0	2,750	0	0	0	
Removal of Burials	0	2,750	0	0	0	
Analysis of Skeleton	0	3,400	0	0	0	
<b>Total Archaeological Services</b>	<b>0</b>	<b>214,599</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Construction Contractor Work</b>						
Mobilization/Demobilization	134,704	101,896	0	0	134,704	
Construction Site Survey	30,000	30,000	0	0	30,000	
34.5 kV Manhole (8X8X6)	350,000	85,500	0	0	350,000	
13.8 kV Manhole (8X8X6)	320,000	266,000	0	0	320,000	
13.8 kV Handhole (5X4X5)	60,000	119,000	0	0	60,000	
Concrete Pole with Foundation	12,000	9,000	0	0	12,000	
Conduits, Switches and Pad Mounted X-fmrs	1,155,000	2,696,218	0	0	1,155,000	
Road Crossings	58,490	90,000	0	0	58,490	
Sidewalk Restoration	91,000	91,000	0	0	91,000	
600 MCM Cable Installation	39,000	52,000	0	0	39,000	
500 MCM Cable Installation	19,500	26,000	0	0	19,500	
Underground Cable Splicing	4,125	21,300	0	0	4,125	
Riser - 34.5 kV	10,000	5,000	0	0	10,000	
Riser - 13.8 kV	52,500	10,000	0	0	52,500	
Removal of Overhead System and Cust. Conversion	65,587	218,587	0	0	65,587	
600 MCM Cable Supply	208,000	211,590	0	0	208,000	
500 MCM Cable Supply	104,000	377,949	0	0	104,000	
Concrete Pole - 55'	20,000	15,000	0	0	20,000	
Splicing, 34.5 kV Supply	14,000	9,450	0	0	14,000	
Splicing, 13.8 kV Supply	24,500	52,080	0	0	24,500	
<b>Total Construction</b>	<b>2,772,406</b>	<b>4,487,570</b>	<b>0</b>	<b>0</b>	<b>2,772,406</b>	
<b>Subtotal</b>	<b>3,235,400</b>	<b>5,608,271</b>	<b>656,332</b>	<b>438,992</b>	<b>2,579,068</b>	
<b>FEMA Reimbursement</b>	<b>(2,911,860)</b>	<b>(2,911,860)</b>	<b>0</b>	<b>0</b>	<b>(2,911,860)</b>	
<b>TOTAL</b>	<b>323,540</b>	<b>2,696,411</b>	<b>656,332</b>	<b>438,992</b>	<b>(332,792)</b>	

# **Engineering Project Management Project Status Reports**



**October - December 2008**



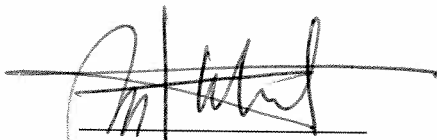
# GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUAHAN  
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

## Engineering Project Management Capital Improvement Projects

Submitted herewith is the **December 2008** Quarterly Compliance Reports for the following projects:

<u>Project Name</u>	<u>Project Engineer</u>
1. Tenjo Diesel Power Plant	SCB
2. Water Quality Monitoring System	SCB



**Perry B. Taladoc**  
Engineer Supervisor

**Engineering Project Management  
Project Compliance Report Summary  
October - December 2008**

	Project Name	Job Order No.	Approved Budget	Latest Eng'g Estimate	Commitment to Date	Balance of Approved Budget
1	Tenjo Diesel Power Plant	E231992	\$ 26,217,858.00	\$ 25,459,662.00	\$ 24,679,246.00	\$ 1,538,612.00
2	Water Quality Monitoring System	E281099	\$ 1,105,000.00	\$ 1,110,674.00	\$ 1,110,674.00	\$ (5,674.00)



# GUAM POWER AUTHORITY

P.O. BOX 2977 AGANA, GUAM 96910

**QUARTERLY COMPLIANCE REPORT**  
THREE MONTHS ENDING:

December 31, 2008

**PUBLIC UTILITY COMMISSION**  
**DOCKET NO.: 92-010**

Page 1 of 2

TITLE OF PROJECT: <b>TENJO DIESEL POWER PLANT</b>	LOCATION: <b>TENJO, GUAM</b>	GPA WORK ORDER NO: <b>E-2319-92</b>
DESCRIPTION OF PROJECT:		
<p>PHASE I - Install four 4.88 MW diesel engine generators in a concrete building at Tenjo adjacent to the Shell Oil Provide two 30,000 gallon fuel tanks, three 85' exhaust stack, and onsite drainage as required by GEPA. Provide additional switchgear and install new 30 MVA transformer and high voltage line for connection into the Island Power Grid.</p> <p>PHASE II - Relocation of two 4.88 MW diesel generators and its auxilliary equipment from old GMH Power Plant to Tenjo. Provide new smoke stack, additional 30 MVA transformer for the substation and extend 34.5kV Transmission Line along Route 2A to Route 1.</p>		
<b>SUMMARY OF ACTIVITIES</b>	STATUS	ESTIMATED AWARD/SUBMITTAL/ START DATE
<b>PHASE I</b>		
A. PERMITTING (PSD/EIA/PERMIT TO CONSTRUCTION & OPERATE)	COMPLETED	
B. DESIGN, ENGINEERING AND CONSTRUCTION MANAGEMENT	COMPLETED	
C. CONSTRUCTION AND MAJOR EQUIPMENT PROCUREMENT	COMPLETED	
D. STARTUP, TESTING, COMMISSIONING OF MAJOR PLANTS	COMPLETED	
<b>PHASE II</b>		
A. PERMITTING (PSD/EIA/PERMIT TO CONSTRUCTION & OPERATE)		
PREVENTION OF SIGNIFICANT DETERIORATION (PSD)	COMPLETED	JAN. 1999
GEPA PERMIT TO CONSTRUCT	COMPLETED	FEB. 1999
GEPA PERMIT TO OPERATE	COMPLETED	JAN. 2000
EASEMENT FOR ROUTE 2A	PENDING	To be determined
B. DESIGN, ENGINEERING AND CONSTRUCTION MANAGEMENT		
DESIGN OF UNITS 5 & 6 INSTALLATION	COMPLETED	JAN. 8, 1999
DESIGN OF TRANSMISSION LINE ALONG ROUTE 2A	COMPLETED	AUG. 15, 1998
C. CONSTRUCTION AND MAJOR EQUIPMENT PROCUREMENT		
DEMOLITION OF OLD GMH POWER PLANT RELOCATE BLDG. TO T&D	COMPLETED	JUNE, 1999
DELIVERY OF 30MVA TRANSFORMER	DELETED	
INSTALLATION OF CEM SYSTEM	COMPLETED	JULY, 1999
CONSTRUCTION OF PHASE II	COMPLETED	JULY, 1999 APRIL 15, 2000
D. STARTUP, TESTING, COMMISSIONING OF MAJOR PLANTS		
START-UP & COMMISSIONING OF UNIT NO. 5	COMPLETED	JUNE 7, 2000
START-UP & COMMISSIONING OF UNIT NO. 6	COMPLETED	MAY 2001

COST CATEGORY	APPROVED BUDGET	LATEST ENGINEERING ESTIMATE	COMMITMENTS TO DATE	BALANCE OF APPROVED BUDGET BASED FROM ENGINEERING ESTIMATE	BALANCE OF APPROVED BUDGET BASED FROM COMMITMENTS TO DATE	REMARKS (STATUS OF ACTIVITY)
<b>PHASE I</b>						
<b>TURNKEY CONSTRUCTION &amp; LAND ACQUISITION BUDGET</b>	<b>10,674,000</b>					
1. DIESEL ENGINE GENERATOR SET		7,893,100	7,893,100			COMPLETED
2. LAND ACQUISITION		1,013,394	1,013,394			COMPLETED
3. 30 MVA TRANSFORMER		352,000	352,000			COMPLETED
4. GAA LAND LEASE		309,000	308,584			COMPLETED
5. TEMPORARY LOCATION OF UNITS	3,239,077	3,208,227	3,208,227			COMPLETED
6. SITE CLEARING & GRADING AT TENJO		784,000	784,000			COMPLETED
7. CONSTRUCTION OF TENJO POWER PLANT	6,869,640	7,101,500	7,101,500			COMPLETED
8. CHANGE ORDERS		121,446	121,446			COMPLETED
<b>SUBTOTAL FOR PHASE I</b>	<b>20,782,717</b>	<b>20,782,667</b>	<b>20,782,251</b>			
<b>PHASE II</b>						
1. INSTALLATION OF CEM SYSTEM	400,000	389,607	389,607			COMPLETED
2. 30 MVA TRANSFORMER ACQUISITION	490,000					COMPLETED
<b>3. INSTALLATION OF 34.5KV TRANSMISSION LINE ALONG ROUTE 2A</b>	<b>790,000</b>	<b>780,000</b>				<b>ON-HOLD</b>
4. INSTALLATION OF TWO 4.88 MW ENGINE-GENERATORS AND AUXILIARY EQPT.	1,525,141	1,115,000	1,115,000			COMPLETED
5. BUILDING PERMIT		9,230	9,230			COMPLETED
6. CHANGE ORDER						
1. PROVIDE MISSING PARTS AND REPAIR OF OFCI EQUIPMENT		60,585	60,585			COMPLETED
2. PAINTING OF SMOKE STACK AND EXISTING PIPING. INSTALLATION OF SUMP PUMPS FOR SWITCHGEAR AREAS.		106,628	106,628			COMPLETED
<b>SUBTOTAL FOR PHASE II</b>	<b>3,205,141</b>	<b>2,461,050</b>	<b>1,681,050</b>			
<b>TOTAL CONSTRUCTION COST</b>	<b>23,987,858</b>	<b>23,243,717</b>	<b>22,463,301</b>			
PERMITTING	410,000	404,782	404,782			COMPLETED
CONSTRUCTION ADMINISTRATION	950,000	942,163	942,163			COST FOR BOTH PHASE I AND PHASE II PROJECTS
A/E DESIGN FEE/INSPECTION	870,000	869,000	869,000			COMMITMENTS AS OF 12/31/08
<b>TOTAL FOR THIS PROJECT</b>	<b>26,217,858</b>	<b>25,459,662</b>	<b>24,679,246</b>	<b>758,196</b>		COMPLETED
						BASED ON LATEST ENG'G ESTIMATE

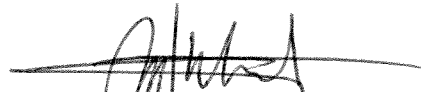
**REMARKS:**

INSTALLATION OF 34.5KV TRANSMISSION LINE ALONG ROUTE 2A IS ON HOLD, PENDING FINAL DECISION FROM ENGINEERING SUBSTATION ON FINAL DESIGN

PREPARED BY:

  
**STEVEN C. BAUTISTA**  
 PROJECT ENGINEER

SUBMITTED BY:

  
**PERRY B. TALADOC**  
 ENGINEER SUPERVISOR

APPROVED BY:

  
**MELINDA R. CAMACHO, P.E.**  
 MANAGER OF ENGINEERING



# GUAM POWER AUTHORITY

P. O. BOX 2977, AGANA, GUAM 96910

**QUARTERLY COMPLIANCE REPORT**  
**THREE MONTHS ENDING:**

**December 31, 2008**

**PUBLIC UTILITY COMMISSION**  
**DOCKET NO.:**

TITLE OF PROJECT: <b>WATER QUALITY MONITORING SYSTEM UPGRADE</b>	LOCATION: <b>CABRAS ISLAND, GUAM</b>	GPA WORK ORDER NO: <b>2810-99</b>			
DESCRIPTION OF PROJECT: The work comprises upgrade of the existing makeup water treatment system for Cabras 1&2 by providing a Reverse Osmosis-Electrodeionization System (RO-EDI). It also includes the upgrade of the water quality monitoring system by providing new cycle chemical feed system, water chemistry analyzer panel, and sample cooler racks.					
<b>SUMMARY OF ACTIVITIES</b>		STATUS	ESTIMATED AWARD START DATE	EST. COMPL. DELIVERY DATE	
<b>A. PERMITTING</b>					
CONSTRUCTION PERMIT FOR RO-EDI SYSTEM		N/A	N/A		
CONSTRUCTION PERMIT FOR WATER QUALITY MONITORING SYSTEM		N/A	N/A		
<b>B. DESIGN, ENGINEERING AND CONSTRUCTION MANAGEMENT</b>					
EVALUATION		COMPLETED	COMPLETED		
REQUEST FOR PROPOSAL FOR RO-EDI SYSTEM		N/A	N/A		
PREPARE DRAWINGS AND SPECIFICATION FOR WATER QUALITY MONITORING		COMPLETED	COMPLETED		
<b>C. CONSTRUCTION SCHEDULES</b>					
AWARD CONTRACT FOR SUPPLY OF RO-EDI SYSTEM		N/A	N/A		
START-UP AND COMMISSION RO-EDI SYSTEM		N/A	N/A		
BID OPENING FOR WATER QUALITY MONITORING SYSTEM		N/A	N/A		
AWARD CONTRACT FOR WATER QUALITY MONITORING SYSTEM		N/A	N/A		
START UP AND COMMISSION WATER QUALITY MONITORING SYSTEM		COMPLETED	N/A		
<b>BUDGET VERSUS EXPENDITURES</b>					
<b>COST CATEGORY</b>	APPROVED BUDGET	LATEST ENG. ESTIMATE	COMMITMENTS TO DATE	BALANCE OF APPR'D BUDGET	REMARKS (STATUS OF ACTIVITY)
<b>DESIGN AND CONSTRUCTION</b>	<b>850,000</b>				
1. EVALUATION		260,155	260,155		Completed by Edison
2. ENGINEERING DESIGN		207,150	207,150		Completed by EMCE
3. CONSTRUCTION/INSTALLATION					
Provide RO-EDI System					
Installation of Chemical Feed System		231,000	231,000		Completed by TEMES on 3/15/05
Installation of Sample Rack/ Lab Instrumentation		372,750	372,750		Completed by TEMES on 6/08/05
<b>TOTAL DESIGN &amp; CONSTRUCTION</b>	<b>850,000</b>	<b>1,071,055</b>	<b>1,071,055</b>		
GPA CONSTRUCTION ADMINISTRATION PERMIT/CONSULTANT A/E CONSTRUCTION MANAGEMENT		39,619	39,619		COMMITMENTS AS OF 12/31/08
<b>TOTAL CONSTRUCTION ADMIN.</b>		<b>39,619</b>	<b>39,619</b>		
<b>GRAND TOTAL</b>	<b>850,000</b>	<b>1,110,674</b>	<b>1,110,674</b>	<b>(260,674)</b>	BASED ON COMMITMENTS TO DATE
REMARKS: 1. The Authority has requested the PUC for a 30% Budget increase (\$255,000) on Sept. 8, 2005, for the Sample Rack/Lab Instrumentation. 2. Should the Authority decide to proceed with the installation of the RO/EDI, GPA will request for an additional budget increase from the Commission. 3. Cabras 1&2 Power Plant PMC, TEMES completed evaluation of the system, and has provided recommendations to the Authority, which is pending review and approval by the Authority.					
PREPARED BY:  STEVEN C. BAUTISTA PROJECT ENGINEER		SUBMITTED BY:  PERRY B. TALADOC ENGINEER SUPERVISOR		APPROVED BY:  MELINDA R. CAMACHO, P.E. MANAGER OF ENGINEERING	

# **Engineering Substation / Transmission Project Status Reports**



**October - December 2008**



# GUAM POWER AUTHORITY

ATURIDÅT ILEKTRESEDÅT GUAHAN  
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

## Engineering Substation/Transmission Capital Improvement Projects

Submitted herewith are the October – December 2008 Progress and Compliance Reports for the following projects:

<u>Project Name</u>	<u>Job Order No.</u>	<u>Engineer</u>
1. Hagatna Substation 115 kV and 34.5 kV Breaker Replacement	100098	J. L. Quinto
2. Harmon to Tanguisson 34.5 kV Underground Lines Conversion	100059	J. U. Pabunan
3. Macheche (X133) to GAA (X170) Underground Line Conversion	100061	W. T. Chen
4. Marbo to Pagat 34.5 kV Line	100025	J. U. Pabunan
5. San Vitores (X264) to Macheche (X130) Underground Line Conversion	100057	I. B. Loyola
6. System Stability and Relay Coordination	100049	I. B. Loyola

Joven G. Acosta, P.E.

**Engineering Substation/Transmission  
Project Compliance Report Summary  
October - December 2008**

	Project Name	Job Order No.	Approved Budget	Latest Eng'g Estimate	Commitment to Date	Actual Expenditure	Balance of Approved Budget
1	Hagatna Substation 115 kV and 34.5 kV Breaker Replacement	100098	\$ 2,940,000.00	\$ 2,940,000.00	\$ 4,929.59	\$ 4,929.59	\$ 2,935,070.41
2	Harmon to Tanguisson 34.5 kV Underground Lines Conversion	100059	\$ 4,387,150.00	\$ 4,388,172.42	\$ 3,978,331.11	\$ 3,602,399.45	\$ 784,750.55
3	Macheche (X133) to GAA (X170) Underground Line Conversion	100061	\$ 3,670,797.00	\$ 3,670,796.51	\$ 1,055,227.95	\$ 946,741.98	\$ 2,724,055.02
4	Marbo to Pagat 34.5 kV Line	100025	\$ 3,225,000.00	\$ 3,691,254.36	\$ 162,615.59	\$ 162,615.59	\$ 3,062,384.41
5	San Vitores (X264) to Macheche (X130) Underground Line Conversion	100057	\$ 6,058,574.00	\$ 6,056,123.00	\$ 1,985,415.44	\$ 1,810,388.65	\$ 4,248,185.35
6	System Stability and Relay Coordination	100049	\$ 1,144,375.00	\$ 1,159,348.30	\$ 541,471.92	\$ 541,471.92	\$ 602,903.08

## MONTHLY PROGRESS REPORT

**Report Date:** 01/15/09

**Project:** Hagatna Substation 115 kV and 34.5 kV Breaker Replacement

**Business Unit:** 100098

**Funding Source:** Revenue Funds

**Project Description:** The project will replace existing outdoor 115 kV and 34.5 kV breakers and disconnect switches with new equipment at the Agana Substation. The existing 115 kV breakers and 34.5 kV breakers are vintage 1974 and as early as 1950 respectively. Potential transformers and associated bus fittings will also be replaced.

**Contract Amount:** In-House Design - Currently in progress

**Activities:**

- Design was begun in November 2008

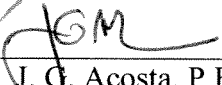
**Project Schedule:**

Planned Start Design:	November 20, 2008
Actual Start Design:	November 20, 2008
Planned Finish Design:	June 21, 2009
Actual Finish Design:	
Planned Start Construction:	September 20, 2009
Actual Start Construction:	
Planned Finish Construction:	September 2011
Actual Finish Construction:	

**Completed to Date:** 5% Design In-Progress

**Progress Payments:**

**Prepared By:**   
Johnny L. Quinto

**Reviewed By:**   
J. G. Acosta, P.E.

**Approved By:**   
M. R. Camacho, P.E.

**HAGATNA SUBSTATION 115 KV AND 34.5 KV BREAKER REPLACEMENT**  
**Quarterly Compliance Report**  
**October - December 2008**

		<b>APPROVED BUDGET</b>	<b>LATEST ENG. ESTIMATE</b>	<b>COMMITMENT TO DATE</b>	<b>ACTUAL EXPENSED</b>	<b>BALANCE OF APPR'D BUDGET</b>	<b>REMARKS (STATUS OF ACTIVITY)</b>
	<b>DESIGN</b>						
1	A/E Design Development	\$236,000.00	\$236,000.00	\$4,929.59	\$4,929.59	\$231,070.41	
2	Engineering Design Management	\$76,000.00	\$76,000.00	\$0.00	\$0.00	\$76,000.00	
3	Advertise/Bid/Award	\$5,000.00	\$5,000.00	\$0.00	\$0.00	\$5,000.00	
	<b>TOTAL FOR DESIGN</b>	<b>\$317,000.00</b>	<b>\$317,000.00</b>	<b>\$4,929.59</b>	<b>\$4,929.59</b>	<b>\$312,070.41</b>	
	<b>OWNER-FURNISHED EQUIPMENT</b>						
4	Circuit Breakers 115 kV	\$380,000.00	\$380,000.00	\$0.00	\$0.00	\$380,000.00	
5	Circuit Breakers 34.5 kV	\$910,000.00	\$910,000.00	\$0.00	\$0.00	\$910,000.00	
6	Disconnect Switches 115 kV - Motor	\$204,000.00	\$204,000.00	\$0.00	\$0.00	\$204,000.00	
7	Disconnect Switches 34.5 kV - Manual	\$180,000.00	\$180,000.00	\$0.00	\$0.00	\$180,000.00	
8	Potential Transformers 115 kV	\$27,000.00	\$27,000.00	\$0.00	\$0.00	\$27,000.00	
9	Potential Transformers 34.5 kV	\$24,000.00	\$24,000.00	\$0.00	\$0.00	\$24,000.00	
10	Conductors 115 kV	\$2,400.00	\$2,400.00	\$0.00	\$0.00	\$2,400.00	
11	Conductors 34.5 kV	\$7,500.00	\$7,500.00	\$0.00	\$0.00	\$7,500.00	
	<b>TOTAL FOR OFE</b>	<b>\$1,734,900.00</b>	<b>\$1,734,900.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$1,734,900.00</b>	
	<b>CONTRACTOR FURNISHED EQUIPMENT</b>						
12	Bus Fittings 115 kV	\$3,000.00	\$3,000.00	\$0.00	\$0.00	\$3,000.00	
13	Bus Fittings 34.5 kV	\$20,000.00	\$20,000.00	\$0.00	\$0.00	\$20,000.00	
	<b>TOTAL FOR CFE</b>	<b>\$23,000.00</b>	<b>\$23,000.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$23,000.00</b>	
	<b>CONSTRUCTION MANAGEMENT</b>						
14	Construction Engineering	\$85,000.00	\$85,000.00	\$0.00	\$0.00	\$85,000.00	
15	On-site Construction Management	\$85,000.00	\$85,000.00	\$0.00	\$0.00	\$85,000.00	
16	GPA Testing/ T&D Field Work	\$69,100.00	\$69,100.00	\$0.00	\$0.00	\$69,100.00	
	<b>TOTAL FOR CM</b>	<b>\$239,100.00</b>	<b>\$239,100.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$239,100.00</b>	
	<b>CONSTRUCTION</b>						
18	Electrical Testing	\$90,000.00	\$90,000.00	\$0.00	\$0.00	\$90,000.00	
19	Mobilization/Demobilization	\$60,000.00	\$60,000.00	\$0.00	\$0.00	\$60,000.00	
20	Demolition	\$20,000.00	\$20,000.00	\$0.00	\$0.00	\$20,000.00	
21	Modifications to Existing Control Wiring	\$60,000.00	\$60,000.00	\$0.00	\$0.00	\$60,000.00	
22	Equipment Support Foundations	\$54,000.00	\$54,000.00	\$0.00	\$0.00	\$54,000.00	
23	Circuit Breaker Replacement 115 kV	\$22,000.00	\$22,000.00	\$0.00	\$0.00	\$22,000.00	
24	Circuit Breaker Replacement 34.5 kV	\$63,000.00	\$63,000.00	\$0.00	\$0.00	\$63,000.00	
25	115 kV Control/Status Wiring	\$48,000.00	\$48,000.00	\$0.00	\$0.00	\$48,000.00	
26	34.5 kV Control/Status Wiring	\$140,000.00	\$140,000.00	\$0.00	\$0.00	\$140,000.00	
27	Disconnect Switch Replacement 115 kV	\$24,000.00	\$24,000.00	\$0.00	\$0.00	\$24,000.00	
28	Disconnect Switch Replacement 34.5kV	\$45,000.00	\$45,000.00	\$0.00	\$0.00	\$45,000.00	
29	Potential Transformer Replacement 115kV	\$10,800.00	\$10,800.00	\$0.00	\$0.00	\$10,800.00	
30	Potential Transformer Replacement 34.5kV	\$12,000.00	\$12,000.00	\$0.00	\$0.00	\$12,000.00	
	<b>TOTAL FOR CONSTRUCTION</b>	<b>\$626,000.00</b>	<b>\$626,000.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$626,000.00</b>	
	<b>SUMMARY</b>						
31	<b>DESIGN</b>	\$317,000.00	\$317,000.00	\$4,929.59	\$4,929.59	\$312,070.41	
32	<b>OWNER-FURNISHED EQUIPMENT</b>	\$1,734,900.00	\$1,734,900.00	\$0.00	\$0.00	\$1,734,900.00	
33	<b>CONTRACTOR FURNISHED EQUIPMENT</b>	\$23,000.00	\$23,000.00	\$0.00	\$0.00	\$23,000.00	
34	<b>CONSTRUCTION MANAGEMENT</b>	\$239,100.00	\$239,100.00	\$0.00	\$0.00	\$239,100.00	
35	<b>CONSTRUCTION MANAGEMENT</b>	\$626,000.00	\$626,000.00	\$0.00	\$0.00	\$626,000.00	
36	<b>TOTAL COST</b>	<b>\$2,940,000.00</b>	<b>\$2,940,000.00</b>	<b>\$4,929.59</b>	<b>\$4,929.59</b>	<b>\$2,935,070.41</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** 01/15/09

**Project:** Harmon to Tanguisson 34.5 kV Underground Line Conversion

**Business Unit:** 100059

**Funding Source:** FEMA Funds (84%)  
GPA Funds (16%)

**Project Description:** Underground conversion of two existing overhead 34.5 kV transmission lines from Harmon Substation to Tanguisson Substation. This project involves trenching, installation of a conduit system encased in concrete, as well as installation of underground cables and terminations.

**Contract Amount:** \$ 144,291 9444 OP (EMPSCO)  
\$4,082,081 10552 OP (J&B Modern Tech)

**Activities:**

- The purchase order for project design was issued to EMPSCO on March 8, 2005.
- Design was completed on October 30, 2005.
- The need for construction services was advertised 11/05/05. Bid opening was held on January 12, 2006.
- Bid Opening was held on January 12, 2006.
- GPA notified GRO of increased project costs and revised BCA on January 23, 2006.
- Construction contract was awarded to J&B Modern Tech on March 23, 2006.
- Project was placed on hold on April 27, 2006 pending FEMA approval of a revised Benefit-Cost Analysis.
- Notice was given to GPA by GRO to proceed with the project on June 12, 2007 as FEMA has approved the new BCA.
- Recommencement notice to J&B Modern Tech was issued on July 8, 2007 after contract costs were verified to have remained the same.

- Completed construction is as follows (95% completed):
  - 22 manholes fabricated and installed
  - All conduit spans installed. All risers are installed.
  - All cables installed for X-86/101 (A side) and X93/103 (B side) installed except 1 pair of conductors from the MH-1A to X-86 riser.
  - All manhole splicing has been completed except for MH1A.
  - Steel structure is installed.
  - Pending:
    - Installation of surge arrestors, jumpers, deadend insulators and grounding at tower structure. Will also be working to replace the existing breaker leads.
    - Cable testing.
    - Removal of overhead lines.

**Project Schedule:**

Planned Start Design:	March 10, 2005
Actual Start Design:	March 10, 2005
Planned Finish Design:	August 10, 2005
Actual Finish Design:	October, 2005

Planned Start Construction:	April, 2007
Actual Start Construction:	July 09, 2007
Planned Finish Construction:	July 08, 2008
Actual Finish Construction:	


**Completed to Date:**

100% Design	
92.09% Construction	In-Progress


**Progress Payments:**

\$ 144,291	EMPSCO (design)
\$3,383,384.94	J&B Modern Tech (const.)

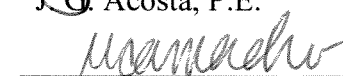
**Prepared By:**

  
 \_\_\_\_\_  
 John U. Pabunan

**Reviewed By:**

  
 \_\_\_\_\_  
 J. G. Acosta, P.E.

**Approved By:**

  
 \_\_\_\_\_  
 M. R. Camacho, P.E.

**Harmon to Tanguisson 34.5 kV Underground Lines Conversion  
Quarterly Compliance Report  
October - December 2008**

	DESCRIPTION	APPROVED BUDGET	Latest Eng'g Estimate	Commitment To Date	Actual Expenditures	BALANCE OF APPR'D BUDGET	Remarks
	<b>Design</b>						
1	Advertise/Bid/Award Design	\$ -	\$ -			\$ -	
2	Design Engineering	\$ 2,800.69	\$ 2,800.42	\$ 2,800.42	\$ 2,800.42	\$ 0.27	
3	A/E Design Development	\$ 144,291.00	\$ 144,291.00	\$ 144,291.00	\$ 144,291.00	\$ -	9443 OP
4	Advertise/Bid/Award Construction	\$ -	\$ -	\$ -	\$ -	\$ -	
	<b>Total Design</b>	<b>\$ 147,091.69</b>	<b>\$ 147,091.42</b>	<b>\$ 147,091.42</b>	<b>\$ 147,091.42</b>	<b>\$ 0.27</b>	
	<b>Equipment/Materials</b>						
5	35 kV Power Cable	\$ 768,080.00	\$ 768,080.00	\$ 768,080.00	\$ 691,272.00	\$ 76,808.00	10552 OP
6	Splice	\$ 164,950.00	\$ 164,950.00	\$ 164,950.00	\$ 148,455.00	\$ 16,495.00	10552 OP
7	Steel Poles	\$ 149,050.00	\$ 149,050.00	\$ 60,928.00	\$ 54,835.20	\$ 94,214.80	10552 OP
	<b>Total Equipment/Materials</b>	<b>\$ 1,082,080.00</b>	<b>\$ 1,082,080.00</b>	<b>\$ 993,958.00</b>	<b>\$ 894,562.20</b>	<b>\$ 187,517.80</b>	
	<b>Construction Management</b>						
8	Construction Engineering	\$ 30,000.00	\$ 30,000.00	\$ 17,980.77	\$ 17,980.77	\$ 12,019.23	
9	On-Site Construction Inspection	\$ 47,000.00	\$ 47,000.00	\$ 50,346.16	\$ 50,346.16	\$ (3,346.16)	
10	T&D Labor	\$ 80,977.31	\$ 82,000.00	\$ 3,596.15	\$ 3,596.15	\$ 77,381.16	
	<b>Total Construction Management</b>	<b>\$ 157,977.31</b>	<b>\$ 159,000.00</b>	<b>\$ 71,923.09</b>	<b>\$ 71,923.09</b>	<b>\$ 86,054.22</b>	
	<b>Construction</b>						
11	Mobilization/Demobilization	\$ 180,000.00	\$ 180,000.00	\$ 135,300.00	\$ 121,770.00	\$ 58,230.00	10552 OP
12	Survey	\$ 60,000.00	\$ 60,000.00	\$ 60,000.00	\$ 54,000.00	\$ 6,000.00	
13	Substation Switchyard	\$ 19,620.00	\$ 19,620.00	\$ 7,848.00	\$ 7,063.20	\$ 12,556.80	
14	34.5 kV Manhole	\$ 192,975.00	\$ 192,975.00	\$ 192,975.00	\$ 173,677.50	\$ 19,297.50	
15	6" Conduit	\$ 1,668,549.00	\$ 1,668,549.00	\$ 1,668,549.00	\$ 1,501,694.10	\$ 166,854.90	
16	4" Conduit	\$ 376,048.00	\$ 376,048.00	\$ 376,048.00	\$ 338,443.20	\$ 37,604.80	
17	35 kV Power Cable Installation	\$ 204,375.00	\$ 204,375.00	\$ 203,362.00	\$ 183,025.80	\$ 21,349.20	
18	Fiber Optic Cable Installation	\$ 25,615.00	\$ 25,615.00	\$ -	\$ -	\$ 25,615.00	
19	Underground Cable Splicing	\$ 65,610.00	\$ 65,610.00	\$ 56,424.60	\$ 50,782.14	\$ 14,827.86	
20	Riser Termination 34.5 kV	\$ 13,080.00	\$ 13,080.00	\$ 3,924.00	\$ 3,531.60	\$ 9,548.40	
21	Steel Pole Installation	\$ 16,350.00	\$ 16,350.00	\$ 60,928.00	\$ 54,835.20	\$ (38,485.20)	
22	Cable Testing	\$ 40,330.00	\$ 40,330.00	\$ -	\$ -	\$ 40,330.00	
23	Line/Hardware Removal	\$ 40,439.00	\$ 40,439.00	\$ -	\$ -	\$ 40,439.00	
24	Pole Removal	\$ 97,010.00	\$ 97,010.00	\$ -	\$ -	\$ 97,010.00	
	<b>Total Construction Cost</b>	<b>\$ 3,000,001.00</b>	<b>\$ 3,000,001.00</b>	<b>\$ 2,765,358.60</b>	<b>\$ 2,488,822.74</b>	<b>\$ 511,178.26</b>	
	<b>Summary</b>						
25	<b>Design</b>	<b>\$ 147,091.69</b>	<b>\$ 147,091.42</b>	<b>\$ 147,091.42</b>	<b>\$ 147,091.42</b>	<b>\$ 0.27</b>	
26	<b>Equipment/Materials</b>	<b>\$ 1,082,080.00</b>	<b>\$ 1,082,080.00</b>	<b>\$ 993,958.00</b>	<b>\$ 894,562.20</b>	<b>\$ 187,517.80</b>	
27	<b>Construction Management</b>	<b>\$ 157,977.31</b>	<b>\$ 159,000.00</b>	<b>\$ 71,923.09</b>	<b>\$ 71,923.09</b>	<b>\$ 86,054.22</b>	
28	<b>Construction</b>	<b>\$ 3,000,001.00</b>	<b>\$ 3,000,001.00</b>	<b>\$ 2,765,358.60</b>	<b>\$ 2,488,822.74</b>	<b>\$ 511,178.26</b>	
29	<b>Total Cost</b>	<b>\$ 4,387,150.00</b>	<b>\$ 4,388,172.42</b>	<b>\$ 3,978,331.11</b>	<b>\$ 3,602,399.45</b>	<b>\$ 784,750.55</b>	

## MONTHLY PROGRESS REPORT

- Report Date:** 01/15/09
- Project:** Macheche (X133) to GAA (X170) Underground Line Conversion
- Business Unit:** 100061
- Funding Source:** FEMA Funds (37%)  
GPA Excess Bond Funds (63%)
- Project Description:** Underground conversion of existing overhead 34.5 kV transmission line from Macheche Substation (X133) to GAA Substation (X170). This project involves trenching, installation of a conduit system encased in concrete, as well as installation of underground cables and terminations. (Partially funded by FEMA)
- Contracts:**
- |             |                                   |
|-------------|-----------------------------------|
| \$ 95,000   | 9461OP (Design - TG Engineers)    |
| \$2,613,660 | 12131OP (Civil - J&B Modern Tech) |
| \$ 842,275  | 12130OP (Electrical - MDCI)       |
- Administrative Activities:**
- The purchase order for project design was issued to TG Engineers on March 8, 2005.
  - Design was completed on December 16, 2005.
  - The need for construction services was advertised on 12/20/05. Bid opening was held on January 31, 2006.
  - GPA notified GRO of increased project costs and revised BCA on March 06, 2006.
  - GPA notified GRO on March 07, 2006 that construction cost was significantly lower via HDD conduit installation when compared to open trench and applied for approval to proceed with the project utilizing HDD.
  - Notice was given to GPA by GRO to proceed with the project on June 12, 2007 as FEMA has approved the new BCA.
- Construction Activities:**
- Civil construction contract was awarded to J&B Modern Tech on February 20, 2008. Electrical contract was awarded to MDCI also on the same date.
  - Completed construction is as follows (26.94% completed):
    - 16 manholes fabricated
    - 7 manholes installed

- 1800 linear feet of trenching/backfill completed
- 90% of cable splices purchased and received.

**Project Schedule:**

Design Planned Start:	March 08, 2005
Design Actual Start:	March 08, 2005
Design Planned Finish:	December 30, 2005
Design Actual Finish:	December 15, 2005

Construction Planned Start:	November 2007
Construction Actual Start:	February 20, 2008
Construction Planned Finish:	November 2008
Construction Actual Finish:	

**Completed to Date:**

100% Design	TG Engineers
31.15% Civil Construction	J&B Modern Tech
5% Electrical Construction	MDCI

**Progress Payments:**

\$ 95,000.00	TG Engineers
\$ 732,788.49	J&B Modern Tech
\$ 105,289.67	MD Crisostomo, Inc.

**Prepared By:**

  
 \_\_\_\_\_  
 Wei T. Chen

**Reviewed By:**

  
 \_\_\_\_\_  
 J.G. Acosta, P.E.

**Approved By:**

  
 \_\_\_\_\_  
 M. R. Camacho, P.E.

**Macheche (X133) to GAA (X170) Underground Line Conversion  
Quarterly Compliance Report  
October - December 2008**

	DESCRIPTION	APPROVED BUDGET	Latest Eng'g Estimate	Commitment To Date	Actual Expenditures	BALANCE OF APPR'D BUDGET	Remarks
	<b>Design</b>						
1	Advertise/Bid/Award Design		\$ -			\$ -	
2	Design Engineering	\$ 7,000.00	\$ 6,893.51	\$ 6,893.51	\$ 6,893.51	\$ 106.49	
3	A/E Design Development	\$ 95,000.00	\$ 95,000.00	\$ 95,000.00	\$ 95,000.00	\$ -	9461 OP
4	Advertise/Bid/Award Construction	\$ -	\$ -	\$ -	\$ -	\$ -	
	<b>Total Design</b>	<b>\$ 102,000.00</b>	<b>\$ 101,893.51</b>	<b>\$ 101,893.51</b>	<b>\$ 101,893.51</b>	<b>\$ 106.49</b>	
	<b>Equipment/Materials</b>						
5	35 kV Power Cable	\$550,000.00	\$ 542,600.00		\$ -	\$ 550,000.00	12130OP
6	Splice	\$79,200.00	\$ 77,079.00	\$ 68,736.00	\$ 61,862.40	\$ 17,337.60	12130OP
7	Counterpoise Grounding	\$0.00	\$ 59,440.00	\$ 45,115.44	\$ 40,603.90	\$ (40,603.90)	12131OP
8	Riser Termination	\$45,000.00	\$ 7,769.00		\$ -	\$ 45,000.00	12130OP
	<b>Total Equipment/Materials</b>	<b>\$ 674,200.00</b>	<b>\$ 686,888.00</b>	<b>\$ 113,851.44</b>	<b>\$ 102,466.30</b>	<b>\$ 560,348.56</b>	
	<b>Construction Management</b>						
9	Construction Engineering	\$33,000.00	\$ 30,000.00	\$ 6,644.28	\$ 2,034.09	\$ 30,965.91	
10	On-Site Construction Inspection	\$43,150.00	\$ 41,484.00	\$ 15,503.32	\$ 4,746.22	\$ 38,403.78	
11	T&D Labor	\$43,150.00	\$ 41,484.00	\$ -	\$ -	\$ 43,150.00	
	<b>Total Construction Management</b>	<b>\$ 119,300.00</b>	<b>\$ 112,968.00</b>	<b>\$ 22,147.60</b>	<b>\$ 6,780.31</b>	<b>\$ 97,152.40</b>	
	<b>Construction</b>						
12	Mobilization/Demobilization	\$ 500,000.00	\$ 244,228.00	\$ 158,919.00	\$ 143,027.10	\$ 356,972.90	12131OP
13	Survey	\$ 112,000.00	\$ 38,000.00	\$ 31,331.00	\$ 28,197.90	\$ 83,802.10	
14	Road Work	\$ 39,900.00	\$ 124,450.00	\$ 7,424.05	\$ 6,681.65	\$ 33,218.36	
15	Concrete Structure	\$ 23,132.00	\$ 15,550.00	\$ 2,545.15	\$ 2,290.64	\$ 20,841.37	
16	Traffic Induction Loop Repair	\$ 9,500.00	\$ 100,000.00		\$ -	\$ 9,500.00	
17	Substation Switchyard	\$ 38,276.00	\$ 4,177.00		\$ -	\$ 38,276.00	
18	34.5 kV Manhole	\$ 530,180.00	\$ 421,350.00	\$ 204,505.73	\$ 184,055.16	\$ 346,124.84	
19	Conduit/Raceway for 34.5 kV System	\$ 775,406.00	\$ 1,566,250.00	\$ 385,456.05	\$ 346,910.45	\$ 428,495.56	
20	4" Conduit	\$ 246,121.00	\$ 128,620.00	\$ 21,015.90	\$ 18,914.31	\$ 227,206.69	
21	Power Cable Installation	\$ 215,000.00	\$ 31,634.00		\$ -	\$ 215,000.00	
22	Underground Cable Splicing	\$ 65,500.00	\$ 46,141.00		\$ -	\$ 65,500.00	
23	Riser Termination 34.5 kV	\$ 45,018.00	\$ 4,815.00	\$ 6,138.52	\$ 5,524.67	\$ 39,493.33	
24	Cable Testing	\$ 44,675.00	\$ 6,568.00		\$ -	\$ 44,675.00	
25	Line/Hardware Removal	\$ 130,589.00	\$ 37,264.00		\$ -	\$ 130,589.00	
	<b>Total Construction</b>	<b>\$ 2,775,297.00</b>	<b>\$ 2,769,047.00</b>	<b>\$ 817,335.40</b>	<b>\$ 735,601.86</b>	<b>\$ 1,957,961.60</b>	
	<b>Summary</b>						
25	<b>Design</b>	<b>\$ 102,000.00</b>	<b>\$ 101,893.51</b>	<b>\$ 101,893.51</b>	<b>\$ 101,893.51</b>	<b>\$ 106.49</b>	
26	<b>Equipment/Materials</b>	<b>\$ 674,200.00</b>	<b>\$ 686,888.00</b>	<b>\$ 113,851.44</b>	<b>\$ 102,466.30</b>	<b>\$ 571,733.70</b>	
27	<b>Construction Management</b>	<b>\$ 119,300.00</b>	<b>\$ 112,968.00</b>	<b>\$ 22,147.60</b>	<b>\$ 6,780.31</b>	<b>\$ 112,519.69</b>	
28	<b>Construction</b>	<b>\$ 2,775,297.00</b>	<b>\$ 2,769,047.00</b>	<b>\$ 817,335.40</b>	<b>\$ 735,601.86</b>	<b>\$ 2,039,695.14</b>	
29	<b>Total Cost</b>	<b>\$ 3,670,797.00</b>	<b>\$ 3,670,796.51</b>	<b>\$ 1,055,227.95</b>	<b>\$ 946,741.98</b>	<b>\$ 2,724,055.02</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** 01/15/09

**Project:** Marbo to Pagat 34.5 kV Line

**Business Unit:** 100025

**Funding Source:** Bond Funds

**Project Description:** Installation of new underground 34.5 kV transmission line from Marbo Substation via Latte Heights to Pagat Substation to loop feed the Pagat Substation. The Marbo to Radio Barrigada transmission line will be intercepted in the Latte Heights area and routed to Pagat Substation and thence from Pagat to Radio Barrigada Substation. The project includes the upgrade of existing X-62, X-64, X-65, X-66, X-67 34.5 kV breakers. Additionally, installation of grounding transformer at Pagat Substation to limit fault currents is also included.

**Design:** GPA Engineering

**Contract Amount:** \$ 103,975.36 Fiber Optics (TRANSPAC)  
\$ 1,105.44 RTU/HMI (TRANSPAC)

**Administrative Activities:**

- GPA is currently revising plans and specifications to reflect routing of line via Latte Heights to Pagat Substation.
- Plans to reflect installation of conductors via an underground system of conduits is being finalized.
- Upgrade of associated protective devices is being reflected on the plans.
- PUC approval of re-scoping work is pending.

**Construction Activities:**

- Pending design plans and specifications.

**Project Schedule:** Design Planned Finish: November 27, 2006  
Design Actual Finish:

Planned Start Construction: February 20, 2007

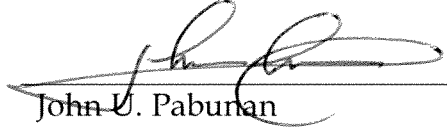
Marbo to Pagat 34.5 kV Underground Line Conversion  
Engineering Department  
Substation/Transmission

Quarterly Status Report  
October - December 2008

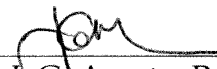
Actual Start Construction:  
Planned Finish:  
Actual Finish:

**Completed to Date:** 95% (Design)

**Prepared By:**

  
\_\_\_\_\_  
John U. Pabunan

**Reviewed By:**

  
\_\_\_\_\_  
J.G. Acosta, P.E.

**Approved By:**

  
\_\_\_\_\_  
M. R. Camacho , P.E.

**Marbo To Pagat 34.5 kV Line  
Quarterly Compliance Report  
October - December 2008**

	<b>COST CATEGORY</b>	<b>APPROVED BUDGET</b>	<b>LATEST ENG. ESTIMATE</b>	<b>COMMITMENT TO DATE</b>	<b>ACTUAL EXPENSED</b>	<b>BALANCE OF APPR'D BUDGET</b>	<b>REMARKS (STATUS OF ACTIVITY)</b>
	<b>DESIGN</b>						
1	In-House Design Development	\$ 50,000.00	\$ 60,000.00	\$ 57,534.79	\$ 57,534.79	\$ (7,534.79)	
	<b>TOTAL FOR DESIGN</b>	<b>\$ 50,000.00</b>	<b>\$ 60,000.00</b>	<b>\$ 57,534.79</b>	<b>\$ 57,534.79</b>	<b>\$ (7,534.79)</b>	
	<b>OWNER FURNISHED EQUIPMENT</b>						
2	35 kV Underground Power Cable	\$ 236,386.00	\$ 236,386.00			\$ 236,386.00	
3	35 kV Circuit Breaker	\$ 200,000.00	\$ 200,000.00			\$ 200,000.00	
4	35 kV Disconnect Switches	\$ 120,000.00	\$ 120,000.00			\$ 120,000.00	
5	Relay/Control Panel	\$ 100,000.00	\$ 100,000.00			\$ 100,000.00	
6	Counterpoise, Grounding	\$ 53,594.00	\$ 53,594.00			\$ 53,594.00	
7	Splices	\$ 79,200.00	\$ 79,200.00			\$ 79,200.00	
8	Fiber Optics Communications	\$ 103,975.00	\$ 103,975.36	\$ 103,975.36	\$ 103,975.36	\$ (0.36)	6038OP
9	RTU/HMI	\$ 50,000.00	\$ 50,000.00	\$ 1,105.44	\$ 1,105.44	\$ 48,894.56	TRANSPAC
	<b>TOTAL FOR OFE</b>	<b>\$ 943,155.00</b>	<b>\$ 943,155.36</b>	<b>\$ 105,080.80</b>	<b>\$ 105,080.80</b>	<b>\$ 838,074.20</b>	
	<b>CONSTRUCTION MANAGEMENT/ T&amp;D OUTAGES AND WORK</b>						
10	Construction Engineering	\$ 40,000	\$ 40,000			\$ 40,000.00	
11	On-Site Construction Inspection	\$ 45,000.00	\$ 45,000.00			\$ 45,000.00	
12	T&D Labor	\$ 60,000.00	\$ 60,000.00			\$ 60,000.00	
	<b>TOTAL FOR CM</b>	<b>\$ 105,000.00</b>	<b>\$ 145,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 105,000.00</b>	
	<b>CONSTRUCTION</b>						
13	Mobilization/Demobilization	\$150,000.00	\$275,000.00			\$ 150,000.00	
14	Survey	\$60,000.00	\$60,000.00			\$ 60,000.00	
15	Excavation/Road Repair	\$39,398.00	\$39,398.00			\$ 39,398.00	
16	35 kV Circuit Breaker Installation	\$44,000.00	\$44,000.00			\$ 44,000.00	
17	35 kV Disconnect Switches	\$36,000.00	\$36,000.00			\$ 36,000.00	
18	Relay/Control Panel Installation	\$15,000.00	\$15,000.00			\$ 15,000.00	
19	Control Cable Installation	\$15,000.00	\$15,000.00			\$ 15,000.00	
20	Substation Switchyard/Building Work	\$40,539.00	\$40,539.00			\$ 40,539.00	
21	34.5 kV Riser Structure Termination	\$15,000.00	\$15,000.00			\$ 15,000.00	
22	34.5 kV Manhole	\$400,000.00	\$602,336.00			\$ 400,000.00	
23	6" Conduit	\$807,378.00	\$896,296.00			\$ 807,378.00	
24	4" Conduit	\$157,591.00	\$157,591.00			\$ 157,591.00	
25	35 kV Power Cable Installation	\$180,422.00	\$180,422.00			\$ 180,422.00	
26	Underground Cable Splicing	\$104,517.00	\$104,517.00			\$ 104,517.00	
27	Cable Testing	\$40,000.00	\$40,000.00			\$ 40,000.00	
28	Substation Equipment Removal	\$20,000.00	\$20,000.00			\$ 20,000.00	
29	Line/Hardware Removal	\$2,000.00	\$2,000.00			\$ 2,000.00	
	<b>TOTAL FOR CONSTRUCTION</b>	<b>\$ 2,126,845.00</b>	<b>\$ 2,543,099.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,126,845.00</b>	
	<b>SUMMARY</b>						
30	<b>DESIGN</b>	<b>\$ 50,000.00</b>	<b>\$ 60,000.00</b>	<b>\$ 57,534.79</b>	<b>\$ 57,534.79</b>	<b>\$ (7,534.79)</b>	
31	<b>OWNER FURNISHED EQUIPMENT</b>	<b>\$ 943,155.00</b>	<b>\$ 943,155.36</b>	<b>\$ 105,080.80</b>	<b>\$ 105,080.80</b>	<b>\$ 838,074.20</b>	
32	<b>CONSTRUCTION MANAGEMENT</b>	<b>\$ 105,000.00</b>	<b>\$ 145,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 105,000.00</b>	
33	<b>CONSTRUCTION</b>	<b>\$ 2,126,845.00</b>	<b>\$ 2,543,099.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,126,845.00</b>	
34	<b>TOTAL COST</b>	<b>\$ 3,225,000.00</b>	<b>\$ 3,691,254.36</b>	<b>\$ 162,615.59</b>	<b>\$ 162,615.59</b>	<b>\$ 3,062,384.41</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** 01/15/09

**Project:** San Vitores (X260) to Macheche (X130) Underground Line Conversion

**Business Unit:** 100057

**Funding Source:** FEMA Funds (66%)  
GPA Excess Bond Funds (34%)

**Project Description:** Underground conversion of existing overhead 34.5 kV transmission line from Harmon Substation (X097) to Tumon Substation (X227). This project involves trenching, installation of a conduit system encased in concrete, as well as installation of underground cables and terminations. This is funded in part by FEMA through the Hazard Mitigation Grant Program.

**Contracts:**

\$197,100.00	9441OP Winzler & Kelly
\$4,330,365.00	12125OP J&B Modern Tech
\$1,364,700.00	12126OP Core Tech Int'l

**Administrative Activities:**

- The purchase order for project design was issued to Winzler and Kelly on March 8, 2005.
- Design was completed on December 12, 2005.
- The need for construction services was advertised on 12/23/05. Bid opening was held on February 2, 2006.
- GPA notified GRO of increased project costs and revised BCA on March 06, 2006.
- GPA notified GRO on March 07, 2006 that construction cost was significantly lower via HDD conduit installation when compared to open trench and applied for approval to proceed with the project utilizing HDD.
- Project was placed on hold on April 27, 2006 pending FEMA approval of a revised Benefit-Cost Analysis.
- Notice was given to GPA by GRO to proceed with the project on June 12, 2007 as FEMA has approved the new BCA.

**Construction Activities:**

- Civil construction contract was awarded to J&B

San Vitores to Macheche 34.5kV Underground Lines Conversion  
Engineering Department  
Substation/Transmission

Quarterly Status Report  
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Modern Tech on March 4, 2008. Electrical contract was awarded to Core Tech International also on the same date.

- Completed construction is as follows (30.75% completed):
  - 26 manholes fabricated
  - 8 manholes installed
  - 4780 linear feet of trenching/backfill completed
  - 89.6% of cable splices purchased and received.
  - 52.77% of U/G cables purchased and received.

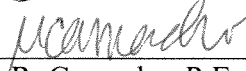
<b>Project Schedule:</b>	Design Planned Start:	January 3, 2005
	Design Actual Start:	March 10, 2005
	Design Planned Finish:	September 30, 2005
	Design Actual Finish:	December 12, 2005
	Construction Planned Start:	March 2008
	Construction Actual Start:	March 4, 2008
	Construction Planned Finish:	March 3, 2009
	Construction Actual Finish:	

<b>Completed to Date:</b>	100% Design	Winzler & Kelly
	30% Civil Construction	J&B Modern Tech
	5% Electrical Construction	Core Tech Int'l

<b>Progress Payment:</b>	\$ 197,100.00	Winzler & Kelly
	\$1,486,910.35	J&B Modern Tech
	\$ 88,330.77	Core Tech Int'l

**Prepared By:**   
\_\_\_\_\_  
I. B. Loyola, P.E.

**Reviewed By:**   
\_\_\_\_\_  
J. G. Acosta, P.E.

**Approved By:**   
\_\_\_\_\_  
M. R. Camacho, P.E.

**San Vitores (X260) to Macheche (X130) 34.5 kV Underground Line Conversion**  
**Quarterly Compliance Report**  
**October - December 2008**

	DESCRIPTION	APPROVED BUDGET	Latest Eng'g Estimate	Commitment To Date	Actual Expenditure	BALANCE OF APPR'D BUDGET	Remarks
	<b>Design</b>						
1	Advertise/Bid/Award Design	\$ -	\$ -	\$ -	\$ -	\$ -	
2	Design Engineering	\$ 6,460.47	\$ 6,460.47	\$ 6,460.47	\$ 6,460.47	\$ -	
3	A/E Design Development	\$ 197,100.00	\$ 197,100.00	\$ 197,100.00	\$ 197,100.00	\$ -	9441 OP
4	Advertise/Bid/Award Construction	\$ -	\$ -	\$ -	\$ -	\$ -	
	<b>Total Design</b>	<b>\$ 203,560.47</b>	<b>\$ 203,560.47</b>	<b>\$ 203,560.47</b>	<b>\$ 203,560.47</b>	<b>\$ -</b>	
	<b>Equipment/Materials</b>						
5	35 kV Underground Power Cable	\$853,706.00	\$ 853,706.00	\$ -	\$ -	\$ 853,706.00	12126OP
6	Counterpoise, Grounding	\$96,840.00	\$ 93,935.00	\$ 73,161.84	\$ 65,845.66	\$ 30,994.34	12125OP
7	Steel Poles	\$134,519.00	\$ 134,519.00		\$ -	\$ 134,519.00	12126OP
8	Splices	\$70,538.00	\$ 70,538.00	\$ 60,070.00	\$ 54,063.00	\$ 16,475.00	12126OP
	<b>Total Equipment/Materials</b>	<b>\$ 1,155,603.00</b>	<b>\$ 1,152,698.00</b>	<b>\$ 133,231.84</b>	<b>\$ 119,908.66</b>	<b>\$ 1,035,694.34</b>	
	<b>Construction Management</b>						
9	Construction Engineering	\$ 37,660.33	\$ 37,660.33	\$ 9,476.12	\$ 9,476.12	\$ 28,184.21	
10	On-Site Construction Inspection	\$ 61,131.79	\$ 61,131.79	\$ 22,110.94	\$ 22,110.94	\$ 39,020.85	
11	T&D Labor	\$ 61,156.41	\$ 61,156.41	\$ -	\$ -	\$ 61,156.41	
	<b>Total Construction Management</b>	<b>\$ 159,948.53</b>	<b>\$ 159,948.53</b>	<b>\$ 31,587.06</b>	<b>\$ 31,587.06</b>	<b>\$ 128,361.47</b>	
	<b>Construction</b>						
12	Mobilization/Demobilization	\$162,451.00	\$285,112.00	\$ 145,056.00	\$ 130,550.40	\$ 31,900.60	12125OP
13	Survey	\$63,400.00	\$61,498.00	\$ 46,123.50	\$ 41,511.15	\$ 21,888.85	
14	Excavation Work/Road Repair	\$162,000.00	\$157,140.00	\$ 12,878.07	\$ 11,590.26	\$ 150,409.74	
15	Traffic Induction Loop Repair	\$112,950.00	\$109,561.00	\$ -	\$ -	\$ 112,950.00	
16	Substation Switchyard	\$4,686.00	\$4,686.00	\$ -	\$ -	\$ 4,686.00	
17	34.5 kV Riser Structure Termination	\$80,405.00	\$80,405.00	\$ 35,575.30	\$ 32,017.77	\$ 48,387.23	
18	34.5 kV Manhole	\$595,000.00	\$577,150.00	\$ 366,671.99	\$ 330,004.79	\$ 264,995.21	
19	6" Conduit	\$2,452,725.00	\$2,379,143.00	\$ 902,581.33	\$ 812,323.20	\$ 1,640,401.80	
20	4" Conduit	\$687,450.00	\$666,826.00	\$ 108,149.88	\$ 97,334.89	\$ 590,115.11	
21	35 kV Power Cable Installation	\$103,386.00	\$103,386.00	\$ -	\$ -	\$ 103,386.00	
22	Steel Pole Installation	\$13,064.00	\$13,064.00	\$ -	\$ -	\$ 13,064.00	
23	Underground Cable Splicing	\$21,847.00	\$21,847.00	\$ -	\$ -	\$ 21,847.00	
24	Cable Testing	\$6,167.00	\$6,167.00	\$ -	\$ -	\$ 6,167.00	
25	Line/Hardware Removal	\$73,931.00	\$73,931.00	\$ -	\$ -	\$ 73,931.00	
	<b>Total Construction</b>	<b>\$ 4,539,462.00</b>	<b>\$ 4,539,916.00</b>	<b>\$ 1,617,036.07</b>	<b>\$ 1,455,332.46</b>	<b>\$ 3,084,129.54</b>	
	<b>Summary</b>						
26	<b>Design</b>	<b>\$ 203,560.47</b>	<b>\$ 203,560.47</b>	<b>\$ 203,560.47</b>	<b>\$ 203,560.47</b>	<b>\$ -</b>	
27	<b>Owner-Furnished Equipment</b>	<b>\$ 1,155,603.00</b>	<b>\$ 1,152,698.00</b>	<b>\$ 133,231.84</b>	<b>\$ 119,908.66</b>	<b>\$ 1,022,371.16</b>	
28	<b>Construction Management</b>	<b>\$ 159,948.53</b>	<b>\$ 159,948.53</b>	<b>\$ 31,587.06</b>	<b>\$ 31,587.06</b>	<b>\$ 128,361.47</b>	
29	<b>Construction</b>	<b>\$ 4,539,462.00</b>	<b>\$ 4,539,916.00</b>	<b>\$ 1,617,036.07</b>	<b>\$ 1,455,332.46</b>	<b>\$ 2,922,425.93</b>	
30	<b>Total Cost</b>	<b>\$ 6,058,574.00</b>	<b>\$ 6,056,123.00</b>	<b>\$ 1,985,415.44</b>	<b>\$ 1,810,388.65</b>	<b>\$ 4,073,158.56</b>	

## MONTHLY PROGRESS REPORT

**Report Date:** 01/15/09

**Project:** System Stability and Relay Coordination

**Business Unit:** 100049

**Funding Source:** GPA Revenue Funds

**Project Description:** In 2004, GPA engaged Electric Power Systems, Inc. to conduct a study to examine the robustness of GPA's power system against certain generator outages as well as faults on generators and transmission lines. This project will implement a portion of the recommendations from the System Stability and Relay Coordination Study Report to enhance system reliability and improve protection of GPA assets. Implementation includes the following:

- Replacement of electromechanical relays with SEL electronic type relays
- Development of revised and new relay settings
- Installation of GPS clocks for time synchronization of event reporting
- Installation of Trip Coil Monitoring devices to eliminate nuisance trips.

**Contractor:** EPS, Inc. A/E - Study

**Contract Amount:** \$249,302 EPS, Inc. 8432 OP

**Administrative Activities:**

- System stability and relay coordination study was completed on August 2005.
- Implementation of study recommendations is in progress.

**Construction Activities:**

- GPS Clocks have been installed in 13 (out of 28) locations: San Vitores, Pagat, Pulantat, GAA, and Agana 115 kV and 34.5 kV, Anigua, Tamuning, Yigo, Apra, Cabras, Barrigada, and Umatac
- 80 Trip Coil Monitors have been purchased and are pending installation.
- 13 existing SEL communication processors have been programmed to communicate with existing

relays at various substations.

- Development of revised and new relay settings has been completed on 66 out of 80 (83%) relays.
- 38 out of 54 (70%) relays requiring replacement have been completed.

**Project Schedule:**

Planned Start Design: August 1, 2004  
Actual Start Design: August 1, 2004  
Planned Finish Design: December 8, 2004  
Actual Finish Design: August 23, 2005

Planned Start Implementation: January 2006  
Actual Start Implementation: June 1, 2006  
Planned Finish Implementation: March 25, 2009  
Actual Finish Implementation:


**Completed to Date:**

100%	Study/Recommendations
<u>18.64%</u>	<u>Implementation:</u>
1.82%	Trip Coil Monitor
46.4%	GPS Clock Installation
70%	Relay Replacements
83%	Relay Settings Revision


**Progress Payment:**

\$249,302                      Design - EPS

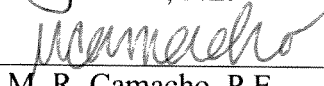
**Prepared By:**

  
\_\_\_\_\_  
Irwin B. Loyola, P.E.

**Reviewed By:**

  
\_\_\_\_\_  
J. G. Acosta, P.E.

**Approved By:**

  
\_\_\_\_\_  
M. R. Camacho, P.E.

**System Stability and Relay Coordination  
Quarterly Compliance Report  
October - December 2008**

	DESCRIPTION OF WORK	Approved Budget	Latest Eng. Estimate	Commitment To Date	Actual Expenditure	Balance of Approved Budget	Remarks (Status of Activity)
<b>System Stability and Relay Coordination Study</b>							
1	Consultant	\$249,302.00	\$249,302.00	\$249,302.00	\$249,302.00	\$0.00	8432OP
2	Dynamic System Recorders	\$29,920.00	\$29,920.00	\$29,920.00	\$29,920.00	\$0.00	9503OP
3	Engineering Management	\$9,884.00	\$9,884.00	\$9,883.26	\$9,883.26	\$0.74	
	<b>TOTAL FOR STUDY</b>	<b>\$289,106.00</b>	<b>\$289,106.00</b>	<b>\$289,105.26</b>	<b>\$289,105.26</b>	<b>\$0.74</b>	
<b>Trip Coil Monitor</b>							
4	RAW Trip Coil Monitor	\$15,800.00	\$15,800.00	\$10,396.00	\$10,396.00	\$5,404.00	11578OP
5	Materials	\$39,500.00	\$39,500.00			\$39,500.00	
6	T&D Labor	\$40,000.00	\$40,000.00			\$40,000.00	
7	Engineering Management	\$20,000.00	\$20,000.00			\$20,000.00	
	<b>TOTAL FOR TCM</b>	<b>\$115,300.00</b>	<b>\$115,300.00</b>	<b>\$10,396.00</b>	<b>\$10,396.00</b>	<b>\$104,904.00</b>	
<b>Primary &amp; Backup Relay Installation</b>							
8	SEL-311C Relay	\$66,300.00	\$66,300.00	\$50,443.00	\$50,443.00	\$15,857.00	11498 OP
9	SEL-387-5 Relay	\$23,200.00	\$23,200.00	\$22,048.00	\$22,048.00	\$1,152.00	
10	SEL-421 Relay	\$15,400.00	\$15,400.00	\$17,162.00	\$17,162.00	(\$1,762.00)	12631 OP
11	SEL-587 Relay	\$2,800.00	\$2,800.00			\$2,800.00	
12	SEL-501 Relay	\$10,000.00	\$10,000.00	\$5,100.00	\$5,100.00	\$4,900.00	
13	SEL-311A Relay	\$2,650.00	\$2,650.00			\$2,650.00	
14	SEL-351	\$0.00	\$8,589.00	\$8,589.00	\$8,589.00	(\$8,589.00)	
15	SEL-2030 Relay	\$56,000.00	\$56,000.00	\$31,854.00	\$31,854.00	\$24,146.00	
16	Materials	\$176,000.00	\$176,000.00	\$6,925.31	\$6,925.31	\$169,074.69	12628 OP
17	T&D Labor	\$220,000.00	\$220,000.00	\$46,142.29	\$46,142.29	\$173,857.71	
18	Engineering Support	\$80,000.00	\$80,000.00	\$9,158.81	\$9,158.81	\$70,841.19	
	<b>TOTAL FOR RELAYS</b>	<b>\$652,350.00</b>	<b>\$660,939.00</b>	<b>\$197,422.41</b>	<b>\$197,422.41</b>	<b>\$454,927.59</b>	
<b>GPS Clock</b>							
18	SEL-2401 GPS Clock	\$16,100.00	\$14,830.00	\$14,830.00	\$14,830.00	\$1,270.00	11497 OP
19	SEL-9321 Power Supply	\$6,440.00	\$6,440.00	\$5,210.00	\$5,210.00	\$1,230.00	
20	Cables and Accessories	\$8,000.00	\$8,000.00	\$11,704.44	\$11,704.44	(\$3,704.44)	11500 OP
21	Materials	\$7,079.00	\$7,079.00	\$2,578.75	\$2,578.75	\$4,500.25	
22	T&D Labor	\$30,000.00	\$30,000.00	\$8,161.49	\$8,161.49	\$21,838.51	
23	Engineering Support	\$20,000.00	\$20,000.00	\$1,760.76	\$1,760.76	\$18,239.24	
	<b>TOTAL FOR GPS CLOCKS</b>	<b>\$87,619.00</b>	<b>\$86,349.00</b>	<b>\$44,245.44</b>	<b>\$44,245.44</b>	<b>\$43,373.56</b>	
<b>SUMMARY</b>							
24	<b>TOTAL FOR STUDY</b>	<b>\$289,106.00</b>	<b>\$289,106.00</b>	<b>\$289,105.26</b>	<b>\$289,105.26</b>	<b>\$0.74</b>	
25	<b>TOTAL FOR TCM</b>	<b>\$115,300.00</b>	<b>\$115,300.00</b>	<b>\$10,396.00</b>	<b>\$10,396.00</b>	<b>\$104,904.00</b>	
26	<b>TOTAL FOR RELAYS</b>	<b>\$652,350.00</b>	<b>\$660,939.00</b>	<b>\$197,422.41</b>	<b>\$197,422.41</b>	<b>\$454,927.59</b>	
27	<b>TOTAL FOR GPS CLOCKS</b>	<b>\$87,619.00</b>	<b>\$86,349.00</b>	<b>\$44,245.44</b>	<b>\$44,245.44</b>	<b>\$43,373.56</b>	
28	<b>TOTAL COST</b>	<b>\$1,144,375.00</b>	<b>\$1,151,694.00</b>	<b>\$541,169.11</b>	<b>\$541,169.11</b>	<b>\$603,205.89</b>	