

ZONG 4G A NEW DREAM			CMPAK 2016 Solar Project		
Effective	Owner	Replace	Date	Revision	Site ID
					2807

Final Acceptance Certificate (FAC)

Project Name			
PAT Date	02/23/2018	FAT Date	
Payment Milestone			

Submission of Certificates / Documents in a binder (Tick if YES/ cross NO. N/A if not applicable)

Signed BOM / BOQ	<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Site Acceptance	<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

No severity /failures (ma//jor/ minor service affecting) during FAT. Site final acceptance report has been agreed & contractor has fulfilled all liabilities as per contract/issued purchase order. Therefore, **FAC** is being issued under this contract/purchase order. No liability related to project, product or workmanship has been observed while issuing this certificate. All Snags highlighted at the time of PAT has been rectified.

NC (Project lead):	NC (Manager):	Regional CTO:
Name:	Name:	Name:
Sign:	Sign:	Sign:
Date:	Date:	Date:

Project Manager (NC HQ)
Name: Younus Ishaq Khan
Sign:
Date:

ZONG 4G A NEW DREAM			CMPAK 2016 Solar Project		
Effective	Owner	Replace	Date	Revision	Site ID
			10-02-2022		2807

Final Acceptance Test

TICK SHEET

Region: S-3

Site ID: 2807

Address: CHAMAN

City: CHAMAN

Site Type:

(Tick appropriate block):

Greenfield	Rooftop
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(Tick appropriate block):

New site build	Upgrade	Rebuild	Shared Site	Solar site
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CONCRETE WORK AND SERVICE ENTRIES

N/A if not applicable.

Item No.	Task description.	Severity	Check Nizam Energy	Verify CMPAK
1	Solar support foundation columns orientation according to site drawing.	A	ok	
2	Solar support foundation columns dimensions as per specification. Record dimensions.	A	ok	
3	Backfill and Compaction of Underground Battery Bank has been done properly.	A	ok	
4	General workmanship.	A	ok	

Checked by (Nizam Energy)

Verified by (CMPAK)

Name: Saqib Gul

Name: _____

Sign: _____

Sign: _____

Date: 10-Feb-2022

Date: _____

Effective	Owner	Replace	Date	Revision	Site ID
			10-02-2022		2807

SOLAR SYSTEM INSTALLATION

Tick if correct/ cross if not.

N/A if not applicable.

Item no.	Task description.	Severity	Check vendor Nizam Energy	Verify CMPAK
1	Solar panels and battery bank are deployed as per the approved design document. Vendor has the approved design document for supporting this verification	A	ok	
2	Battery bank is in healthy condition and can charge at minimum 0.1C. Battery bank voltage when fully charged and voltage drop when 60% discharge is as per the battery bank data sheet provided by the vendor	A	ok	
3	The quantity and specifications of solar module are in compliance with design requirements.	A	ok	
4	No component in the solar module is loose or damaged. Panels should be firm tight with no vibration or loose bolts	A	ok	
5	Panels as a whole system are providing peak current or watts as per the specifications on a sunny day at around noon time.	A	ok	
6	All parts of the solar panel supports are hot dipped galvanized	A	ok	
7	General workmanship.	A	ok	

Checked by (Nizam Energy)

Verified by (CMPAK)

Name: Saqib Gul

Name: _____

Sign: _____

Sign: _____

Date: 10-Feb-2022

Date: _____

Tick if correct/ cross if not!

N/A if not applicable.

Item no.	Task description.	Severity	Check Nizam Energy	Verify CMPAK
1	LCD display in Rectifier Rack works normally	A	ok	
2	LED display in Rectifier Rack works normally	A	ok	
3	When input and connecting loads of rectifier work normally , every rectifier model work normally	A	ok	

Checked by (Nizam Energy)

Verified by (CMPAK)

Name: Saqib Gul

Name: _____

Sign: _____

Sign: _____

Date: 10-Feb-2022

Date: _____

ZONG 4G A NEW DREAM			CMPAK 2016 Solar Project		
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SNAG LIST

Fault			Fault Resolved		
Item	Detail Description	Severity Level (A)	Date	Vendor Nizam Energy	Verify CMPAK
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Note: Vendor to include all faults identified on equipment - specific tests in the above list.

- Severity Level A faults must be resolved immediately.
 - Severity Level B faults must be resolved within 10 days. (Number should not exceed 20)
- Target Date to clear the snags:__

Checked by (Nizam Energy)

Verified by (CMPAK)

Name: Saqib Gul

Name: _____

Sign: _____

Sign: _____

Date: 10-Feb-2022

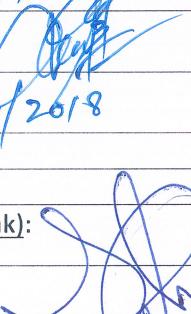
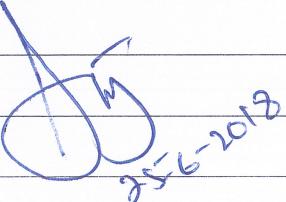
Date: _____

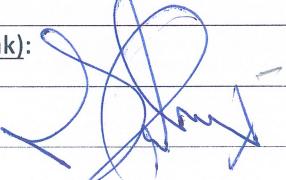
ZONG 4G A CHINA MOBILE COMPANY	CMPak Solar Power Project-2016		
Document Type	Project PO #	PAC Signing Date	Site ID
Provisional Acceptance Certificate (PAC)	PPC-069816 PPC-069821		2807

Work Completion Certificate/Provisional Acceptance Certificate (PAC)

Project Name	CMPak Solar Power Project		
PO #	PPC-069816 PPC-069821	Vendor	M/s Nizam Energy (Pvt) Ltd.
Location	Site 2807-Chaman	Region	South-3

It is certified that contractor has successfully completed the Solar Power Project & other allied works as per the defined scope of works mentioned in the issued purchase order & as per BOQ locked for this project. Therefore, Work Completion or Provisional Acceptance Certificate is issued under this contract or purchase order, scope of work /specifications and design requirement as specified by CMPak. No major deficiency or defects in technical design (if applicable) and implementation has been observed while issuing this **Work Completion Certificate** against the aforementioned works at Site 2807 as per above referred contract or purchase order.

Project Manager-(Vendor):	Project Lead-Region (CMPak) :
Name: <u>Muhammad Shoaib</u>	Name:
Sign: 	Sign: 
Date: <u>23/09/2018</u>	Date: <u>25/09/2018</u>

Regional CTO (CMPak):
Name: 
Sign: 
Date:

Site Model				
Site Name	C 2807 Sob Sela			
Alias				
Address	Killi Doalatabad, Bogra Road, Chaman			
City	Chaman			
Region	South			
Band	<input type="checkbox"/>	1800	<input type="checkbox"/>	2100
Site Type Civil	<input type="checkbox"/>	New Site Build	<input type="checkbox"/>	Rebuilt
	<input type="checkbox"/>	Upgrade	<input type="checkbox"/>	Shared Site
	If shared, with			
Site Type (Technical)	<input type="checkbox"/>	Hub Site		
	<input type="checkbox"/>	BTS		
BTS Model	<input type="checkbox"/>	Node-b BBU 3900	<input type="checkbox"/>	3012AE
	<input type="checkbox"/>	3006C		

1. CM Pak will provide tagging checklist and tags to contractor.
2. All assets, as per attached list will be tagged by contractor.
3. Tagging sheet is to be signed by CM Pak's designated officers (Rollout and O&M) and contractor at site and by RPA at office. The soft data (Excel Sheet) of Tagging to be prepared by contractor. Regional accountant will cross match the Tagging sheet wi

4. All sites for which PAT has been done successfully, the tagging data (hard and soft) is required to be provided within 7 working days.
5. For a successful PAT, the successful completion of clause '3' above is mandatory.

6. If old equipment is re-used, the old tag / serial numbers shall be written in the tagging sheet which is attached herewith. Note that old tags shall not be replaced with new tags in case of re-use equipment

4G

Document Type	Project PO #	Site ID
Solar Equipment Supply and Installation Part document	PPC-069816 PPC-069821	2807

Supply & Services BOQ

	Items	Qty	Unit	CMPak Verified
PV Panels	PV Modules Poly-crystalline 250W along with MC4 connectors	36	Nos	✓
	PowerPlant 450Amp infinity S Power System including all related accessories and cables:			
	a) 4mm² steel wire with anti corrosion coating			
	b) 3N+1 1000V power equipment			
	c) Power Box TS			
	d) Protection	1	Nos	
	e) Universal positions			
	f) Modular design			
Solar Power System	g) Protection degree IP55			✓
	h) PLC (Programmable logic controller)			
	i) Monitoring unit STAMP PS232			
	j) UPS			
	k) ETC			
	l) ECO			
	NECISOCC43-LTEE Rectifier/Solar Charge ECO Priority Module	8	Nos	
	Planner Plus System Controller	1	Nos	✓
	PSU (Power distribution unit) incl. circuit breakers (8 x 16 A + 4 x 32 A + 3 x 63 A) protections	1	Nos	
Underground Better, Cabinet	Under ground battery cabinet with GRP Casing and Ground Plates PES with fan/filter for ventilation	1	Nos	✓
	overhead - bank			
	DC power cable 5 mm² between plane interconnection	120	Meter	✓
	DC power cable 4 mm² between plane interconnection	120	Meter	
	DC power cable 4 mm² inter connection	50	Meter	
	DC power cable 4 mm² between Power Cabinet	19	Meter	✓
	DC power cable 70 mm² between better, bank and solar controller	68	Meter	
	Earthing Cable 70mm² including associated material required to ground the Solar System	40	Meter	
	AC power cable 10 mm² 3 core for AC connection	10	Meter	✓
	Installation material & accessories	1	Lump Sum	✓
	Site survey	2	Per site	✓
	Engineering design	1	Per site	✓
	Transportation of solar system & materials etc to site	1	Per site	✓
	Foundation for solar support structure	1	Per site	✓
	Foundation for solar control equipment & battery	1	Per site	✓
	Solar panel & support system installation and commissioning	1	Per site	✓
	Solar control equipment installation	1	Per site	✓
	Solar system commissioning	1	Per site	✓
	Battery Bank Installation	1	Per site	✓

17/04/18

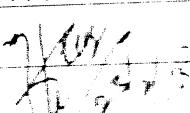
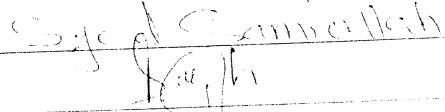
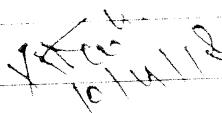
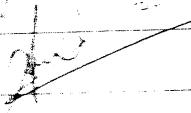
10-04-18

Sudhakar
23/04/2018

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Document Type	Project PO #	Site ID
Solar Equipment Supply and Services PAT document	PPC-069816 PPC-069821	2807

Supply & Services BOQ

Items	Qty	Unit	CMPak Verified
Extension, patching, commissioning & testing (from NOC) of all the solar alarms	1	Per site	
AC and DC cables laying	1	Per site	✓
Concrete compressive strength test results	1	Per site	✓
Steel Test Report	1	Per site	✓
Backfilling compaction test results	1	Per site	✗

Checked by (Vendor)	Verified by (CMPAK)
Name: <u>Mohammad Fouzdar</u> Sign:  Date: <u>17/07/2018</u>	Name: <u>Asif Iqbal</u> Sign:  Date: <u>23/07/2018</u>
Verified by (CMPAK)	Verified by (CMPAK)
Name: Sign:  Date: <u>17/07/2018</u>	Name: Sign:  Date: <u>10/07/2018</u>
Verified by (CMPAK)	Verified by (CMPAK)
Name: <u>Nicolas</u> Sign:  Date: <u>17/07/2018</u>	Name: Sign:  Date: <u>10/07/2018</u>


13 Oct 18

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ACCEPTANCE TEST PROCEDURE

TICK SHEET

Region: South 3
Site Name: 2807
Address: Killi Doulata Sad.
City: Chaman
Site Type:

(Tick appropriate block):

Greenfield <input checked="" type="checkbox"/>	Rooftop
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(Tick appropriate block):

New site build	Upgrade <input checked="" type="checkbox"/>	Rebuild <input checked="" type="checkbox"/>	Shared Site <input checked="" type="checkbox"/>	Solar site <input checked="" type="checkbox"/>
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Approved layout & DED attached in the PAT folder

Checked by (Vendor)

Name: Mohamed Farooq
 Sign: [Signature]
 Date: 23/01/18

Verified by (CMPAK)

Name: Syed Saniullah
 Sign: [Signature]
 Date: 23/01/2018

ZONG Say it all			CMPAK 2016 Solar Project		
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SITE LAYOUT
N/A if not applicable.

Item No.	Task description.	Severity Level	Check Vendor	Verify CMPAK
1	Vendor has an approved site layout plan	A		✓
2	Site laid out as per approved plan	A		✓

CERTIFICATES AND TEST REPORTS IN THE SITE BINDER
N/A if not applicable.

Item No.	Task description.	Severity Level	Check Vendor	Verify CMPAK
1	Steel test report	A	✓	✓
2	Concrete cube test report – 28 days	A	✓	✓

** Material, approved brands, and labs are already communicated and shared with vendors in the kick-off meeting and minutes of meeting.

CONCRETE WORK AND SERVICE ENTRIES
N/A if not applicable.

Item No.	Task description.	Severity Level	Check Vendor	Verify CMPAK
1	Concrete cube test results conform to strength requirements of 25 MPa after 28 days	A	✓	✓
2	Solar support foundation columns orientation according to site drawing.	A	✓	✓
3	Solar support foundation columns dimensions as per specification. Record dimensions.	B	✓	✓
4	Backfill and Compaction of Underground Battery Bank has been done properly.	B	✓	✓
5	Solar Support structures installed as per specification.	A	✓	✓
6	CMPak approved brands and approved labs are being consulted for civil work testing reports and material installation		✓	✓
7	General workmanship.	B	✓	✓

Checked by (Vendor)

Name: Mohammed Farooq
Sign: [Signature]
Date: 23/08/2016

Verified by (CMPAK)

Name: Syed Saniullah
Sign: [Signature]
Date: 23/08/2016

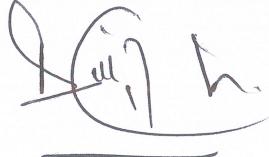
Effective	Owner	Replace	Date	Revision	Site ID
					2807

SOLAR SYSTEM INSTALLATION

Tick if correct/ cross if not.

N/A if not applicable.

Item no.	Task description.	Severity Level	Check vendor	Verify CMPak
1	Solar panels and battery bank are deployed as per the approved design document. Vendor has the approved design document for supporting this verification	A	✓	✓
2	Battery bank is in healthy condition and can charge at minimum 0.1C. Battery bank voltage when fully charged and voltage drop when 60% discharge is as per the battery bank data sheet provided by the vendor	A	✓	✓
3	The quantity and specifications of solar module are in compliance with design requirements.	A	✓	✓
4	No component in the solar module is loose or damaged. Panels should be firm tight with no vibration or loose bolts	B	✓	✓
5	The control units in solar panel are positioned and oriented according to design requirements.	A	✓	✓
7	The coating of control unit is intact. The surface of equipment is neat without such stains as fingerprints. All the labels are correct, legible, intact, firmly attached, and hard to be destroyed for aging, soaking and other reasons.	B	✓	✓
8	All the supports of solar array are connected to the site's grounding network.	B	✓	✓
9	Inside the solar power controller, the surge protection grounding is firm, with the grounding lead connected to the site's copper grounding bar.	B	✓	✓
10	The storage batteries and battery brackets are positioned and oriented according to design requirements. The batteries are placed orderly and firmly.	B	✓	✓
11	Panels, Batteries & Charge controller supplied are of approved brand as per specified in the technical specifications and PO	B	✓	✓
12	Panels as a whole system are providing peak current or watts as per the specifications on a sunny day at around noon time. To be verified on charge controller	A	✓	✓
13	Battery cabinet is properly ventilated and has gas exhaust ducts (for underground battery banks)	A	✓	✓
14	Interconnecting cables, DC cables, and earthing cables used are per the technical specifications and comply CMPak standards	A	✓	✓
15	Rationality of installing position for GSU and sensors (for external alarms)	B	✓	✓
16	The Solar Controller and DCDC converter (If available) are positioned and oriented according to design requirements.	B	✓	✓
17	Correct Brand material is used according to specification.	B	✓	✓
18	All parts of the solar panel supports are hot dipped galvanized	A	✓	✓
19	General workmanship.	B	✓	✓





CMPAK 2016 Solar Project

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Checked by (Vendor)

Name: M. Shoail
 Sign: [Signature]
 Date: 23/01/18

Verified by (CMPAK)

Name: Syed Samiullah
 Sign: [Signature]
 Date: 23/01/2018

SOLAR SYSTEM Alarms Integration

Tick if correct/ cross if not.

N/A if not applicable.

Item no.	Task description.	Severity Level	Check vendor	Verify CMPak
1	Solar system alarms are properly integrated and operational with CMPak alarm monitoring system and can be visible and monitored at CMPak NOC	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial Power Alarms				
	CP failure alarm	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Phase miss / Low voltage alarm	B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rectifier Alarms				
	Rectifier input failure alarm	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Rectifier module failure alarm	B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DC low voltage alarm	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Battery Alarms				
	Battery over temperature alarms	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Battery cabinet over temperature alarms	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Battery cabinet fan failure alarm	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DG Alarms				
	DG running alarm	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	DG failure alarm	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Low fuel alarm	B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Checked by (Vendor)

Name: Mohammad Imran
 Sign: [Signature]
 Date: 23/01/2018

Verified by (CMPAK)

Name: Syed Samiullah
 Sign: [Signature]
 Date: 23/01/2018

ON AIR by Solar System CHECK LIST

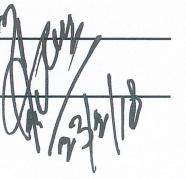
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Tick if correct/ cross if not!

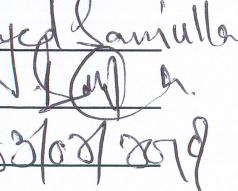
N/A if not applicable.

Item no.	Task description.	Severity Level	Check vendor	Verify CMPak
1	Open circuit voltage range of the solar photovoltaic array when sunlight illumination is sufficiently strong , the range is between 90V—140V. Check in junction box side	A	✓	✓
2	Solar controller parameter setting: voltage limit for battery under-voltage alarm must between 46V—48V	B	✓	✓
3	Solar controller parameter setting: voltage limit for battery over – discharge protection must between 42V—48V	B	✓	✓
4	Solar controller parameter setting: voltage limit for battery overcharge alarm must between 57V—60V	B	✓	✓
5	LCD display in Rectifier Rack works normally	B	✓	✓
6	LED display in Rectifier Rack works normally	B	✓	✓
7	The voltage of whole group of battery is higher than 48V after full charging, check in battery side	B	✓	✓
8	When input and connecting loads of rectifier work normally , every rectifier model work normally	B	✓	✓
9	The output voltage of the rectifier is between 53V to 57V, check in rectifier side	A	✓	✓
10	Battery charging and discharging tests	A	✓	✓
11	LLVD & BLVD tests		✓	✓

Checked by (Vendor)

Name: Mohammad Farooq
 Sign: 
 Date: 23/08/2019

Verified by (CMPAK)

Name: Syed Samiullah
 Sign: 
 Date: 23/08/2019



CMPAK 2016 Solar Project

			CMPAK 2016 Solar Project		
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CMPak Civil Approved Brand List

The contractor has used the material from the below listed approved brands during the construction.

S.No.	Material	Severity Level	Approved Brand
1	Cement brands	A	Askari cement, best way cement, lucky cement, DG cement, Fecto, Pak Cement
2	Steel brands	A	Fazal, Ittehad, Itefaq, Mughal, Model, Ishtiaq, Afco, NSS
3	Design companies	A	EDB, Niazi, Exponent engineers, Designmen, MTE
4	Soil/Steel/Concrete tests	A	UET Lahore, UET Taxila, UET Peshawar & other UETs, NUST, CMTL (Wapda), PCSIR, BZU Multan, UET Khuzdar, NED Karachi
5	Sand source	A	Lawrencepur Sand, Chenab/Sakhi sarwar, Hub river, Run Pathani or equivalent
6	Crush source	A	Margalla, Sargodha, Run Pathani or equivalent
7	Power cable and earthing cable brand	A	Pakistan Cable, FAST cable, New Age, Pioneer

SNAG LIST

Site Name:

2807

Address:

Fault			Fault Resolved		
Item	Detail Description	Severity Level (B)	Date	Vendor	Verify CMPak
1.	Backfilling required.				PT
2.	gravelly required.				PT
3.	Torque tightness checked required.				PT
4.					PT
5.	Elec test checks required.				PT
6.	All civil related doc required.				PT
7.					PT
8.	28 days test required.				PT
9.	7 days test required.				PT
10.	gravelly required after.				PT
11.	back fill.				PT
12.	subtitle clean required.				PT
13.	to fixed pipe to				OK
14.	structure.				Sewal
15.	Power rectification	✓			OK
Confidential module fault at site.			✓		6 of 10
8					

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16.					
17.					
18.					
19.					
20.					

Note: Vendor to include all faults identified on equipment - specific tests in the above list.

- Severity Level A faults must be resolved immediately.
- Severity Level B faults must be resolved within 14 days. (Number should not exceed 20)

Target Date to clear the snags: _____

Main Vendor:

Accepted by for (CMPak)

Authorized Person (Manager):

Authorized Person (Regional PM):

Name: M. Shoaib

Name: _____

Sign: [Signature]

Sign: _____

Date: 23/04/18

Date: _____

PRELIMINARY ACCEPTANCE TEST performed by:

<u>Vendor:</u>	<u>CMPak</u>
<u>Authorized Person:</u>	<u>Authorized Person:</u>
Name: <u>Mahmood Tameer</u>	Name: <u>Syed Farzanaullah</u>
Sign: <u>[Signature]</u>	Sign: <u>[Signature]</u>

Approved by:

<u>CMPak</u>	
<u>Regional Project Manager- Rollout:</u>	<u>Regional Manager –O&M:</u>
Name: <u>[Signature]</u>	Name: <u>[Signature]</u>
Sign: <u>25-6-2018</u>	Sign: <u>10/04/18</u>
Date: <u>25-6-2018</u>	Date: <u>10/04/18</u>

[Signature]
10-04-18

FINAL ACCEPTANCE TEST performed by:

			CMPAK 2016 Solar Project		
Effective	Owner	Replace	Date	Revision	Site ID
					2807

Approved by:

<u>CMPak</u>	
<u>Regional Manager O&M:</u>	<u>RCTO:</u>
Name:	Name:
Sign:	Sign:
Date:	Date: