



**NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY**

**NEMSA**

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*www.nemsa.gov.ng*



# NEMSA INSPECTION REPORT

Azura Edo Independent Power Plant

**NEMSA INSPECTION REPORT**

Company:	<b>AZURA INDEPENDENT POWER PLANT</b>
GPS Location:	6.40583, 5.68365
Address:	IHOVBOR, BENIN CITY, EDO STATE
Contact:	
Telephone:	
Email:	

#### NEMSA INSPECTION TEAM

<b>1. Engr Peter O. Ewesor</b>	Managing Director/CEO
<b>2. Engr Tukur Aliyu</b>	GM/Head Technical Standards & Inspectorate Services
<b>3. Engr William C. Metieh</b>	S.A Technical
<b>4. Engr Haruna Ibrahim</b>	Principal Manger/Head Certification
<b>5. Engr Osita Obiukwu</b>	Area Inspecting Engineer – Ibadan
<b>6. Engr Alaba Quadry</b>	Area Inspecting Engineer - Benin

**Date of Inspection: 1<sup>st</sup> May 2018**

#### Plant Description

- **The Azura Edo independent power plant is nominally a 3x150MW (450MW) natural gas fired single cycle power plant located at Ihovbor, Benin City, Edo State.**
- **Gas is supplied by Seplat from Oben gas facility and transported via a 24-inch gas pipeline by Nigerian Gas Company Ltd to the power station.**
- **The civil works was handled by Julius Berger Nigeria Plc while the main power plant installation was by Siemens AG.**
- **Other electrical works was handled by PIC Group Incorporated including the evacuation of power supply through a 330kV switchyard.**
- **There is a short 330kV interface connection between the Azura Edo IPP and Benin North NIPP project.**
- **During the capacity test conducted while NEMSA was on site, 459MW was achieved for about four (4) hours.**
- **As at date of inspection visit by NEMSA, the station was ON.**

### POWER PLANT EQUIPMENT DETAILS

Alternator No:	I	II	III
Make:	SIEMENS	SIEMENS	SIEMENS
Type:			
Serial No.:			
Date of manufacture:	14/07/16	14/07/16	
Rated MVA	193	193	193
Voltage(Volts)	15,750	15,750	15,750
Current (Amps)	253.7	253.7	
Frequency	50	50	
Phase	3	3	
Rated Speed (min <sup>-1</sup> )	1500	1500	
Power Factor	0.8	0.8	
Insulation Class (Armature)	F	F	
Protection			
IEC Standard	60034	60034	
Field Cooling	AIR	AIR	
Ambient Temp (°c):	40	40	

Turbine	I	II	III
Year of Manufacture			
Fuel:	Natural Gas	Natural Gas	Natural Gas
Fuel Quality:			
Fuel Pressure:	23.3 barg	23.3 barg	23.3 barg
Specific Fuel Consumption			

BLACK START GENERATOR No:	I	II	III
Location:			
Make:			
Type:	SGEN5-100A-2P		
Rated KVA			
Voltage(Volts)	15.75KV	15.75KV	
Current (Amps)	7221	7221	
Frequency (Hz)	50	50	
Phase	3	3	
Rated Speed (min <sup>-1</sup> )	3000	3000	
Power Factor	0.80	0.80	
Field Cooling	AIR	AIR	
Ambient Temp (°c):	9 - 45	9 - 45	

## STATION TRANSFORMERS DETAILS

### Ts Particulars

Description	I	II	III
Location	Turbine	Turbine	Turbine
Make	SIEMENS	SIEMENS	SIEMENS
Type	TRSM 8356	TRMS 8356	TRMS 8356
Serial No.	D41 8229	D41 8231	D41 8229
Rating/Capacity	193 MVA	193 MVA	193 MVA
Primary Voltage	15.75kV	15.75kV	15.75kV
Primary Current	333	333	333
Secondary Voltage	335kV+/-10x1.25%	335kV+/-10x1.25%	335kV+/-10x1.25%
Secondary Current	7075	7075	7075
Phase	3	3	3
Frequency	50Hz	50Hz	50Hz
Voltage Ratio	193/193	193/193	193/193
Current Ratio	333/7075	333/7075	333/7075
No. of Taps	1 - 10	1 - 10	1 - 10
Mode of Cooling	ODAF	ODAF	ODAF
% Impedance	14.0	14.0	14.0
Vector Group	YNd11	YNd11	YNd11
BIL			
Dielectric Strength	37.5	37.5	37.5
Year of Manufacture	2016	2016	2016

## STATION TRANSFORMERS DETAILS

### Ts Particulars

Description	V	VI	VII	VIII	IX
Location					
Make	SIEMENS			SIEMENS	SIEMENS
Type	TDQ-703A02S1K-99				
Serial No.	NIL			NIL	NG1005
Rating/Capacity	7MVA	7MVA	1.76MVA	0.8MVA	0.8MVA
Primary Voltage	6.9Kv	6.9Kv	6.6kV	6.6kV	6.6kV
Primary Current	256.52				
Secondary Voltage	15.75kV	15.75kV	1.4kV	0.43kV	0.42kV
Secondary Current	585.5				
Phase	3	3	3	3	3
Frequency	50Hz	50Hz	50Hz	50Hz	50Hz
Voltage Ratio	15750/6900				
Current Ratio	256.6/585.5A				

No. of Taps					
Mode of Cooling	ONAN	ONAN	AN	AN	AN
% Impedance	8			4	4
Vector Group	Dyn1	Dyn1	Dy5	Dyn5	Dyn5
BIL					
Dielectric Strength	24/7.2KV				
Year of Manufacture	2016			2016	2016

### EARTH RESISTANCE READINGS

Identification	I	II	III
Transformer Fence	0.77ohms	0.78ohms	0.77ohms
Perimeter Fence			
Lighting posts	0.77ohms	0.77ohms	0.38ohms
Store/warehouse	0.37ohms		
Warehouse Thunder arrester	0.37ohms		

### POWER PLANT INSPECTION CHECKLIST

#### **A. POWER PLANT TURBINE BUILDING**

Item Description	Ok	not ok	Remark
○ Floor – Spills, Leakage	√		
○ Turbine Equipment Layout	√		
○ Turbine Cable ducts/trunking	√		
○ Turbine Floor Ambient ( <sup>o</sup> C)	√		
○ Lighting & Illumination	√		
○ Access Control	√		
○ Fire Extinguishers – Quantity	√		
○ Fire Extinguishers – Validity Dates	√		
○ Automatic fire alarm - Control	√		
○ Automatic fire alarm – Gas System	√		
○ Lighting arrestor –Radius	√		
- Earth resistance	√		
○ Earth Continuity conductor type/size	√		
○ Stanchions earthing	√		
○ Metallic doors earthing	√		
○ Operator Comfort	√		

○ CCTV cabling	√		
○ Safety signs	√		See below
○ Job Safety Analysis Records	√		
○ Standard Operating Procedures	√		
○ Electric Shock Treatment Chart	√		
○ Fire Hydrant	√		
○ Toilet Facilities	√		
<p><b>Note:</b></p> <p><b>i. The automatic water sprinkler systems around the step-up main transformers should be painted red. This is the recommended colour code for fire water.</b></p> <p><b>ii. Safety signs should also have TEXT, e.g. "DANGER - HIGH VOLTAGE"</b></p> <p><b>iii. Warning signs should be with yellow background while danger signs should have red background.</b></p>			

## B. CONTROL ROOM

Item Description	ok	not ok	Remarks
○ HV/MV/LV Panels Separation	√		
○ Distance between parallel panels	√		
○ Insulation Mat		X	
○ HMI	√		
○ Panels Labelling	√		
○ Alternative power supply	√		
○ Access Control	√		
○ Access / Emergency Exits	√		
○ Lighting/Illumination	√		
○ Emergency Lighting	√		
○ Air conditioning	√		
○ Working space	√		
○ Operator safety/comfort	√		
○ Reports	√		
○ No. of operator/operating hours	√		
○ Emergency procedure chart		X	
○ PPE's	√		
○ Safety signs	√		
○ Operating Procedures	√		
○ Electric Shock Treatment Chart		X	
<p><b>i. The practice of disallowing shoes into the control room as a means of controlling dust is commendable.</b></p> <p><b>ii. However, provision should be made for rubber sole footwear for those entering the control room.</b></p>			

**C. BATTERY ROOM**

Item Description	ok	not ok	Remarks
○ Battery terminals			
○ „ connections			
○ Spillage			
○ Ventilation			
○ Extractor fans			
○ Air conditioning			
○ Eye wash			
○ Floor			
○ Fire extinguisher			
○ Battery type -			
○ i. Alkaline;			
○ ii. Sealed / Unsealed			
○ Battery capacity			
○ No. of cells			
○ Voltage per Cell			
○			

**D. TURBINE/ALTERNATOR –**

D.I. Turbine:

Item Description	ok	not ok	remarks
○ Noise level	√		
○ Lub oil cooling fans	√		
○ Air inlet fans	√		
○ Air Pressurizing Fans	√		
○ Fuel oil Supply pumps	√		
○ Auxiliary pumps	√		
○ Termination boxes	√		
○ Frame earth	√		
○ T/C cables	√		
○ Cable duct	√		
○ Cable trays	√		
○ Cable duct metallic covers	√		
○ Fire safety	√		
○ Lightning Protection		X	

D1: Alternator

Item Description	ok	not ok	remarks
○ Cooling air fans – terminations	√		
○ Pressurizing fans - terminations	√		

- Cable size	√		
- Cable trays	√		
○ Alternator earthing	√		
○ Dummy load	√		
○ T/C cables	√		

D.2. Turbine:

Item Description	ok	not ok	remarks
○ Noise level	√		
○ Lub oil cooling fans/pumps	√		
○ Air inlet fans	√		
○ Air Pressurizing Fans	√		
○ Fuel oil Supply pumps	√		
○ Auxiliary pumps	√		
○ Termination boxes	√		
○ Frame earth	√		
○ T/C cables	√		
○ Cable duct	√		
○ Cable trays	√		
○ Cable duct metallic covers	√		
○ Fire safety	√		
○ Lightning Protection		X	

D2: Alternator

Item Description	ok	not ok	remarks
○ Cooling air fans – terminations	√		
○ Pressurizing fans - terminations	√		
- Cable size	√		
- Cable trays	√		
○ Alternator earthing	√		
○ Dummy load	√		
○ T/C cables	√		

D.3. Turbine:

Item Description	ok	not ok	remarks
○ Noise level	√		
○ Lub oil cooling fans/pumps			X

○ Air inlet fans	√		
○ Air Pressurizing Fans	√		
○ Fuel oil Supply pumps	√		
○ Auxiliary pumps	√		
○ Termination boxes	√		
○ Frame earth	√		
○ T/C cables	√		
○ Cable duct	√		
○ Cable trays	√		
○ Cable duct metallic covers	√		
○ Fire safety	√		
○ Lightning Protection		X	
<b>Note: The highest point of this area is the turbine exhaust stack and is not protected from lightning. Appropriate lightning equipment should be provided at the top of all the three turbine exhaust stacks.</b>			
The cable trays should be labeled according to the cable voltage laid on it (HIGH, MEDIUM AND LOW). This should be done at the three turbines.			

D3: Alternator

Item Description	ok	not ok	remarks
○ Cooling air fans – terminations	√		
○ Pressurizing fans - terminations	√		
- Cable size	√		
- Cable trays	√		
○ Alternator earthing	√		
○ Dummy load	√		
○ T/C cables	√		

**E. STATION TRANSFORMER**

E1:

Item Description	ok	not ok	remarks
○ Bushings	√		
○ Earthing	√		
○ Terminations	√		
○ Cable entry/Glanding	√		
○ Tap changer	√		
○ Silica gel type		X	
○ Silica gel condition		X	
○ BIL	√		
○ Oil leakage	√		

○ Dielectric strength	√		
○ Ratio test	√		
○ Winding resistance	√		
○ Winding protection	√		

E2:

Item Description	ok	not ok	remarks
○ Bushings	√		
○ Earthing	√		
○ Terminations	√		
○ Cable entry/Glanding	√		
○ Tap changer	√		
○ Silica gel type		X	
○ Silica gel condition		X	
○ BIL	√		
○ Oil leakage	√		
○ Dielectric strength	√		
○ Ratio test	√		
○ Winding resistance	√		
○ Winding protection	√		
○			

E3:

Item Description	ok	not ok	remarks
○ Bushings	√		
○ Earthing	√		
○ Terminations	√		
○ Cable entry/Glanding	√		
○ Tap changer	√		
○ Silica gel type		X	
○ Silica gel condition		X	
○ BIL	√		
○ Oil leakage	√		
○ Dielectric strength	√		
○ Ratio test	√		
○ Winding resistance	√		
○ Winding protection	√		

**The conventional silica gel is blue when okay and pink/brown when saturated. The silica gel at Azura Edo was seen to be pink on all three (3) station step-up transformers and being claimed to be ok by Azura Edo.**

**The silica gel should be changed to the conventional type that is blue when ok.**

## F. SWITCHYARD EQUIPMENT/INSTALLATION

Item Description	ok	not ok	remarks
○ Phase Identification		<b>X</b>	
○ Arcing Horns	<b>√</b>		
○ Terminal Tower	<b>√</b>		
○ Take-off Tower	<b>√</b>		
○ Switchyard Voltage Correct?	<b>√</b>		
○ Switchyard Bus bar Current correct?	<b>√</b>		
○ Bus bar diameter	<b>√</b>		
○ Switchyard Diameter Configuration	<b>√</b>		
○ Civil works/Foundations	<b>√</b>		
○ Graveling of switchyard		<b>X</b>	
○ Switchyard equipment labeling	<b>√</b>		
○ Safety Signs		<b>X</b>	
○ Safety Equipment / Fire extinguishers	<b>√</b>		
○ Perimeter fence/protection/Access control	<b>√</b>		
○ Switchyard lighting	<b>√</b>		
○ Perimeter illumination	<b>√</b>		
○ Earthing of perimeter fence	<b>√</b>		
○ *Gantries - Quality of materials	<b>√</b>		
- Geometry of structures	<b>√</b>		
- Bots/nuts	<b>√</b>		
- Foundations	<b>√</b>		
- Earthing of steel structures	<b>√</b>		
- Gantry members	<b>√</b>		
- Insulators Rating	<b>√</b>		
- Marshalling kiosks	<b>√</b>		
- Cable entry glands	<b>√</b>		
- Cable ducts water ingress	<b>√</b>		
- Cable trenches – brackets	<b>√</b>		
- Cable Trench covers integrity	<b>√</b>		
○ Bus bars alignment		<b>X</b>	
○ Conductor sizes and quality	<b>√</b>		
○ Cable exit/Cable entry	<b>√</b>		
○ Cable terminations & Joints	<b>√</b>		
○ Cable type/size/voltage ratings	<b>√</b>		
○ Lightning arrestors	<b>√</b>		

**Note:**

- i. Weeds were seen growing within the switchyard.**
- ii. Graveling has not been completed within the switch yard**
- iii. Phase indicators were too tiny to be effectively seen**

**G: ASSOCIATED INTERFACE TRANSMISSION LINE**

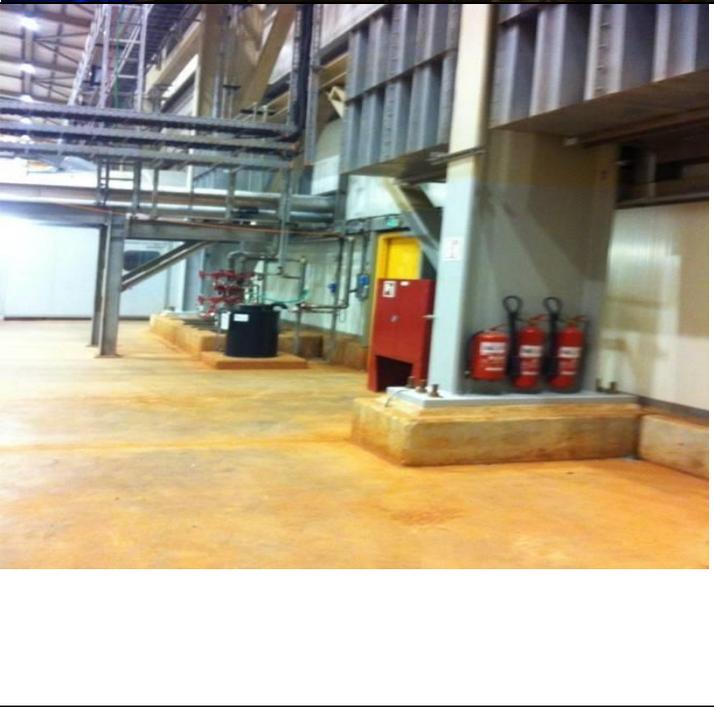
<b>Item Description</b>	<b>Ok</b>	<b>not ok</b>	<b>remarks</b>
○ Tower type	√		
○ Tower Steel Galvanization	√		
○ Tower foundations/civil works	√		
○ Tower Earthing	√		
○ Tower members	√		
○ Alignment of tower with conductors	√		
○ Conductor size/type	√		
○ No Kinks	√		
○ No Joints over roads/rivers	√		
○ Insulator types/Rating	√		
○ Insulator alignment	√		
○ Bolts/Nuts	√		
○ Clearances	√		
○ R-O-W observations	√		
○	√		

DETAILS OF OBSERVATIONS AND RECOMMENDATIONS

S/No	POWER PLANT AREA	OBSERVATIONS	PICTURES	RECOMMENDATIONS
1.	Station Transformer	<p>i. Transformers were well installed on solid plinths.</p> <p>ii. No oil leakages were seen.</p> <p>iii. Danger signs on surrounding fence need to be standard type as some of these were not conventional.</p> <p>iv. Paint seen covering points where the earthing terminals are connected.</p> <p>v. Also, paint seen where sections of the JP fence are joined. These may cause discontinuity of their conductive path.</p>		<p>i. All Paint marks should be scraped off at the connections to ensure better conductivity and earth continuity.</p>

<p>2.</p>	<p><b>Control Room</b></p>	<ul style="list-style-type: none"> <li>• Control room is spacious, clean and conducive for operators.</li> <li>• No footwear from outside is allowed here thereby making it free from static, dirt, etc.</li> <li>• HMI and displays are adequate.</li> <li>• Illumination is very satisfactory.</li> <li>• No fire extinguishers seen, and could not confirm there was automatic fire extinguishing system.</li> <li>• No artificial respiration chart seen.</li> </ul>		<ul style="list-style-type: none"> <li>• Provision of fire extinguishers or automatic fire protection system recommended.</li> <li>• Artificial respiration chart should be conspicuously displayed in the control room</li> <li>• Staff should be well trained on all safety operational procedures.</li> </ul>
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3.	Turbine Building	<ul style="list-style-type: none"> <li>• Scrap heap of materials found on a pallet by the corner of Turbine 3 floor.</li> <li>• This is unacceptable especially as it is in the path of the fire hydrant.</li> </ul>		<ul style="list-style-type: none"> <li>• The turbine floor should be kept clear of all scrap materials.</li> </ul>
4.	Turbine Building	<ul style="list-style-type: none"> <li>• Pool of water on floor of Turbine building between GT2 and GT3. This could be an indication of roof leakage or from poor sealing on the roof fan.</li> <li>• The turbines were observed not conspicuously labeled.</li> </ul>		<ul style="list-style-type: none"> <li>• Source of water leakage should be identified and rectified.</li> <li>• The turbines should be labeled (TURBINE 1, 2 and 3/GT1, GT2, GT3) apart from the equipments code labeling.</li> </ul>
5.	Turbine	Extensive network of		ok

	<p><b>Building</b></p>	<p>automatic fire foam tender seen in the turbine building. This indicates adequate fire-fighting preparedness.</p>		
<p>6.</p>	<p><b>Turbine Building</b></p>	<p>Adequate provision of fire extinguishers and of appropriate different types and sizes.</p>		<p>ok</p>

<p>7.</p>	<p><b>Turbine Building (Auxiliaries)</b></p>	<ul style="list-style-type: none"> <li>• Mild steel rods welded to the steel structure as earth continuity.</li> <li>• Unused reinforcement rods seen jutting out of the concrete base at different locations around the plant. Someone could trip on these rods.</li> </ul>		<ul style="list-style-type: none"> <li>• Earth continuity conductors of appropriate size should be used and properly terminated with cable lugs.</li> <li>• All unused reinforced steel rods should be cut off.</li> </ul>
		<ul style="list-style-type: none"> <li>• Where welded rods were used for earthing, proper earthing terminations were also used. This has been done for redundancy and as a failsafe installation.</li> </ul>		<p>Ok</p> 

8.	<p><b>Turbine building</b></p>	<ul style="list-style-type: none"> <li>• Good access control into the turbine building and other restricted areas.</li> <li>• Safety warning signs indicating “Restricted” not seen.</li> </ul>		<ul style="list-style-type: none"> <li>• Warning signs indicating “Restricted Area” to be provided at all entrance gate into the turbine building and other critical areas.</li> </ul>
9.	<p><b>Turbine building</b></p>	<ul style="list-style-type: none"> <li>• Bird droppings were seen at many parts of the turbine building.</li> <li>• This is an indication that there was inadequate prevention of birds entering inside the building.</li> <li>• Bird droppings are corrosive to cables especially</li> </ul>		<ul style="list-style-type: none"> <li>• All possible access to birds should be blocked and birds prevented from entering into the building to deposit corrosive waste that could degrade cables.</li> </ul>

10.	Turbine building	<ul style="list-style-type: none"> <li>• Signs of rust seen on some metallic structures. This could be coming water ingress into the building</li> </ul>		<ul style="list-style-type: none"> <li>• All points of water ingress into the turbine building should be blocked</li> </ul>
11.	Turbine building	<ul style="list-style-type: none"> <li>• Fire foam tender piping not colour coded</li> </ul>		<ul style="list-style-type: none"> <li>• Fire-fighting pipelines should be painted "Red"</li> </ul>

12.		<ul style="list-style-type: none"> <li>• Cables were seen well laid out on cable trays.</li> <li>• Different levels define the voltages of the cables on each tray</li> <li>• However, the trays were not labeled according to the voltage levels.</li> </ul>		<p style="text-align: center;">Ok</p> <ul style="list-style-type: none"> <li>• The cable trays should be well labeled according to voltage levels for easy identification during maintenance.</li> </ul>
13.		<ul style="list-style-type: none"> <li>• Steel work in the turbine building was seen to be well earthed.</li> <li>• Connection between two earth mats also seen adequately linked together.</li> </ul>		<p style="text-align: center;">Ok</p>

14.	Turbine building	<ul style="list-style-type: none"> <li>• All panels had adequate glanding</li> <li>• Unused points were seen sealed</li> <li>• Cable entry into the ground were all sealed with bituminous foam</li> </ul>		ok
15.	Turbine building	<ul style="list-style-type: none"> <li>• Overhead travelling crane of adequate capacity with well displayed SWL (standard working load)</li> </ul>		ok

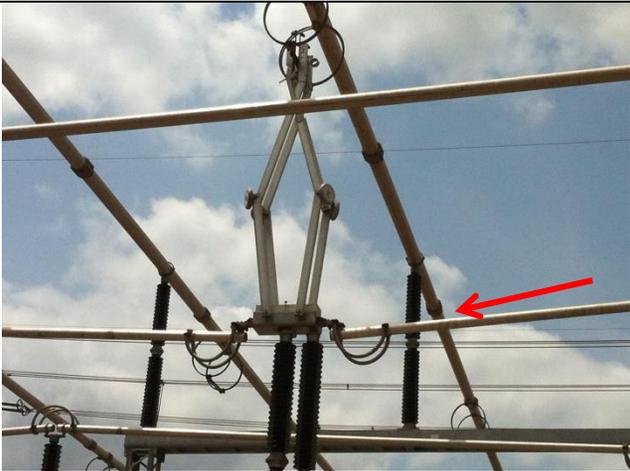
16.	Turbine building	<ul style="list-style-type: none"> <li>• Adequate illumination seen inside the turbine building</li> </ul>		ok
17.	Turbine building	<ul style="list-style-type: none"> <li>• Welded rod used as earth continuity conductor</li> </ul>		<ul style="list-style-type: none"> <li>• Proper earth continuity conductor on cable lugs should be provided at all points where welded rods have been used as earth conductors.</li> </ul>

18.	<b>Turbine building</b>	<ul style="list-style-type: none"> <li>• Alternator seen properly installed and aligned.</li> <li>• Side door to the alternator room observed opened. This will reduce the efficiency of the roof heat extractor fans.</li> </ul>		<ul style="list-style-type: none"> <li>• The alternator side door should be closed. If there is continued high ambient temperature in the room, Azura should consider an upgrade of the roof extractor fan capacity.</li> </ul>
19.	<b>Turbine Building</b>	<ul style="list-style-type: none"> <li>• CO<sub>2</sub> automatic fire extinguishers in place and of adequate capacity and pressure.</li> </ul>		<p>ok</p>

20.	Turbine building	<ul style="list-style-type: none"> <li>• Some form of colour coding on pipes seen.</li> </ul>		<ul style="list-style-type: none"> <li>• All pipes should be properly painted in appropriate colours as follows:  Gas – yellow  Fire water – red  Compressed air – green  Water – blue  Lub oil - brown</li> </ul>
21.	Turbine building	<ul style="list-style-type: none"> <li>• Some signs of rain water seen on cable trays in the alternator area. This could affect some other plant equipment if not corrected.</li> </ul>		<ul style="list-style-type: none"> <li>• The source of this leakage must be identified /investigated and rectified.</li> </ul>

22.	Safety Signs	<ul style="list-style-type: none"> <li>• There were not elaborate safety warning and danger signs in the entire premises.</li> <li>• Some of the safety signs are inadequate as they can be understood only by professionals</li> </ul>		
		<ul style="list-style-type: none"> <li>• Non-technical people may not be able to interpret the safety signs used in the power plant.</li> </ul>		
		<ul style="list-style-type: none"> <li>•</li> </ul>		

<p>23.</p>	<p><b>330kV Transmission Switchyard</b></p>	<ul style="list-style-type: none"> <li>• The construction of the switchyard is largely adequate.</li> <li>• The switch yard phase indication too tiny to be seen clearly.</li> </ul>		<ul style="list-style-type: none"> <li>• The phase identification sign should be improved upon for more visibility.</li> </ul>
		<ul style="list-style-type: none"> <li>• Some areas by the pantograph disconnectors/isolators appear out of geometry (not horizontal)</li> </ul>		<ul style="list-style-type: none"> <li>• This misalignment should be noted and rectified going forward.</li> </ul>

				<ul style="list-style-type: none"> <li>• This misalignment should be noted and rectified going forward.</li> </ul>
24.		<ul style="list-style-type: none"> <li>• Weeds were seen growing within the switchyard.</li> <li>• This could become an issue if creepers grow onto the live parts of the substation.</li> </ul>		<ul style="list-style-type: none"> <li>• All weeds should be cleared from the Substation.</li> </ul>

## G. GENERAL INSPECTION OBSERVATIONS/COMMENTS

- ✓ The Azura Edo 450 MW natural gas fired independent power plant has been professionally built with state-of-the-art machinery and equipment.
- ✓ The layout of the plant is first grade and safety measures put in place for safety of live and property is satisfactory.
- ✓ A few observations on Safety Signs, removal of left-over reinforcement rods, attending to vibrations on turbine lub oil cooling platforms should be attended to.
- ✓ Efforts should be made to prevent bird access into the turbine enclosed building and source of the water leakage into the building should be identified and rectified.

## H. RECOMMENDATIONS

The quality and standard of operation as at the inspection visit by NEMSA team should be maintained.

All observations and recommendations made in the report should be effected.

**You will be required to pay the Inspection Fee of Three Million, Seven Hundred and Fifty Thousand Naira (#3,750, 000.00) for the Final Certification of the Power Station as at date of Inspection.**

### Signed by:

CLIENT: .....DATE.....

CONSULTANT.....DATE:.....

INSPECTING /TESTING AGENCY: NIGERIAN ELECTRICITY MANAGEMENT SERVICES AGENCY.....DATE.....

### NOTES:

**(i) THIS IS NOT A CERTIFICATE;**