

ATTENDANCE		
Kobus van Zyl	Electrilabs	KvZ
Tapologo Sebitla	DTC Botswana	TS
Keabetswe Gotlhokwang	DTC Botswana	KG
GS Senzere	Schneider Electric (SE)	GS
Devandren Pillay	Schneider Electric (SE)	DP
Manie Hansen	Electrilabs	MH
Jean Cilliers	Electrilabs	JC
ABSENT		
Moffat Modimele	DTC Botswana	MM
Bolton Ramopedi	DTC Botswana	BR

#	DISCUSSIONS	ACTION	D -DATE
1	<p>Current UPS configuration Drawing</p> <ul style="list-style-type: none"> a) TS , KvZ and GS examined and discussed the drawing of the existing UPS configuration. b) TS explained the main AC feeds MS1/E and MS2/E respectively. <ul style="list-style-type: none"> i) MS1/E is the main feed for UPS1 and UPS2 ii) MS2/E is the main feed for UPS3 as well the Static Transfer Switches' inputs of UPS 1 and UPS2. c) GS mentioned that the existing configuration shows that UPS3's output will be connected to raw mains if UPS1 and UPS2 should transfer to their internal static switches. 		
2	<p>Bypass Panel</p> <ul style="list-style-type: none"> a) GS recommended the addition of the Easy UPS triple bypass panel to improve the resilience of the existing configuration. b) GS explained that the proposed bypass panel will eliminate the problem of UPS3 receiving raw mains on its output and will also allow for all 3 UPS' to be running in parallel, thereby increasing the redundant capacity of the existing configuration to 500KVA. c) The proposed configuration offers an N+1 configuration for a load of 500KVA and a 2N+1 configuration if the load is less than 250KVA. d) TS requested a quote for a bypass panel. 	KvZ	10 Aug
3	<p>Current Generator configuration with existing UPS's</p> <ul style="list-style-type: none"> a) TS explained that the 2 main feeds (MS1/E and MS2/E) each have a Genset of its own. b) TS required to supply more information on the input and output areas beyond what is indicated on the existing drawing. 	TS	11 Aug

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	<ul style="list-style-type: none"> c) KvZ offered to prepare and submit a system schematic with some additional options available to increase the resilience of the system's overall redundancy. d) This schematic will include out of Scope components such as external static switches to enhance the redundancy beyond having the 3 UPS's in parallel. 	KvZ	
3	<p>Existing batteries</p> <ul style="list-style-type: none"> a) TS explained that there are two battery banks that were replaced around 2015. b) He also mentioned that battery bank 1 supplies battery power to both UPS1 and UPS2. Battery bank 2 supplies battery power only to UPS3. c) MH stated that during his site visit he saw only one battery bank with 170 batteries. These batteries, dated back to 2013. d) KvZ and Manie advised against using batteries older than 7 years with new UPS's. 		
4	<p>UPS Run-Time and expected runtime</p> <ul style="list-style-type: none"> a) TS mentioned that during a recent power outage they noticed that there was only six minutes run-time available. b) KvZ stated that a request for 8 hours runtime was mentioned. c) KvZ explained that such a long battery runtime it is not recommended. d) GS agreed and mentioned existing battery space will become a problem if such a long run-time is to be achieved. 		
5	<p>Easy UPS E3L Batter Cabinet</p> <ul style="list-style-type: none"> a) KvZ suggested that the DTC-Botswana look at the Easy UPS battery system from Schneider. b) KvZ explained that this battery system is tailor made for the Easy UPS 250KVA and includes all necessary sub-components such as the DC Breakers, internal DC cables and Batteries bundled in a cabinet matching the Easy UPS. c) DP confirmed that there are some of these battery systems currently available (E3MCBC10 version "D") which is fortunate since these are normally not kept in stock. d) GS mentioned that the runtime for each UPS will be approximately 26min for a load of 66% (160KVA). e) Having the 3 UPS's in parallel will give a total runtime of approximately 1 hour 20 minutes at this estimated load. f) GS mentioned that the DC breakers must be equipped with auxiliary contacts to allow for signalling between the DC system and the UPS. g) TS requested a quote for the above mentioned battery System. 	KvZ	

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6	<p>Delivery</p> <p>a) KvZ mentioned that the UPS equipment delivery is planned for ± 20 August 2021.</p> <p>b) KvZ will try to set a fix Delivery date once confirmed with SE on 11 August 2021.</p> <p>c) If DTC-Botswana should order the 3 x Battery Systems (E3MCBC10 version “D”) before 16 Augustus then these battery cabinets will be delivered with the UPS equipment.</p> <p>d) MH mentioned that the rigging of the equipment during the site positioning have been arranged with a local company in Gabarone. This to be reconfirmed once fixed dates are available.</p>	MH	12 Aug
7	<p>Existing cable sizes</p> <p>a) TS provided photos of the AC cabling on site.</p> <p>b) GS said that these photos in conjunction with the drawing of the existing installation (indicating the cable sizes) appear to be the correct sizes required for the new UPS’.</p> <p>c) KvZ cautioned the team that the existing cabling needs to be scrutinised to prevent unexpected delays during the installation.</p> <p>d) GS mentioned that the existing cable and switchgear configuration might have to be change slightly to accommodate the new bypass panel.</p>		
8	<p>Out of Scope</p> <p>a) Any other items or work which might be out of scope but essential for this project will be quoted for separately. This would typically include additional cabling and switchgear and associated installation costs.</p>		
9	<p>Installation</p> <p>a) KvZ mentioned that the installation is tentatively planned for the week of 30 August 2021 but he will give a more accurate date by 11 August 2021.</p> <p>b) KvZ asked for down-time to do the installation outside of business hours.</p> <p>c) TS said that he will arrange for down-time for 2 day’s over a weekend once dates are firm.</p>	KvZ TS	11 Aug 12 Aug
10	<p>Meeting adjourned</p> <ul style="list-style-type: none"> • Meeting adjourned at 13H48 • Next meeting to be scheduled for 13 August @ 11H00 – 12H00 • Everyone to confirm their availability 	All	11 Aug