

# RESPONSES TO QUESTIONS ON DWDM

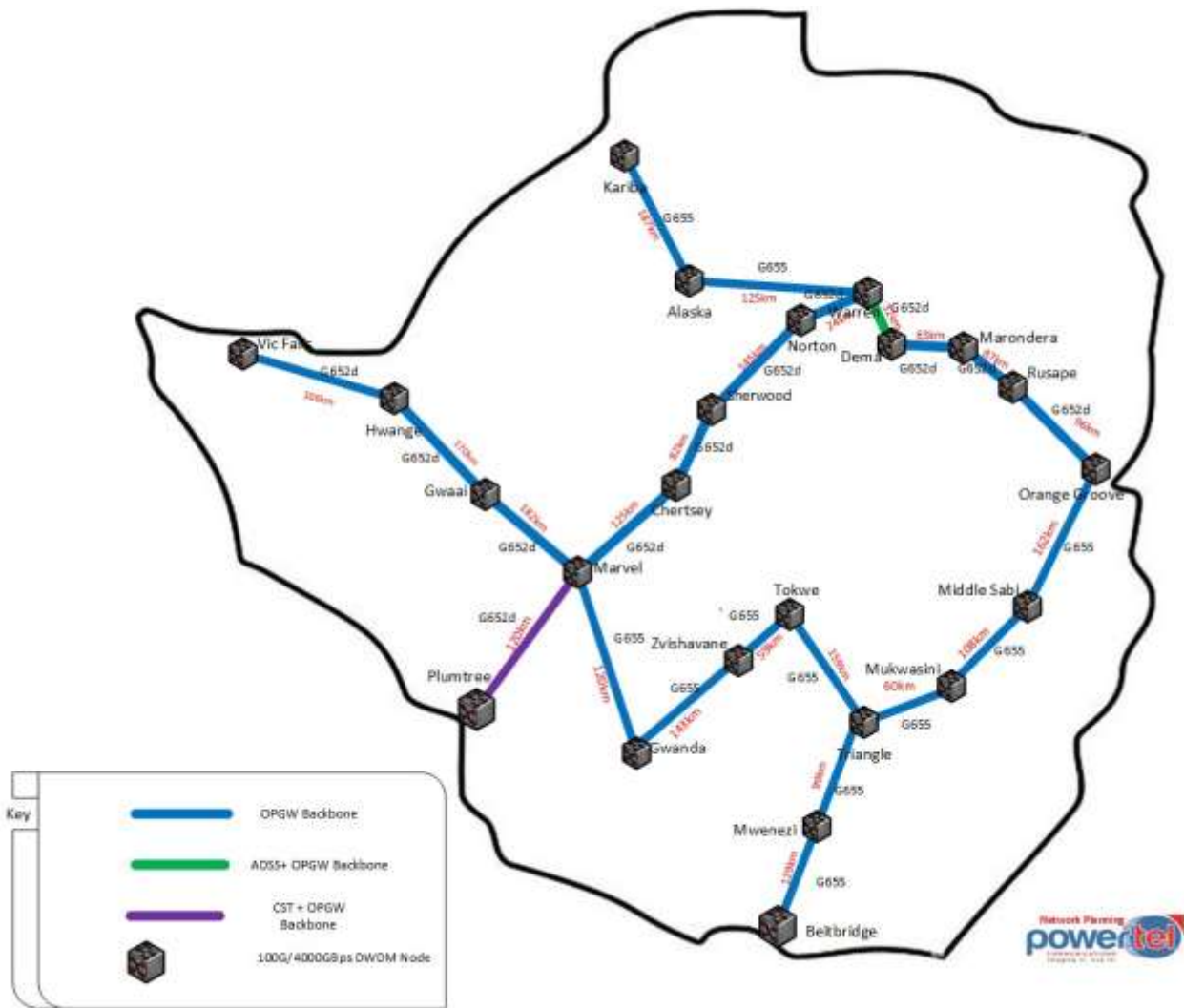


Figure 1: Envisioned Coverage

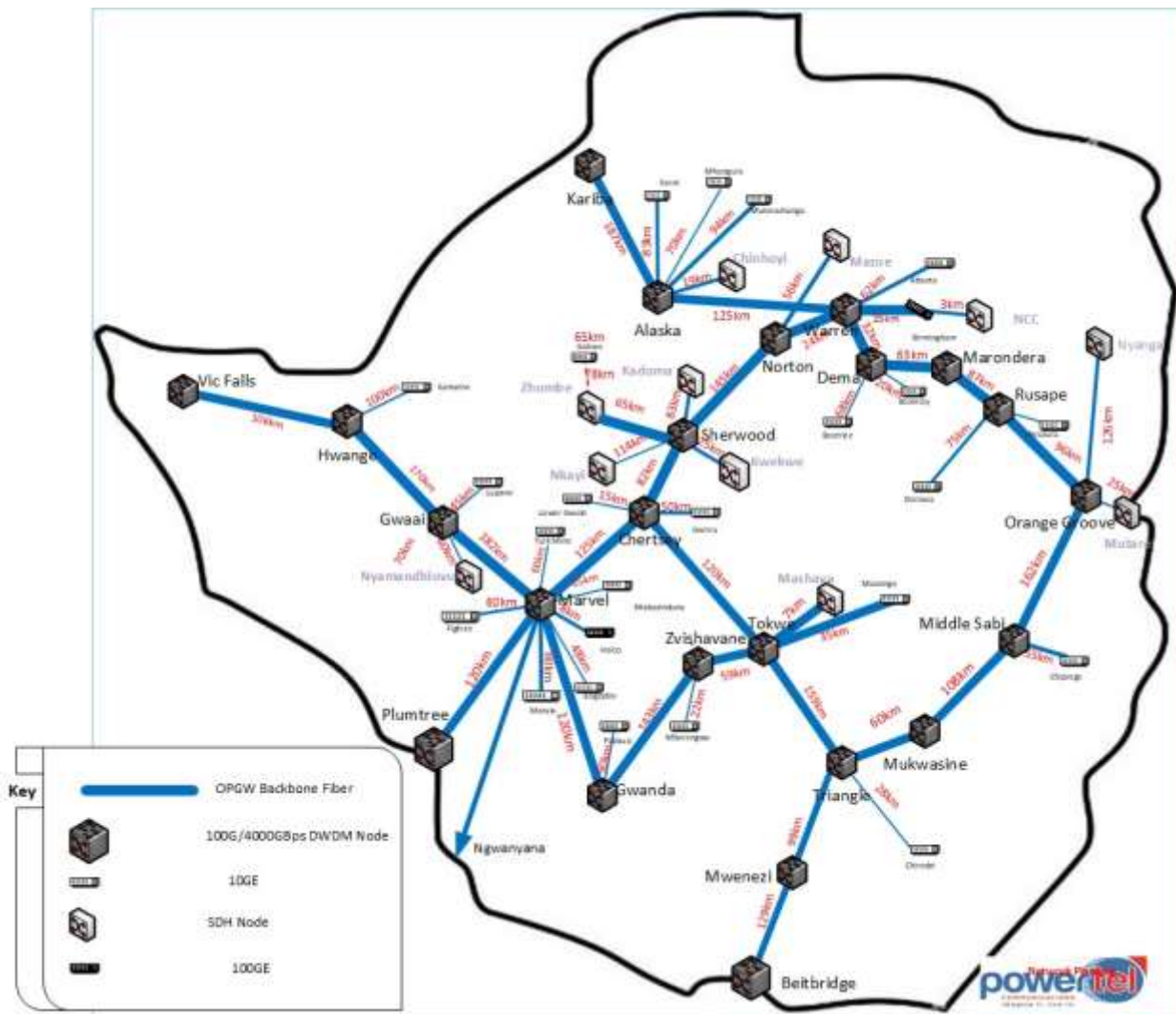


Figure 2 : Integration with Existing Equipment





Nyazura													1x10 GE							
Bromley										1x10G E										
Atlanta									1x10GE											
Mhangura																				1 x 10G
Mutorashan nga																				1 x 10G
Substation Control	IEC 101 protocol and other power network control protocols over Ethernet																			

### CLARIFICATION 1

RFP Section and Page #	Rfx Requirement	Bidder Questions	Powertel Responses
Figure-1	DWDM network Diagram	What is the attenuation to be considered. Should we consider 0.22dB/Km as this is OPGW and a 3dB EoL margin?	Refer to Technical Addendum, We have specified the fibre cable type (i.e. ADSS, OPGW, etc.) and standard (i.e. G655, G652.d) on the technical addendum
Figure-1	DWDM Network Diagram	For a network that should be 40 Channels or more with higher bandwidth it is important to note that distances should be around 100kms spans (25dB). However it seems some of the spans are more than 100kms to a level of even 182 kms. Is PowerTel considering intermediate amplifiers over here for a network that in future can handle rates of 400G, 800G lamdas as well?	Suppliers to provide a solution that can support the provided distances. The nodes are based on existing substation premises.

RFP Section and Page #	RFx Requirement	Bidder Questions	Powertel Responses
Service Matrix	Services Matrix	The document is not a clear print. Can we get a clear print of the document for Traffic matrix and distances?	Please refer to clear print addendum
Contract	General Terms and Conditions	Could you please provide the general terms and conditions? They are not part of the tender document	Please refer to Part 3 of the bidding documents entitled "CONTRACT". These are standard Contract terms and conditions for your information only, and bidders need not complete this section at this stage. These will be discussed and negotiated with the winning bidder.
Integration with Existing network	Provide mechanism for transportation of E-1 by bundling it to STM-1	Is there an expectation that the DWDM/OTN solution offered will also bundle the E-1 to STM-1	The DWDM equipment should support connections to SDH equipment as indicated in the service matrix (E1- will be bundled on the SDH equipment). The DWDM equipment should support transportation of SDH traffic via the DWDM equipment.
Integration with Existing Network	Be Backward compatible with OSN3500	What sort of Backward compatibility is requested?	Please refer to technical specifications for more details.  The DWDM equipment should support connections to SDH equipment as indicated in the service matrix

RFP Section and Page #	RFx Requirement	Bidder Questions	Powertel Responses
DWDM Figures	There are two figures of DWDM network	Which of the figure is to be followed for the design of the DWDM. Is it the figure -1 or the Figure-2 that is consisting of the new Network?	Please refer the technical specification addendum document in full. All parts should be used to propose the solution. Take note of the service matrix as well it will guide you on the design. The
Additions In the service	Extra interfaces required in the service matrix	Are these interfaces to be provisioned now or is it for future support?	At-least 1 x100GE add/drop interfaces, in addition to the services mentioned in the service matrix for Marvel, Warren and Gweru,  At-least 4 x 10GE and 4 x 1GE add/drop interfaces, in addition to the services mentioned in the service matrix in all nodes.
Capacity requirements	It should be able to transmit traffic between SDH node and DWDM node (Bidirectional)	A DWDM node is essentially transmitting wavelengths. Does this mean the Service node should have VC-x Cross Connect ability?	The DWDM equipment should support connections to SDH equipment as indicated in the service matrix. The DWDM equipment should support transportation of SDH traffic via the DWDM.
Supported Service Types	E1/E3 services, PCM services, CPRI Services,	There is no service type mentioned in the service matrix. Do we need only support of these or we need a quote also?	You need to only support, no need to quote
Integration with SDH Muxes	Additional POPS in the Figure?	Is it an expectation to quote also for the additional devices? If yes then what kind of devices are these and what technology?	Bidders to quote for DWDM Multiplexers and the necessary cards and licenses to support integration to existing equipment.

RFP Section and Page #	RFx Requirement	Bidder Questions	Powertel Responses
Figure-2	4000Gbps Node and 280Gbps node	Are we talking about the switching capacity over here?	The supplied Multiplexers should support up to 40 lambdas of 100Gbps capacity each
Bidding Procedure	Eligibility requirements	As a global company and not a local Zimbabwe company, we do not have a formal NSSA letter or equivalent, we however can provide a statement on behalf of the company's head of legal that the company has adhered and paid all required employer contributions and labor related payments by the applicable laws. Please confirm if that this is sufficient.	Yes that is what is being referred to as Equivalent document in country of origin.
Closing Date	Submission deadline	We kindly request an extension of the submission date. This additional time will enable us to provide a more comprehensive proposal and meet all requirements effectively.	The closing date/ bid submission deadline has been extended from 10 May 2024 to 10 June 2024 at 1000Hrs Local Time
Bid Security	Bid Security	Can you provide the requested wording for the \$5,000 bid security?	Your bank should be able to assist you, this is the normal security guarantee document
Bidding Procedure	Eligibility and Qualification Criteria	Please clarify what these forms are – CR14 or CR6	These are Company registration documents, showing the company shareholding structure



**CLARIFICATION 2**

<b>Bidder Queries on Powertel_ WDM network</b>						
<b>System</b>	<b>Reference Document</b>		<b>Pwt Requirement</b>	<b>Bidder Response</b>		<b>Pwt Response</b>
		<b>Page</b>		<b>Clarification sought?</b>	<b>Bidder proposal</b>	
<b>DWDM Network</b>	ICT-PWT-03-2024-1	20	Figure 1 : Envisioned	Please provide a clear image, the site name and distance of the current image is unclear		Provided in Addendum
	ICT-PWT-03-2024-1	21	Additional map	Please provide a clear image, the site name and distance of the current image is unclear		Provided in Addendum
	ICT-PWT-03-2024-1	20-21		What is the fiber attenuation coefficient? Is it can be set to 0.275db/km, and also consider 3dB margin per fiber span?		We have provided fibre types for all the spans
	ICT-PWT-03-2024-1	20-21		some fiber distance is more than 100km, in order to improve optimal transmission performance, is it possible to add intermediate sites to		Suppliers to provide a solution that can support the provided distances. The nodes are

				reduce the distance between single spans?		based on existing substation premises.
	ICT-PWT-03-2024-1	20-21		In understanding, P20 is the new build DWDM network, P21 is the entire network design with new build DWDM and existing network equipment. so, the scope of the bidding is: 1 The bidding equipment only includes 23 new build DWDM sites in P20. 2. The 23 new built DWDM sites need to consider how to connect with existing network. 3. If it is need consider interworking with existing network, please provide the required port type, port quantity, port model distance.		Provided in Addendum

	ICT-PWT-03-2024-1	22-24	service matrix	<p>The service matrix identify 100G, such as from Vic Fails to Hwang, 100G. So that mean, in the bidding requirement, it need provide a 100GE customer side interface and the bandwidth is 100G?</p>	<p>The requirement is 100Gbps capacity between all adjacent nodes and capacity to increase this to 40 x 100Gbps as and when required in future</p> <p>In addition the following is required; At-least 1 x100GE add/drop interfaces, in addition to the services mentioned in the service matrix for Marvel, Warren and Gweru,</p> <p>At-least 4 x 10GE and 4 x 1GE add/drop</p>
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						interfaces, in addition to the services mentioned in the service matrix in all nodes.
	ICT-PWT-03-2024-1	22-24	service matrix	can not find Seke in P20 and P21 topology		Seke is referred to as Dema in some pages
	ICT-PWT-03-2024-1	22-24	service matrix	All the site can not find in P20 topology? So how to plan those service?		Please refer to technical addendum
	ICT-PWT-03-2024-1	22-24	service matrix	Is it need plan protection resource for all the service matrix? Which protection is need?	use SNCP protection	Please refer to technical addendum section 3.7 Protection and Redundancy for detailed protection requirements

	ICT-PWT-03-2024-1	25	Provide a mechanism for the transportation of E1 throughout the entire network (e.g., bundling them into an STM-1 and transporting them on an underlying DWDM network).	Is it need to provide an E1 board in DWDM site to access E1 signal, or it is only need to provide STM-1 transmission capability in DWDM site?		The DWDM equipment should support connections to SDH equipment as indicated in the service matrix (E1-will be bundled on the SDH equipment). The DWDM equipment should support transportation of SDH traffic via the DWDM equipment.
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**CLARIFICATION 3**

Bidder Queries on Powertel_ DWDM network 20240425						
System	Reference Document		Pwt Requirement	Bidder Response		Pwt Response
		Page		Clarification sought?	Bidder proposal	

	DWDM ADDENDUM	7, 9	Figure 1: Envisioned Coverage Figure 2 : Integration with Existing Equipment	in chapter 3.4, the fiber type is G.652 and G.655, but in Figure 1 and Figure 2, the fibre type is not indicated , should we assume that we choose the fibre type at random to meet the requirement of both G.652 and G.655 without any equipment components change?		Refer to figure 1 on the addendum
	DWDM ADDENDUM	7, 9	Figure 1: Envisioned Coverage Figure 2 : Integration with Existing Equipment	in document "DWDM ADDENDUM", the fiber attenuation is not indicated , can we use 0.24db/km+3db margin for each fiber span? As this is highly recommended for best performance		Please utilise the recommended attenuation for the ITU-T G.652.D and ITU-T G.655
	DWDM ADDENDUM	7, 9	Figure 1: Envisioned Coverage Figure 2 : Integration with Existing Equipment	we cannot find the the fibre distance between: 1. Rusape to Orange Groove 2. Zvishvane to Shurugwi 3. Orange Groove to Mutare		Rusape Orange groove is 96km as indicated in figure 2 of the addendum  There is no mention of Shurugwi on the addendum  Orange groove to Mutare is 25km as indicated in figure of the addendum

DWDM ADDENDUM	10	Service matrix	The following site cannot be found in figure 1 and figure 2 1. Figtree		Solusi has been replaced by Figtree which is 60km away from Marvel substation and should have a 10GE port
DWDM ADDENDUM	10	Service matrix	We found Hre- Warren to Hre- Birmingham 100G, and also has Hre- Birmingham to Hre- Warren 100G, are these sites duplicated?		Yes that is one link, we have removed the duplication
DWDM ADDENDUM	7, 9	Figure 1: Envisioned Coverage Figure 2 : Integration with Existing Equipment	Please confirm the type of devices these are in sites: "Lupane", "Solusi", etc		10GE switch. Bidders should ensure their solutions can interface with these at the required capacities
DWDM ADDENDUM	10	Figure 1: Envisioned Coverage Figure 2 : Integration with Existing Equipment	There are some existing DWDM sites, such as Zhombe, which is connected to Hwange and Sherwood, in the service matrix, the requirement is only 1*STM-16 for Zhombe-Sherwood, so for site Hwange and Sherwood, do we need 10G/100G lambda to connect with Zhombe?		Refer to addendum. Zhombe is currently an SDH node and connects to Sherwood.
DWDM ADDENDUM	10	Service matrix	There are some 10G service requirement in sites such as Gwaai-Nyamandlovu,		No need for lambda, just drop 1 x STM-16 with SFP that can cover the

				do we need DWDM 10G lambda connection for them?		indicated distance from Gwaai to Nyamandlovu
	DWDM ADDENDUM	10	Service matrix	There are 10G service requirements, for sites such as Gwaai-Lupane, do we need DWDM 10G lambda connection?		No need for lambda, just drop 1 x 10GE with SFP that can cover the indicated distance
	DWDM ADDENDUM	10	Service matrix	For client side, the requirement shows that we only configure 1*100GE in sites "Marvel, Warren and Gweru" and 4*10GE+4*GE in all new 23 DWDM site. All the 100GE,10GE,GE interface use DWDM/OTN port, just do transparent transmission, without any service grooming or process. Please confirm if this is accurate		Yes
	DWDM ADDENDUM	14	Provide a mechanism for the transportation of E1 throughout the entire network (e.g., bundling them into an STM-1 and transporting them on an underlying DWDM network).	In some DWDM sites, do they require to only access the STM-1 and use DWDM/OTN port to do transparent transmission, or they also need an SDH board to process the STM-1 signal?		SDH boards required only to interface with existing SDH Multiplexers as per service Matrix  E1s should be supported for termination at SDH multiplexers