

Summary of Ultimate Foundation forces

Sr. No.	Model	Load Case	Force In Leg Dir. (kN)	Residual Shear Perpendicular To Leg (kN)	Residual Shear Horizontal To Leg - Res. (kN)	Residual Shear Horizontal To Leg - Long. (kN)	Residual Shear Horizontal To Leg - Tran. (kN)	Total Long. Force (kN)	Total Tran. Force (kN)	Total Vert. Force (kN)
Foundation Forces along LEG Direction										
1	Run #2 a 196 2dr + standard.tow	L001 :0 deg wind: Normal Condition :Vmax	14617.09	459.235	460.46	11.916	460.305			
2	Run #1 a 196 2dr + standard (with re	L002 :0 deg wind: Normal Condition :Vmin	-11836.9	536.711	537.973	-19.327	537.626			
3	Run #1 a 196 2dr + standard (with re	L091 Normal Condition High Intensity 90deg W	-5602.77	580.517	581.878	581.467	-21.859			
4	Run #1 a 196 2dr + standard (with re	L091 Normal Condition High Intensity 90deg W	-5602.77	580.517	581.878	581.467	-21.859			
Foundation Forces along Global Direction (Vertical Direction)										
1	Run #2 a 196 2dr + standard.tow	L001 :0 deg wind: Normal Condition :Vmax						-1048.32	-1496.71	14509.69
2	Run #1 a 196 2dr + standard (with re	L002 :0 deg wind: Normal Condition :Vmin						-819.27	-1376.22	-11740.3
3	Run #2 a 196 2dr + standard.tow	L001 :0 deg wind: Normal Condition :Vmax						-1048.32	-1496.71	14509.69
4	Run #2 a 196 2dr + standard.tow	L045 :45deg Diagonal wind: Normal Condition :Vmax						-1173.94	-1180.68	12659.25

Notes

- Above loads are with Tower factored loads in kN.
- For foundation design, the corresponding overload factors shall be considered extra.
- Tower slope = 4.0856 deg
- Stub = Q H 250 x 250 x 25
- Hole to hole Width of Standard Tower = 18.858m

POWER GRID COMPANY OF BANGLADESH

APPROVED

This approval is general only and does not release the manufacturer/contractor/Supplier from compliance with Specifications and Standards for Design, workmanship and performance as stipulated in the contract.

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18 OCT 2012

Design, Supply, Erection, Testing & Commissioning of Barisal-Bhola-Borhanuddin 230kV Double Circuit Transmission line on Turnkey Basis. (Contract No: PGCBS/SC/TL/2011/03 dated 21.06.2012)										
FOUNDATION FORCES FOR TOWER TYPE "2DR M20"										
Sr. No.	Model	Load Case	Force In Leg Dir. (kN)	Residual Shear Perpendicular To Leg (kN)	Residual Shear Horizontal To Leg - Res. (kN)	Residual Shear Horizontal To Leg - Long. (kN)	Residual Shear Horizontal To Leg - Tran. (kN)	Total Long. Force (kN)	Total Tran. Force (kN)	Total Vert. Force (kN)
Foundation Forces along LEG Direction										
1	Run #2 a 196 2dr + m20.tow	L001 :0 deg wind: Normal Condition :Vmax	13188.61	376.857	377.842	5.831	377.797			
2	Run #2 a 196 2dr + m20.tow	L002 :0 deg wind: Normal Condition :Vmin	-10914	473.356	474.553	-0.596	474.553			
3	Run #1 a 196 2dr + m20 (with redundancy)	L091 Normal Condition High Intensity 90deg Wind	-4621.15	498.465	499.655	499.444	-14.522			
4	Run #1 a 196 2dr + m20 (with redundancy)	L091 Normal Condition High Intensity 90deg Wind	-4621.15	498.465	499.655	499.444	-14.522			
Foundation Forces along Global Direction (Vertical Direction)										
1	Run #2 a 196 2dr + m20.tow	L001 :0 deg wind: Normal Condition :Vmax						-941.17	-1313.13	13094.71
2	Run #2 a 196 2dr + m20.tow	L002 :0 deg wind: Normal Condition :Vmin						-772.63	-1247.78	-10825.2
3	Run #1 a 196 2dr + m20 (with redundancy)	L001 :0 deg wind: Normal Condition :Vmax						-936.59	-1322.15	13044.05
4	Run #1 a 196 2dr + m20 (with redundancy)	L045 :45deg Diagonal wind: Normal Condition :Vmax						-1008.7	-1020.26	11045.08

Notes

- Above loads are with Tower factored loads in kN.
- For foundation design, the corresponding overload factors shall be considered extra.
- Tower slope = 4.0856 deg
- Stub = QAE H 250 x 250 x 25
- Hole to hole Width of Standard Tower = 18.858m

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Summary of Ultimate Foundation forces for Standard Tower										
Sr. No.	Model	Load Case	Leg Member	Force in Leg Dir. (kN)	Residual Shear Perpendicular To Leg (kN)	Residual Shear Horizontal To Leg - Long. (kN)	Residual Shear Horizontal To Leg - Tran. (kN)	Total Long. Force (kN)	Total Tran. Force (kN)	Total Vert. Force (kN)
Foundation Forces along LEG Direction										
1	Run #2 01 a 196 ft 2dax 0.0m ext.tow	In Pt - L002 : 0-35°Ten : 0 deg wind: NC : Vmin	g151P	9527.398	349.141	42.406	347.626			
2	Run #2 01 a 196 ft 2dax 0.0m ext.tow	L027 : 0-35°Ten : 0 deg wind: NC : Single Circuit	g153P	-9079.414	373.581	142.096	347.188			
3	Run #2 01 a 196 ft 2dax 0.0m ext.tow	In Pt - L001 : 0-35°Ten : 0 deg wind: NC : Vmax	g154P	-3650.456	427.025	158.412	396.904			
4	Run #2 01 a 196 ft 2dax 0.0m ext.tow	In Pt - L001 : 0-35°Ten : 0 deg wind: NC : Vmax	g154P	-3650.456	427.025	158.412	396.904			
Foundation Forces along Global Direction (Vertical Direction)										
1	Run #2 01 a 196 ft 2dax 0.0m ext.tow	In Pt - L002 : 0-35°Ten : 0 deg wind: NC : Vmin	g151P					-706.13	-1011.35	9453.66
2	Run #2 01 a 196 ft 2dax 0.0m ext.tow	L001 : 0-35°Ten : 0 deg wind: NC : Vmax	g153P					-774.04	-979.13	-9000.97
3	Run #3 02 a 196 ft 2dax 0.0m ext with redundant.tow	In Pt - L002 : 0-35°Ten : 0 deg wind: NC : Vmin	Fg372434P					-717.8	-1032.24	9405.5
4	Run #2 01 a 196 ft 2dax 0.0m ext.tow	In Pt - L109 : 0-35°Ten : 45 deg Diagonal wind:	g153P					-847.82	-842.04	-8541.61

Notes

- Above loads are with Tower factored loads in kN.
- For foundation design, the corresponding overload factors shall be considered extra.
- Stub - QAE H 200 x 200 x 20

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APPROVED

This approval is general only and does not release the manufacturer/contractor/Supplier from compliance with specification and Standards for Design, workmanship and performance as stipulated in the contract.


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10 JAN 2013