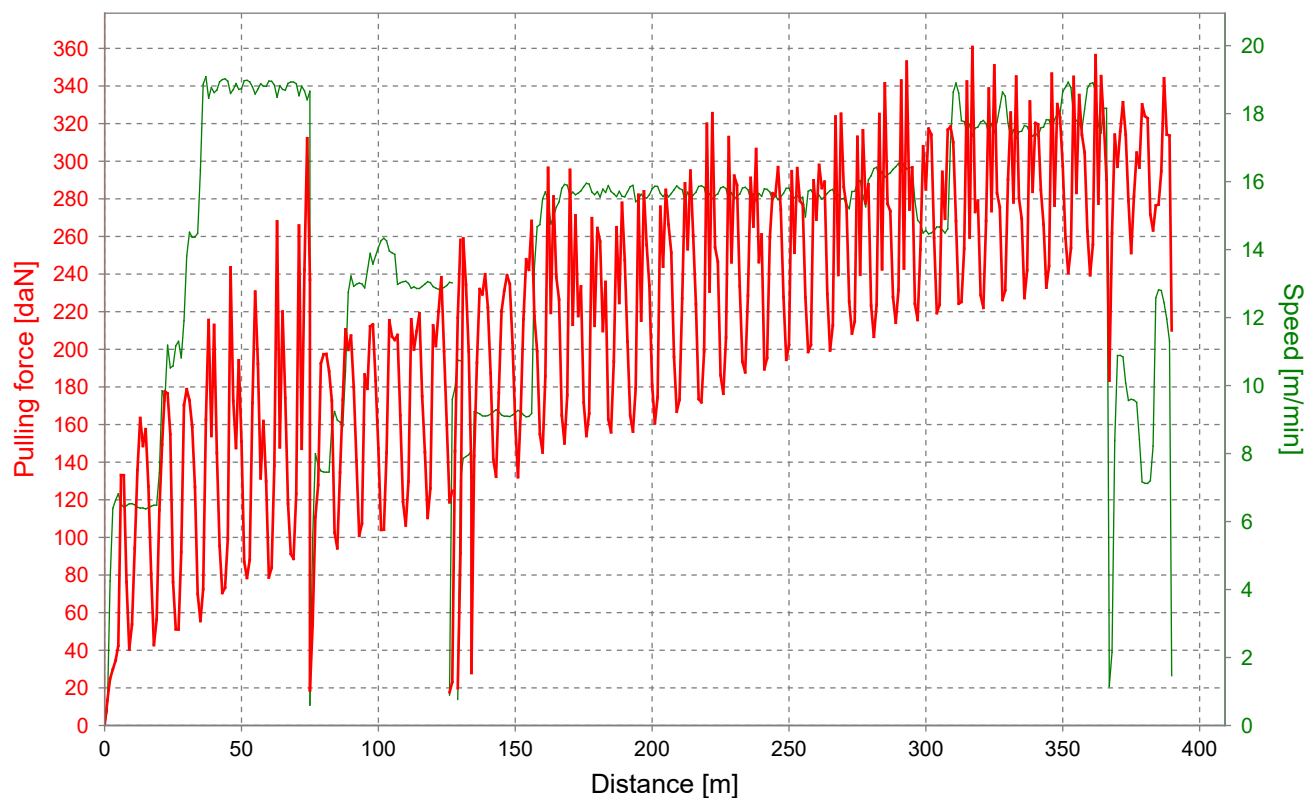


DELTA STAR AD Nkola Petkov Street 22A BG-5400 SEVLIEVO		Report			
Project #	Commissioning Dimitrovgrad		Date	8/14/25	
Section			Method	Open trench	
Company	Delta Star		Operator	DCLEM	
Remarks	No issue				
Cable parameters as per datasheet			Devices		
Type	110 kv		Winch	TL 3022 DRHZ-1050/9	
Diameter	65 mm		Machine serial no	SN#160334	
Linear mass	4.9 kg/m		Asset #	-----	
Reel #	3		Lubricant	Without	
Max pull force	1000 daN		Pushing device	No pushing device	
Summary					
Installation length	389.8 m		Duration	00:39:42	
GPS Location	42.0712°; 25.5641°; 97 m				

Operation chart



List of highlights(Entire table on the following pages)

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
0.0	0	0.0	00:00:00	Start (13:31)
366.9	198	3.4	00:35:24	Machine stopped / connection interrupted
389.8	210	1.5	00:39:42	Stop (14:11)

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
0.0	0	0.0	00:00:00	Start (13:31)
1.0	13	0.4	00:01:36	
2.0	25	4.2	00:01:50	
3.0	30	6.4	00:01:59	
4.0	34	6.6	00:02:08	
5.0	42	6.8	00:02:17	
6.0	133	6.5	00:02:26	
7.0	133	6.4	00:02:36	
8.0	76	6.5	00:02:45	
9.0	41	6.5	00:02:54	
10.0	54	6.5	00:03:03	
11.0	94	6.5	00:03:13	
12.0	136	6.4	00:03:22	
13.0	163	6.4	00:03:31	
14.0	149	6.4	00:03:41	
15.0	157	6.4	00:03:50	
16.0	127	6.4	00:04:00	
17.0	81	6.4	00:04:09	
18.0	43	6.5	00:04:18	
19.0	56	6.5	00:04:27	
20.0	115	7.4	00:04:35	
21.0	149	9.8	00:04:41	
22.0	178	9.6	00:04:47	
23.0	177	11.2	00:04:53	
24.0	155	10.5	00:04:58	
25.0	76	10.6	00:05:04	
26.0	51	11.2	00:05:09	
27.0	51	11.3	00:05:15	
28.0	92	10.8	00:05:20	
29.0	170	11.9	00:05:25	
30.0	179	13.8	00:05:29	
31.0	173	14.5	00:05:34	
32.0	159	14.4	00:05:38	
33.0	127	14.4	00:05:42	
34.0	70	14.5	00:05:46	
35.0	56	16.3	00:05:50	
36.0	72	18.9	00:05:53	
37.0	163	19.1	00:05:56	
38.0	216	18.5	00:05:59	
39.0	154	18.8	00:06:02	
40.0	213	18.6	00:06:06	
41.0	145	18.7	00:06:09	
42.0	95	18.9	00:06:12	
43.0	71	19.0	00:06:15	
44.0	73	19.0	00:06:18	
45.0	99	19.0	00:06:22	
46.0	244	18.6	00:06:25	
47.0	173	18.7	00:06:28	
48.0	148	18.9	00:06:31	
49.0	194	18.7	00:06:34	
50.0	151	18.7	00:06:38	
51.0	87	19.0	00:06:41	
52.0	78	19.0	00:06:44	
53.0	88	18.9	00:06:47	
54.0	172	18.8	00:06:50	
55.0	231	18.6	00:06:53	
56.0	192	18.7	00:06:57	
57.0	131	18.9	00:07:00	
58.0	162	18.8	00:07:03	
59.0	130	18.8	00:07:06	
60.0	79	19.0	00:07:09	
61.0	84	19.0	00:07:13	
62.0	138	18.8	00:07:16	
63.0	268	18.5	00:07:19	
64.0	148	18.8	00:07:22	
65.0	220	18.7	00:07:25	
66.0	174	18.7	00:07:29	
67.0	118	18.9	00:07:32	
68.0	91	18.9	00:07:35	
69.0	89	18.9	00:07:38	
70.0	123	18.9	00:07:41	

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
71.0	266	18.5	00:07:45	
72.0	147	18.8	00:07:48	
73.0	242	18.7	00:07:51	
74.0	312	18.4	00:07:54	
75.0	237	18.7	00:07:57	
75.0	19	0.6	00:09:07	
76.0	54	5.5	00:09:17	
77.0	111	8.0	00:09:25	
78.0	128	7.6	00:09:33	
79.0	192	7.5	00:09:41	
80.0	197	7.5	00:09:49	
81.0	197	7.4	00:09:57	
82.0	188	7.5	00:10:05	
83.0	173	8.8	00:10:11	
84.0	103	9.2	00:10:18	
85.0	94	9.0	00:10:25	
86.0	134	8.9	00:10:31	
87.0	173	8.8	00:10:38	
88.0	211	10.4	00:10:44	
89.0	200	12.7	00:10:48	
90.0	207	13.2	00:10:53	
91.0	180	12.9	00:10:58	
92.0	141	13.0	00:11:02	
93.0	101	13.0	00:11:07	
94.0	107	13.0	00:11:11	
95.0	187	12.9	00:11:16	
96.0	179	13.4	00:11:20	
97.0	212	13.9	00:11:25	
98.0	213	13.6	00:11:29	
99.0	183	13.8	00:11:34	
100.0	147	14.1	00:11:38	
101.0	104	14.3	00:11:42	
102.0	104	14.3	00:11:46	
103.0	145	14.3	00:11:50	
104.0	215	14.0	00:11:55	
105.0	207	13.9	00:11:59	
106.0	205	13.9	00:12:03	
107.0	208	13.0	00:12:08	
108.0	165	13.0	00:12:13	
109.0	119	13.1	00:12:17	
110.0	106	13.1	00:12:22	
111.0	130	13.0	00:12:26	
112.0	216	12.9	00:12:31	
113.0	200	12.9	00:12:36	
114.0	210	12.9	00:12:40	
115.0	219	12.9	00:12:45	
116.0	175	12.9	00:12:50	
117.0	145	13.0	00:12:54	
118.0	110	13.1	00:12:59	
119.0	126	13.0	00:13:04	
120.0	213	12.9	00:13:08	
121.0	202	12.9	00:13:13	
122.0	220	12.8	00:13:18	
123.0	238	12.8	00:13:22	
124.0	199	12.9	00:13:27	
125.0	160	12.9	00:13:32	
126.0	119	13.0	00:13:36	
127.0	125	13.0	00:13:41	
126.0	18	0.9	00:16:11	
127.0	23	9.6	00:16:17	
128.0	146	9.9	00:16:23	
129.0	217	10.8	00:16:29	
130.0	258	10.7	00:16:34	
129.0	20	0.8	00:18:33	
130.0	92	7.2	00:18:40	
131.0	259	7.9	00:18:48	
132.0	234	7.9	00:18:55	
133.0	199	8.0	00:19:03	
134.0	132	8.1	00:19:10	
134.0	28	4.2	00:19:34	
135.0	143	9.2	00:19:40	

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
136.0	193	9.2	00:19:47	
137.0	232	9.2	00:19:53	
138.0	229	9.1	00:20:00	
139.0	240	9.1	00:20:06	
140.0	222	9.1	00:20:13	
141.0	187	9.2	00:20:19	
142.0	141	9.2	00:20:26	
143.0	132	9.3	00:20:32	
144.0	177	9.2	00:20:39	
145.0	220	9.1	00:20:46	
146.0	231	9.1	00:20:52	
147.0	239	9.1	00:20:59	
148.0	235	9.1	00:21:05	
149.0	204	9.1	00:21:12	
150.0	161	9.2	00:21:18	
151.0	132	9.3	00:21:25	
152.0	167	9.2	00:21:31	
153.0	216	9.1	00:21:38	
154.0	248	9.1	00:21:45	
155.0	242	9.1	00:21:51	
156.0	268	9.2	00:21:58	
157.0	218	13.5	00:22:02	
158.0	199	14.7	00:22:06	
159.0	155	14.7	00:22:10	
160.0	145	15.5	00:22:14	
161.0	186	15.7	00:22:18	
162.0	296	15.4	00:22:22	
163.0	219	14.8	00:22:26	
164.0	281	15.0	00:22:30	
165.0	238	15.2	00:22:34	
166.0	226	15.4	00:22:38	
167.0	165	15.8	00:22:42	
168.0	150	15.9	00:22:45	
169.0	176	15.9	00:22:49	
170.0	295	15.6	00:22:53	
171.0	213	15.7	00:22:57	
172.0	271	15.6	00:23:01	
173.0	218	15.7	00:23:05	
174.0	233	15.7	00:23:08	
175.0	172	15.8	00:23:12	
176.0	154	16.0	00:23:16	
177.0	166	15.9	00:23:20	
178.0	270	15.7	00:23:24	
179.0	213	15.6	00:23:27	
180.0	264	15.7	00:23:31	
181.0	257	15.5	00:23:35	
182.0	210	15.8	00:23:39	
183.0	236	15.7	00:23:43	
184.0	163	15.9	00:23:47	
185.0	156	15.7	00:23:50	
186.0	193	15.6	00:23:54	
187.0	265	15.6	00:23:58	
188.0	225	15.7	00:24:02	
189.0	278	15.6	00:24:06	
190.0	247	15.6	00:24:09	
191.0	204	15.7	00:24:13	
192.0	165	15.9	00:24:17	
193.0	156	15.9	00:24:21	
194.0	179	15.4	00:24:25	
195.0	282	15.5	00:24:29	
196.0	215	15.6	00:24:33	
197.0	284	15.5	00:24:36	
198.0	255	15.5	00:24:40	
199.0	234	15.6	00:24:44	
200.0	181	15.8	00:24:48	
201.0	161	15.9	00:24:52	
202.0	175	15.9	00:24:56	
203.0	276	15.7	00:24:59	
204.0	244	15.6	00:25:03	
205.0	285	15.7	00:25:07	
206.0	266	15.6	00:25:11	

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
207.0	251	15.7	00:25:15	
208.0	196	15.8	00:25:18	
209.0	167	15.9	00:25:22	
210.0	173	15.8	00:25:26	
211.0	227	15.8	00:25:30	
212.0	288	15.4	00:25:34	
213.0	253	15.7	00:25:38	
214.0	295	15.5	00:25:42	
215.0	261	15.6	00:25:45	
216.0	224	15.7	00:25:49	
217.0	174	15.9	00:25:53	
218.0	172	15.9	00:25:57	
219.0	199	15.8	00:26:00	
220.0	320	15.5	00:26:04	
221.0	231	15.6	00:26:08	
222.0	326	15.5	00:26:12	
223.0	254	15.6	00:26:16	
224.0	247	15.6	00:26:20	
225.0	186	15.8	00:26:24	
226.0	176	15.8	00:26:27	
227.0	206	15.8	00:26:31	
228.0	313	15.5	00:26:35	
229.0	246	15.7	00:26:39	
230.0	292	15.5	00:26:43	
231.0	287	15.6	00:26:47	
232.0	234	15.6	00:26:50	
233.0	193	15.8	00:26:54	
234.0	188	15.8	00:26:58	
235.0	229	15.8	00:27:02	
236.0	291	15.5	00:27:06	
237.0	265	15.6	00:27:10	
238.0	306	15.4	00:27:13	
239.0	246	15.7	00:27:17	
240.0	261	15.6	00:27:21	
241.0	189	15.8	00:27:25	
242.0	195	15.8	00:27:29	
243.0	259	15.7	00:27:33	
244.0	283	15.5	00:27:36	
245.0	282	15.6	00:27:40	
246.0	297	15.5	00:27:44	
247.0	274	15.6	00:27:48	
248.0	228	15.7	00:27:52	
249.0	194	15.8	00:27:56	
250.0	202	15.8	00:27:59	
251.0	295	15.6	00:28:03	
252.0	251	15.5	00:28:07	
253.0	296	15.6	00:28:11	
254.0	279	15.5	00:28:15	
255.0	277	15.5	00:28:19	
256.0	228	15.0	00:28:23	
257.0	199	15.7	00:28:27	
258.0	202	15.8	00:28:30	
259.0	290	15.6	00:28:34	
260.0	269	15.5	00:28:38	
261.0	298	15.6	00:28:42	
262.0	286	15.5	00:28:46	
263.0	289	15.6	00:28:50	
264.0	229	15.7	00:28:54	
265.0	199	15.7	00:28:57	
266.0	213	15.8	00:29:01	
267.0	324	15.5	00:29:05	
268.0	240	15.6	00:29:09	
269.0	325	15.5	00:29:13	
270.0	286	15.5	00:29:17	
271.0	276	15.3	00:29:20	
272.0	225	15.2	00:29:24	
273.0	208	15.7	00:29:28	
274.0	215	15.7	00:29:32	
275.0	313	16.0	00:29:36	
276.0	240	16.0	00:29:40	
277.0	316	15.6	00:29:43	

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
278.0	278	15.3	00:29:47	
279.0	288	16.1	00:29:51	
280.0	223	16.2	00:29:55	
281.0	207	16.4	00:29:58	
282.0	224	16.4	00:30:02	
283.0	325	16.1	00:30:06	
284.0	243	16.3	00:30:10	
285.0	341	16.1	00:30:13	
286.0	277	16.2	00:30:17	
287.0	273	16.3	00:30:21	
288.0	228	16.4	00:30:24	
289.0	214	16.4	00:30:28	
290.0	232	16.5	00:30:32	
291.0	343	16.3	00:30:35	
292.0	243	16.5	00:30:39	
293.0	353	16.4	00:30:43	
294.0	274	16.4	00:30:46	
295.0	297	16.4	00:30:50	
296.0	224	15.4	00:30:54	
297.0	216	14.9	00:30:58	
298.0	253	14.8	00:31:02	
299.0	308	14.5	00:31:06	
300.0	285	14.6	00:31:10	
301.0	317	14.5	00:31:14	
302.0	314	14.5	00:31:19	
303.0	259	14.6	00:31:23	
304.0	219	14.7	00:31:27	
305.0	224	14.7	00:31:31	
306.0	294	14.6	00:31:35	
307.0	269	14.5	00:31:39	
308.0	317	14.6	00:31:43	
309.0	318	17.2	00:31:46	
310.0	310	18.6	00:31:50	
311.0	268	18.9	00:31:53	
312.0	224	18.6	00:31:56	
313.0	225	17.8	00:32:00	
314.0	254	17.8	00:32:03	
315.0	342	17.4	00:32:06	
316.0	260	17.7	00:32:10	
317.0	361	17.3	00:32:13	
318.0	273	17.6	00:32:17	
319.0	279	17.6	00:32:20	
320.0	229	17.8	00:32:23	
321.0	222	17.8	00:32:27	
322.0	268	17.7	00:32:30	
323.0	339	17.4	00:32:34	
324.0	274	17.7	00:32:37	
325.0	351	17.4	00:32:40	
326.0	283	17.8	00:32:44	
327.0	276	18.2	00:32:47	
328.0	226	18.6	00:32:50	
329.0	231	18.5	00:32:54	
330.0	290	17.7	00:32:57	
331.0	326	17.3	00:33:00	
332.0	278	17.5	00:33:04	
333.0	345	17.3	00:33:07	
334.0	280	17.5	00:33:11	
335.0	270	17.5	00:33:14	
336.0	227	17.6	00:33:18	
337.0	242	17.6	00:33:21	
338.0	332	17.4	00:33:24	
339.0	284	17.3	00:33:28	
340.0	320	17.4	00:33:31	
341.0	320	17.3	00:33:35	
342.0	285	17.6	00:33:38	
343.0	266	17.6	00:33:42	
344.0	233	17.8	00:33:45	
345.0	244	17.8	00:33:48	
346.0	346	17.5	00:33:52	
347.0	276	17.8	00:33:55	
348.0	330	18.0	00:33:59	

Length [m]	Pulling force [daN]	Speed [m/min]	Time - Duration [hh:mm:ss]	Remarks
349.0	323	18.0	00:34:02	
350.0	297	18.7	00:34:05	
351.0	259	18.8	00:34:08	
352.0	241	18.9	00:34:11	
353.0	254	18.8	00:34:15	
354.0	345	17.9	00:34:18	
355.0	283	17.8	00:34:21	
356.0	335	17.7	00:34:25	
357.0	314	17.5	00:34:28	
358.0	305	18.1	00:34:32	
359.0	263	18.7	00:34:35	
360.0	239	18.9	00:34:38	
361.0	256	18.9	00:34:41	
362.0	356	18.6	00:34:44	
363.0	278	17.7	00:34:48	
364.0	345	17.4	00:34:51	
365.0	321	18.2	00:34:54	
366.0	290	18.2	00:34:58	
366.9	198	3.4	00:35:24	Machine stopped / connection interrupted
367.0	183	1.1	00:36:22	
368.0	262	2.2	00:36:46	
369.0	314	8.4	00:36:52	
370.0	297	10.9	00:36:58	
371.0	316	10.9	00:37:03	
372.0	331	10.8	00:37:09	
373.0	314	10.1	00:37:15	
374.0	279	9.6	00:37:21	
375.0	251	9.6	00:37:27	
376.0	281	9.6	00:37:34	
377.0	305	9.5	00:37:40	
378.0	297	8.4	00:37:47	
379.0	330	7.2	00:37:56	
380.0	324	7.1	00:38:04	
381.0	323	7.1	00:38:12	
382.0	272	7.2	00:38:21	
383.0	263	8.2	00:38:28	
384.0	276	12.6	00:38:32	
385.0	277	12.8	00:38:37	
386.0	295	12.8	00:38:42	
387.0	344	12.4	00:38:47	
388.0	314	12.0	00:38:52	
389.0	314	11.3	00:38:57	
389.8	210	1.5	00:39:42	Stop (14:11)