



## **Comprehensive Engineering Statement – January 8, 2024**

### **Town Of Monroe, Connecticut**

#### **File # BLFT20000202ABN**

This proposal is for a minor change to W233AI, an FM translator station. The proposal is to change the W233AI channel from 233, 94.5 MHz to 282, 104.3 MHz. This displacement application is tendered due to the grant of a new CP for a co-channel, class A, Sagaponack, NY station, file # 000015928. This CP is located on the same tower and frequency as W233AI, therefore it will receive and cause prohibited interference under the rules. In such cases the Commission has allowed channel changes beyond the standard adjacent channels.

This proposal also modifies the geographic coordinates of W233AI as follows:

Current coordinates: 40-58-19.3 N, 72-20-52.2 W.

Proposed coordinates: 40-53-36.3 N, 72-23-46.3 W. Water Mill, NY

Antenna: Elevation: 11 m AMSL, 30 m AG, 41 m AMSL COR, proposed as Shively single-bay, 6812, circularly polarized, omnidirectional

ERP: 0.12 kW, Total Tower Height 30 m (existing)

Page #1 of the exhibits is a contour-to-contour tabular channel study of the licensed W233AI showing the serious contour overlaps with the newly granted CP.

Page #2 is a contour-to-contour channel study showing W233AI on channel 283 at the proposed tower location, also used by W264AJ. This study uses the GLOBE 30 arc-second terrain elevation database, and shows no contour overlap to be caused to any other station, translator, or CP.

Page #3 is a 60 dBu contour map showing the overlap of the W233AI 60 dBu existing service contour with the 60 dBu service contour at the proposed location. There is a significant overlap as required.

Pages #4 and #5 are distance to contour and HAAT tables for the two sites.

Page #6 is a radio frequency hazard study of the proposed EPA type #1 antenna. The study includes the W264AJ antenna that is also located on the same tower.

Page #7 is a certification of the qualifications of the preparer.

A handwritten signature in blue ink that reads 'Doug Vernier'. The signature is stylized with a large, looping 'D' and a cursive 'Vernier'.

Doug Vernier

Doug Vernier, V-Soft Communications LLC  
Frequency Study

W233AI at Current Site Showing Interference with C.P.  
Town Of Monroe, Connecticut  
CH# 233D - 94.5 MHz, Pwr= 0.027 kW, HAAT= 48.0 M, COR= 96 M  
Average Protected F(50-50)= 5.17 km  
Omni-directional

REFERENCE  
40 58 19.30 N.  
72 20 52.20 W.

DISPLAY DATES  
DATA 01-05-24  
SEARCH 01-05-24

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
233A	NEW/WLIE	CP	ZCN	0.0	0.00	40 58 19.10	5.300	85.7	28.3	-92.8*	-51.9*
Sagaponack		NY		62.1	0000159284	72 20 52.70	106	114	Bark Out Loud Dogs Media,		
233D	W233AI	LIC	CN	0.0	0.00	40 58 19.30	0.027		---Reference---		
Sag Harbor		NY		0.0	BLFT20000202ABN	72 20 52.20	48	96	Town Of Monroe, Connecticut		
235A	WJJF	LIC	CN	77.8	31.98	41 01 56.30	5.600	2.7	27.9	22.5	3.6
Montauk		NY		258.0	BLH20120302AAX	71 58 30.20	104	105	Red Wolf Broadcasting Corp		
233D	W233AJ	LIC	CN	353.8	37.77	41 18 35.30	0.038	22.1	6.6	8.6	7.5
Old Saybrook		CT		173.7	BLFT19981203TF	72 23 49.30	40	68	Town Of Monroe, Connecticut		
232A	WYBC-FM	LIC	DEN	309.0	67.07	41 20 59.30	3.000	49.2	32.8	10.7	24.0
New Haven		CT		128.6	BLH20010918AAT	72 58 21.40	144	215	Yale Broadcasting Company,		
233D	W233AG	LIC	CN	24.7	46.66	41 21 11.30	0.055	22.3	6.6	17.3	16.2
New London		CT		204.8	BLFT19980519TE	72 06 51.20	31	61	Town Of Monroe, Connecticut		
233D	W231CX	LIC	DHN	246.8	48.49	40 47 55.40	0.250	17.8	5.4	23.6	18.7
Shirley		NY		66.4	0000088577	72 52 38.40		66	Centro Cristiano De Vida E		
234L1	WLIX-LP	LIC	CN	260.3	48.36	40 53 50.40	0.021			33.2	32.4
Ridge		NY		79.9	BMLL20180705AAA	72 54 54.40	64	88	Rcn Ministry Inc.		
233D	W233DB	LIC	DCN	19.3	68.42	41 33 09.80	0.035	15.5	4.5	46.3	39.0
Norwich		CT		199.4	0000143667	72 04 35.50		118	Hall Communications, Inc.		
232A	WWSK	LIC	CN	256.9	81.09	40 48 08.40	2.600	34.7	23.1	39.2	47.7
Smythtown		NY		76.2	BLH20011127AAK	73 17 10.40	96	125	Connoisseur Media Licenses		
236B	WRKI	LIC	DCN	303.0	107.36	41 29 36.30	29.500	5.6	63.8	94.6	41.1
Brookfield		CT		122.3	BMLH20120221ADH	73 25 43.40	194	367	Townsquare License, LLC		
233B	WJMN	LIC	CN	31.8	175.41	42 18 27.30	9.200	124.2	64.9	44.1	76.5
Boston		MA		212.5	BLH20031201AWA	71 13 25.20	353	394	Ihm Licenses, LLC		

Terrain database is GLOBE 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
\*\*\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.

Doug Vernier, V-Soft Communications LLC  
Frequency Study

Move W233AI to CH 282, Co-locate at W264AJ, 60 dBu

Town Of Monroe, Connecticut

REFERENCE CH# 282D - 104.3 MHz, Pwr= 0.12 kW, HAAT= 34.1 M, COR= 41 M  
40 53 36.30 N.  
72 23 46.30 W.  
Average Protected F(50-50)= 6.25 km  
Omni-directional

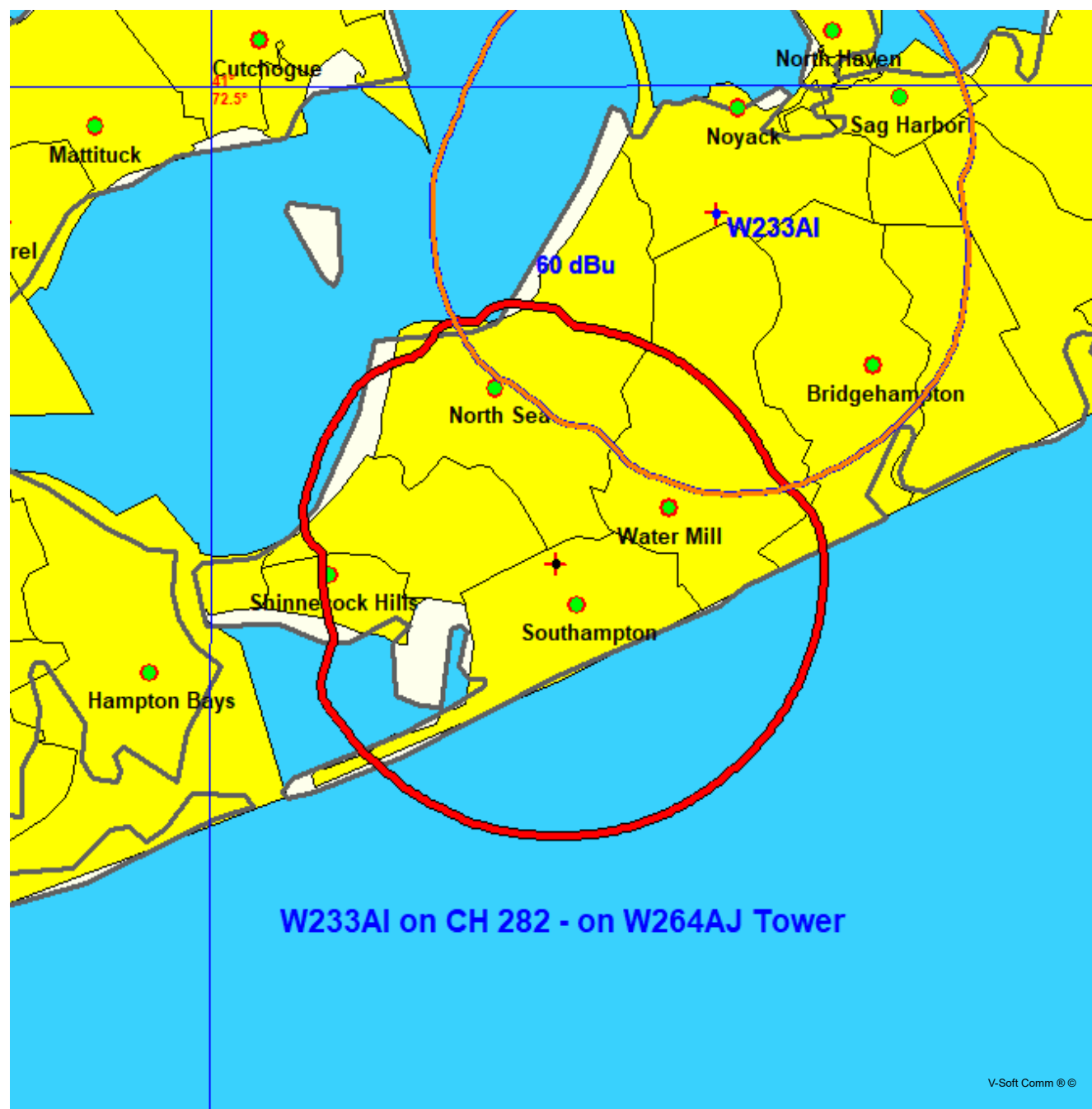
DISPLAY DATES  
DATA 01-05-24  
SEARCH 01-05-24

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
281B Waterbury	WMRQ-FM	LIC DCN CT	333.4 153.1	83.21 BLH20120622ABZ	41 33 42.40 72 50 39.40	14.000 255	75.7 354	64.6 Red Wolf Broadcasting Corp	0.9	5.5
282B New York	WAXQ	LIC CN NY	263.6 82.6	134.70 BLH19960426KA	40 44 54.30 73 59 08.50	6.000 415	127.3 429	65.9 Ihm Licenses, LLC	1.2	40.7
280A Ri verhead	WRCN-FM	LIC CN NY	261.7 81.5	31.32 BLH20001226AAD	40 51 08.40 72 45 53.40	1.400 148	1.9 163	22.6 Jvc Media LLC, A Florida	23.2	7.8
283L1 Cal verton	NEW	APP CN NY	268.1 87.9	24.89 0000231794	40 53 07.80 72 41 31.80	0.036 50	65	10.2 Pueblo De Dios Christian C	10.3	10.3
284A Montauk	WELJ	LIC NCN NY	66.2 246.5	38.61 BLH19930226KB	41 01 57.30 71 58 29.20	6.000 96	2.6 97	26.4 Bold Broadcasting, LLC	29.7	11.5
279B Westerly	WVEI-FM	LIC CN RI	40.0 220.5	98.94 BMLH20041007ACO	41 34 23.40 71 37 56.20	37.000 173	6.2 252	66.6 Audacy License, LLC	86.9	30.7
282D Hope Valley	W282CB	LIC DCN RI	37.2 217.6	84.19 BLFT20160411ABK	41 29 41.40 71 47 04.30	0.250	42.2 276	12.6 Red Wolf Broadcasting Corp	36.1	51.9
283D Sel den	W283BA	LIC CN NY	264.2 83.8	54.41 BLFT20190905AAP	40 50 32.40 73 02 23.40	0.010	9.3 165	6.6 Educational Media Foundati	38.9	39.4
283D New London	W283BW	LIC DCN CT	20.6 200.8	69.13 BLFT20150309ABJ	41 28 30.30 72 06 15.20	0.250	20.4 164	13.5 Co-Channel Communications	42.9	47.0
285D Ri verhead	W285FX	LIC DCN NY	264.2 83.8	54.40 0000168830	40 50 32.00 73 02 23.00	0.250	0.3 163	6.7 Five Towns College	48.0	43.1

Terrain database is GLOBE 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)

Move W233AI to CH 282, Co-Locate at W264AJ 60 dBu  
Town Of Monroe, Connecticut

Coverage Study - GLOBE 30 Sec  
01-07-2024



N. Lat. = 40 53 36.3 W. Lng. = 72 23 46.3  
 HAAT and Distance to Contour, 73.1235(b) max ERP = 0.12 kW  
 FCC, FM 2-10 Mi, 51 pts Method - GLOBE 30 SEC

W233AI, Distance to Contour at New Site

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	6.2	34.8	0.1200	-9.21	1.000	6.31
030	35.6	5.4	0.1200	-9.21	1.000	5.90
060	16.1	24.9	0.1200	-9.21	1.000	5.90
090	0.8	40.2	0.1200	-9.21	1.000	6.76
120	0.3	40.7	0.1200	-9.21	1.000	6.81
150	0.2	40.8	0.1200	-9.21	1.000	6.82
180	0.3	40.7	0.1200	-9.21	1.000	6.81
210	0.8	40.2	0.1200	-9.21	1.000	6.77
240	0.8	40.2	0.1200	-9.21	1.000	6.77
270	13.3	27.7	0.1200	-9.21	1.000	5.90
300	2.8	38.2	0.1200	-9.21	1.000	6.60
330	5.5	35.5	0.1200	-9.21	1.000	6.36

Ave El= 6.90 M HAAT= 34.10 M AMSL= 41.0

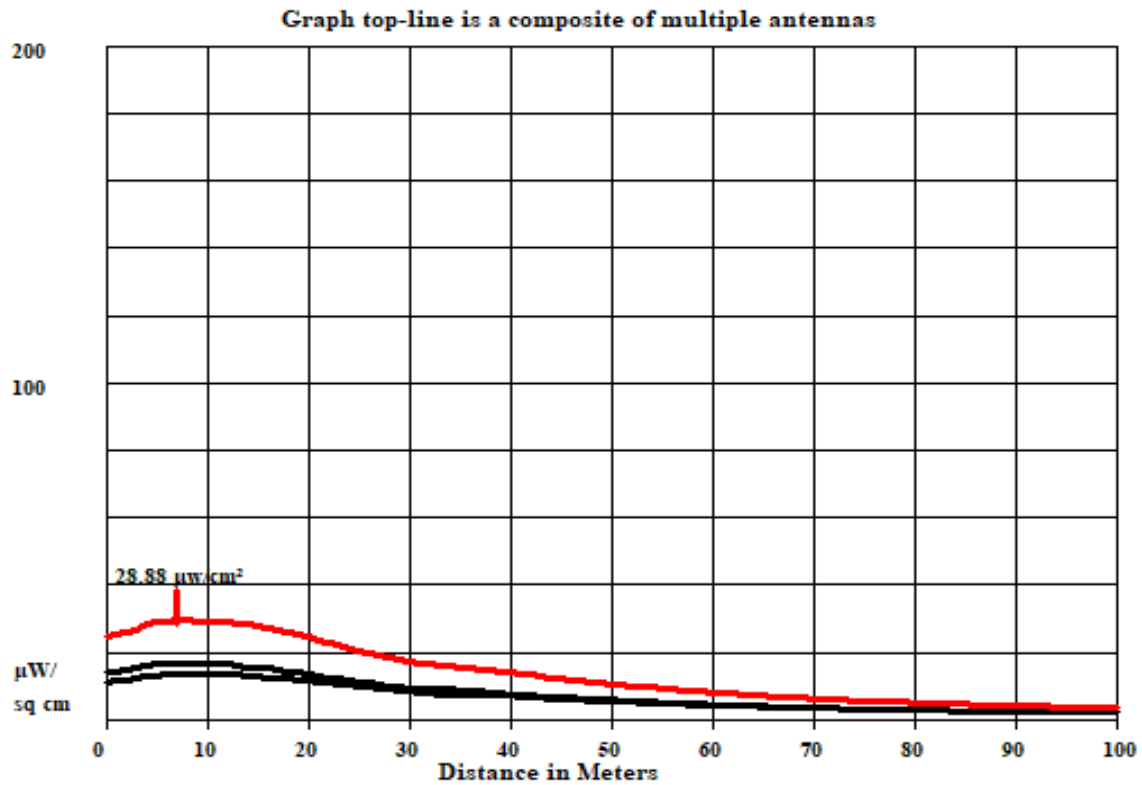
N. Lat. = 40 58 19.30 W. Lng. = 72 20 52.20  
 HAAT and Distance to Contour, Existing Site  
 FCC, FM 2-10 Mi, 51 pts Method - GLOBE 30 SEC

W233AI, Town Of Monroe, Connecticut, BLFT20000202ABN

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	5.1	90.9	0.0270	-15.69	1.000	7.07
030	4.7	91.3	0.0270	-15.69	1.000	7.09
060	6.9	89.1	0.0270	-15.69	1.000	7.00
090	25.5	70.5	0.0270	-15.69	1.000	6.22
120	10.6	85.4	0.0270	-15.69	1.000	6.85
150	6.3	89.7	0.0270	-15.69	1.000	7.02
180	6.5	89.5	0.0270	-15.69	1.000	7.01
210	25.0	71.0	0.0270	-15.69	1.000	6.24
240	5.0	91.0	0.0270	-15.69	1.000	7.07
270	2.5	93.5	0.0270	-15.69	1.000	7.18
300	5.7	90.3	0.0270	-15.69	1.000	7.05
330	4.2	91.8	0.0270	-15.69	1.000	7.11

Ave El= 9.00 M HAAT= 87.00 M AMSL= 96 M

Antennas are 2 EPA Ring-Stub or Any Unknown



HORZ. DISTANCE FROM RADIATOR(S) vs POWER DENSITY (Microwatt/Square cm)  
 Dist(Meters)                      Total ( $\mu\text{W}/\text{cm}^2$ )                      Percent of Max(200)

0	24.018	12.0
1	24.606	12.3
2	25.127	12.6
3	26.256	13.1
4	27.605	13.8
5	28.521	14.3
6	28.754	14.4
7	28.879	14.4
8	28.852	14.4
9	28.723	14.4
10	28.679	14.3
11	28.674	14.3
12	28.527	14.3
13	28.151	14.1
14	27.559	13.8
15	27.003	13.5
16	26.471	13.2
17	25.986	13.0
18	25.378	12.7
19	24.652	12.3
20	23.868	11.9
21	23.007	11.5
22	22.204	11.1
23	21.424	10.7
24	20.68	10.3
25	19.971	10.0
26	19.219	9.6

<i>Dist (M)</i>	<i>Total (uW/cm2)</i>	<i>Percent of Max</i>
27	18.499	9.2
28	17.811	8.9
29	17.106	8.6
30	16.497	8.2
31	16.135	8.1
32	15.776	7.9
33	15.421	7.7
34	15.199	7.6
35	15.042	7.5
36	14.821	7.4
37	14.48	7.2
38	14.145	7.1
39	13.817	6.9
40	13.494	6.7
41	13.062	6.5
42	12.647	6.3
43	12.249	6.1
44	11.879	5.9
45	11.527	5.8
46	11.19	5.6
47	10.865	5.4
48	10.552	5.3
49	10.258	5.1
50	9.98	5.0
51	9.712	4.9
52	9.454	4.7
53	9.205	4.6
54	8.954	4.5
55	8.698	4.3
56	8.452	4.2
57	8.216	4.1
58	7.988	4.0
59	7.77	3.9
60	7.56	3.8
61	7.341	3.7
62	7.13	3.6
63	6.927	3.5
64	6.733	3.4
65	6.546	3.3
66	6.366	3.2
67	6.194	3.1
68	6.028	3.0
69	5.869	2.9
70	5.715	2.9
71	5.568	2.8
72	5.426	2.7
73	5.289	2.6
74	5.157	2.6
75	5.03	2.5



<i>Dist (M)</i>	<i>Total (uW/cm2)</i>	<i>Percent of Max</i>
76	4.907	2.5
77	4.789	2.4
78	4.675	2.3
79	4.565	2.3
80	4.458	2.2
81	4.356	2.2
82	4.256	2.1
83	4.16	2.1
84	4.067	2.0
85	3.977	2.0
86	3.89	1.9
87	3.806	1.9
88	3.724	1.9
89	3.645	1.8
90	3.569	1.8
91	3.494	1.7
92	3.422	1.7
93	3.352	1.7
94	3.287	1.6
95	3.224	1.6
96	3.162	1.6
97	3.103	1.6
98	3.045	1.5
99	2.989	1.5
100	2.934	1.5

**Declaration:**

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 40 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Re-certified 1/2006);

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by the Town of Monroe, Connecticut to prepare the engineering showings appended hereto;

That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.

Douglas L. Vernier

A handwritten signature in blue ink, appearing to read "Doug Vernier", with a large, stylized initial "D" and a horizontal line extending to the right.

Executed of January 8, 2024