

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. 25-____-PET

Application of	)
Industrial Tower and Wireless, LLC	)
for a Certificate of Public Good,	)
pursuant to 30 V.S.A. § 248a, authorizing	)
the construction of a wireless telecommunications	)
facility in Tinmouth, Vermont.	)

**PREFILED DIRECT TESTIMONY OF KEVIN DELANEY
ON BEHALF OF INDUSTRIAL TOWER AND WIRELESS, LLC**

August 8, 2025

Summary:

Mr. Delaney's testimony will address the proposed Project and how it will promote the general good of the State of Vermont.

Q1. Please state your name, employer and current position.

A1. My name is Kevin Delaney, and I am the Vice President of Site Acquisition and Development and a Radio Frequency (“RF”) Engineering & Regulatory Compliance Manager currently working for Industrial Tower and Wireless, LLC (“ITW”) in Marshfield, Massachusetts. ITW and affiliate companies, including Industrial Communications, LLC, Industrial Communications and Electronics, Inc., and Industrial Wireless Technologies, Inc. (together “ITW”) have been serving all aspects of the communications industry for over fifty (50) years.

Q2. Please state briefly your professional background.

A2. I have worked as the RF Engineering & Regulatory Compliance Manager for ITW since January of 1993. My credentials as RF Engineering & Regulatory Compliance Manager include the following:

- Responsible for the propagation analysis and RF system design, planning and installation of 900 MHz Enhanced Specialized Mobile Radio (“ESMR”) Network throughout New England and Southern Florida. This entails site selection, antenna selection, propagation analysis, site layout/design, frequency planning, and coordination.
- Responsible for propagation analysis and RF system design of cellular, PCS, and microwave links in Colorado, Kansas, Nebraska, and Wyoming.
- Responsible for compliance with federal and state statutes and regulations affecting the siting of telecommunications facilities such as, e.g., filings with the Federal Communications Commission (“FCC”); Federal Aviation Administration (“FAA”); and filings pursuant to the National Environmental

1 Policy Act (“NEPA”) and state and local historic commissions and authorities.

- 2 • Supervisor / Manager of New England site acquisition team.
- 3 • Personally overseeing the selection and development of over five hundred
- 4 (500) wireless communications sites in nine (9) states.
- 5 • Testified in front of municipalities to explain coverage needs from an RF
- 6 propagation standpoint.
- 7 • Testified at the Vermont Public Utility Commission.
- 8 • Testified as an expert witness in Federal Court cases involving proposed
- 9 wireless telecommunications facilities.
- 10 • Testified as an expert witness in front of the Cape Cod Commission.
- 11 • Responsible for filings with the Federal Aviation Administration and the
- 12 Federal Communications Commission (“FCC”).

13 **Q3. Have you ever testified before the Public Utility Commission?**

14 A3. Yes, I have provided prefiled testimony in Case Nos. 21-3174-PET (Fairfax), 22-1156-
15 PET (Eden), and 22-2442-PET (Ira), among others, all involving the issuance of a CPG
16 authorizing the installation of telecommunications facilities. Further, I have provided
17 both prefiled and live testimony in Case No. 22-2120-PET (Enosburgh), currently under
18 the review of the Federal Court. I have also testified in front of municipalities to explain
19 coverage needs from an RF propagation standpoint, testified as an expert witness in
20 Federal Court cases, and testified as an expert witness in front of the Cape Cod
21 Commission.

22 **Q4. Please identify the location of the Project that is the subject to this § 248a filing.**

23 A4. ITW intends to construct a telecommunications facility on a portion of the approximately

32.35-acre parcel of land owned by George Herrick and Paul Herrick on 402 VT Rt 140, Tinmouth, Vermont. ITW refers to the project as “Tinmouth.” The property owners have given ITW permission to proceed with this Application. The coordinates for the Project are latitude 43° 27’00.05” North and longitude 73° 02’24.05” West. *See* Permit Plans, Exhibit LH-1, for a visual depiction of the Project’s location.

Q5. What are ITW’s objectives for the Project?

A5. Existing and proposed communications support structures in and near the Town of Tinmouth cannot serve the area proposed to be served by the ITW Tinmouth site due to distance, height, and terrain blockage. The Project will provide the needed coverage and capacity to allow ITW subscribers living in, working in or passing through the Tinmouth area to be able to use ITW’s network, something that is impossible at present. The Propagation Plots (Exhibit KD-1) illustrate the current lack of coverage and the estimated extent of the planned coverage from the ITW Tinmouth site.

Q6. From a Radio Frequency Engineer's perspective, please describe what site improvements will be necessary for the proposed Project?

A6. ITW will create a 80' x 80' “Compound” enclosed by an 8' high chain link fence, with a locked gate. Within the Compound, ITW will construct a 160’ above ground level (“AGL”) telecommunications self-supporting lattice tower (“Tower”). Six (6) thin “whip” antennas (“Antennas”) will be mounted at 160’ AGL of the Tower. This height is the minimum height necessary to allow ITW to meet its coverage objectives. I have analyzed a Tower of 130’ as suggested by the Town by strict application of its zoning bylaws. A 130’ tower would leave substantial gaps in coverage such that additional towers would be needed to fill in those gaps. Given the terrain, tree cover, and desire of the Town to locate

1 towers away from ridgelines, ITW selected a site that was centrally located and proposes
2 to install the lowest and smallest tower it can to meet its coverage needs.

3 On the Tower, five (5) transmit Antennas will extend upward to a maximum height of
4 173.0' AGL. The single receive Antenna will reach downward from the 160' AGL
5 mounting level. Each Antenna will measure approximately 13' long and 2.75" in
6 diameter.¹ Full and accurate specifications for the Antennas are attached as Exhibit KD-
7 2. ITW will place an equipment cabinet ("Cabinet") on a 10' by 10' concrete pad inside
8 the Compound, to the northwest of the Tower. The Cabinet will contain the electronics
9 equipment necessary for the operation of the Project. *See* Cabinet Specifications (Exhibit
10 LH-2). Co-axial cables from the mounted antennas will descend on the inside of one of
11 the legs of the Tower. The cables will exit near the base of the Tower and will connect
12 with the Cabinets via a proposed cable bridge.

13 **Q7. Please identify all existing telecommunications facilities within the area to be served**
14 **by the Tinmouth site, and, for each such existing facility, include a projection of the**
15 **coverage and an estimate of the additional capacity that would be provided if the**
16 **Tinmouth site were located on or at the existing facility.**

17 A7. Tinmouth is located in a valley surrounded by ridges and hills. That topography presents
18 challenges with signal propagation and requires a tower to be placed strategically within
19 a valley, while also being tall enough to clear local topography. Wireless signals travel in
20 straight lines and are obstructed by elevation changes, especially when the transmitting
21 tower is lower than surrounding terrain. The propagation plots that I have created for this
22 site illustrate these difficulties. *See* Exhibit KD-1. In particular, intervening terrain even

¹ From time to time, equipment manufacturers may alter their products or ITW may purchase from different suppliers. Therefore, there is a possibility that the actual antennas and other equipment may be slightly different from but similar in dimensions as those described in this testimony.

1 relatively short hills and tree canopies causes a sharp drop off in coverage or blocks
2 signals as illustrated in those plots. Moreover, the population density is quite low so ITW
3 (and other carriers) seeks to provide coverage with the least number of facilities possible.
4 The existing facilities both within the Town of Tinmouth and the surrounding towns
5 within a radius of ten (10) miles from the proposed site do not provide adequate coverage
6 to the area being served by this project. Although research of the areas confirmed that
7 there are seven (7) existing towers within a ten (10) mile radius of the proposed site, the
8 propagation maps show that these existing sites do not provide coverage to the identified
9 gap. The existing towers are simply too far away, not tall enough, or do not have space
10 available to provide the needed coverage (the closest existing site is 2.8 miles away). *See*
11 *Existing Tower Analysis (Exhibit KD-3).*

12 **Q8. Will the Proposed Facility be Available for Co-Location of Equipment Belonging to**
13 **Other Telecommunications Providers?**

14 A8. ITW has designed the Tower and Compound to accommodate the equipment of other
15 wireless communications providers. Sheet C-7 of the permit plans illustrates possible
16 locations for the antennas that such carriers would seek to place on the Tower. In my
17 experience, national wireless carriers, such as AT&T and Verizon, do not commit to co-
18 locating their antennas and equipment until the tower has been permitted.

19 I also comment that the Tower cannot be lowered as suggested by the Town without
20 compromising any possibility that it remains available for future co-location. The Town
21 seeks to strictly apply its zoning regulations which limit a tower to a peak height of 130'.
22 At that height, there would be likely no ability for any future carrier to co-locate and
23 achieve coverage objectives.

1 **Q9. Please address the level of radiation associated with the proposed equipment.**

2 A9. Under federal law, ITW is required to comply with the RF emission levels established by
3 the Federal Communications Commission (“FCC”). Power density calculations using the
4 most extreme assumptions, which could not possibly be duplicated at this site,
5 demonstrate that RF emission levels will still be below the Maximum Permissible
6 Exposure levels established by the FCC.

7 **Q10. Have you reviewed the Town of Tinmouth Town Plan and if so, please address how**
8 **the Project complies with the Town Plan.**

9 A10. I have reviewed the Tinmouth Town Plan applicable to this Project dated January 9, 2020
10 (*See Exhibit LH-7*). The Town Plan provides a generalized set of goals and objectives for
11 the Town of Tinmouth. It does not have any specific guidance as concerns
12 Telecommunications Towers. As concerns public utilities it provides non-specific
13 recommendations that they be located in such a way so as not to have an undue and
14 adverse impact on the scenic quality and land values of the Town.

15 The Town Plan highlights Tinmouth Center as a center for community interaction, a
16 container for community memories, and a focus of community identity while also stating
17 that it is lacking the elements of a village and is not the kind of village that development
18 can be built upon. *Id.* at 45-46. It states that inhabitants must work at home or commute
19 to jobs and find stores and services in other towns. *Id.* In discussions of economic
20 development, the town plan refers to the increase in residents who work from home or
21 have home businesses. *Id.* at 24. It is acknowledged that the changing nature of
22 employment has had a significant effect on land use and the town plan intends to
23 accommodate these changes, especially the growth of home occupation by local

1 residents. Id. at 45.

2 The telecommunications services that ITW will provide through the Project will
3 primarily be targeted to business customers seeking a reliable, reasonably-price means of
4 communicating between their offices and remote users. As such, the Project will promote
5 a balanced, diverse economic base, with a focus on locally owned businesses, including
6 home-based ones. The deployment of ITW's service in Tinmouth will also attract
7 commercial development, especially for business that require reliable two-way mobile
8 communications.

9 This type of project also brings with it the opportunity to attract the major wireless
10 communications carriers to the area to improve upon their wireless communications
11 networks. This would provide more reliable cell service to residents and visitors.

12 The Town Plan does not include a dedicated telecommunications section but does express
13 broad planning goals regarding development and infrastructure. Chapter V emphasizes
14 the need for the town to make "good decisions about the town's future," balancing new
15 development with the preservation of Tinmouth's rural character. Tinmouth Town Plan at
16 45. It states as a broad goal of the town to allow new development of varying types, new
17 uses and, at the same time, preserve the overall character of the town. Id. at 45.

18 **Q11. Have you reviewed the Tinmouth Zoning Bylaws, and if so, please explain how you**
19 **believe the Project complies with the Zoning Regulations or any specific portions of**
20 **them.**

21 A11. I reviewed the Tinmouth Zoning Regulations. While these regulations do not strictly
22 govern, I understand that the Town has based many of its generalized, non-specific
23 concerns on them. Section 409(C)(4) of the Regulations states that towers may not be

1 more than 130 feet tall and provides several other conflicting limitations as to their
2 height (based on treeline and existing structures on the project parcel). The Project
3 cannot strictly comply with this standard. ITW has good cause to exceed the 130'
4 reference height. For the Tower to meet ITW's coverage goals for the surrounding
5 valley, the antennas must be placed at the proposed height. In other words, the Tower's
6 current height is the minimum viable height; the Project would be pointless with a 130'
7 Tower. I have reviewed the cellular service resulting from a 130' tower and extensive
8 coverage gaps would exist. This would require ITW to build additional towers.
9 Lowering the height would of the tower to 117 feet (130' peak height – 13ft antenna)
10 would prevent collocation as well.

11 I have also considered section 409(C)(10) addressing collocation. The Project meets
12 section 409(C)(10)(a) because no suitable existing tower is located such that collocation
13 on the facility would provide service coverage within the area that ITW's Tinmouth site
14 is intended to serve. As requested by Section 409(C)(10)(a), ITW would welcome any
15 condition requiring that other carriers be allowed to collocate on this Tower. I note that
16 the only way to achieve that objective is with a tower of the height proposed.

17 **Q12. Does this conclude your Prefiled Direct Testimony?**

18 **A12.** Yes.

Exhibits to Prefiled Testimony of Kevin Delaney

Exhibit KD-1	Propagation Maps
Exhibit KD-2	Antenna Specifications
Exhibit KD-3	Existing Tower Analysis