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BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36873

UNION PACIFIC CORPORATION AND UNION PACIFIC RAILROAD COMPANY
— CONTROL —
NORFOLK SOUTHERN CORPORATION AND NORFOLK SOUTHERN RAILWAY COMPANY

COMMENTS AND REQUEST FOR CONDITIONS OF BRIAN S. SMITH

I. Who I am and why I am here

I am a party of record in this proceeding (Notice of Intent to Participate, September 3, 2026) and represent myself. I am an electrical engineer by training, not a lawyer. For more than twenty-five years I have designed and built fiber, microwave and wireless networks, and that work has covered twenty-five states. I managed the regulatory departments of two wireless carriers, where I was responsible for their Federal Communications Commission (FCC) license portfolios and environmental compliance, and I worked on moving licenses from one company to another when carriers combined.

I take no position on whether the Board should approve this transaction, and I am not here to say that anyone has done anything wrong. My subject is the safety of the people who will do the work of joining these two communications networks, and the records that work depends on. These comments rely on public records and published standards, on papers served in this proceeding and correspondence with counsel about them, and on my professional experience where I say so. I have not signed the undertaking under the Protective Order, and nothing here is drawn from material designated under it.

The Revised Application asks the Board to approve the combination of two railroads whose train-control, dispatch and operating communications run over separate networks of towers, shelters and radio sites. It describes integrating the software and back-office systems that use those networks, and it states that in the three years after the merger "UP/NS will assess telecommunications equipment differences across the combined railroad and align

telecommunications training to those differences."[1] It does not describe the networks themselves: what structures and shelters they rely on, what condition those are in, whether the federal reviews required when they were built were done, or what combining them will require and cost. Union Pacific objected to thirteen of my requests for admission because, in the words of four of its responses, "integration planning is ongoing and final decisions regarding communication sites for the merged entity have not yet been made"; the other nine say the same of the communication structures, shelters, equipment or network.[2]

The network. As of November 4, 2026, the FCC's public license files show Norfolk Southern holding 2,654 active licenses in two radio services: 427 for fixed microwave service and 2,227 for private land mobile radio.[3] The 8,900 fixed locations on those licenses form 6,364 licensed sites, 457 of them with a microwave location (Exhibit 1, Table 1). Norfolk Southern also owns 498 antenna structures registered with the FCC: 496 constructed and 2 granted but not yet built. Registration is generally required only for structures more than 200 feet tall or near airports,[4] so these 498 are a small part of the structures and shelters on which the network depends.

Its age. By the construction dates entered in Norfolk Southern's FCC registrations, 227 of its 498 registered structures (45.6%) were built before 2000, 147 in 1980 or earlier, and 145 on or before November 18, 1976 — fifty years or more before the date of these comments. By decade: 1950s, 2; 1960s, 82; 1970s, 63; 1980s, 16; 1990s, 64; 2000s, 38; 2010s, 202; 2020s, 29; not yet

[1]Turner V.S. ¶ 317, Rev. Appl. 2-999. Citations in the form "Rev. Appl. 2-999" are to the volume and page of the Revised Application (UP-39/NS-37, Volume 1; UP-40/NS-38, Volume 2), as the Board cites it in Decision No. 37 at 4. "Turner V.S." is the Verified Statement supporting the Service Assurance Plan; "Operating Plan" is Exhibit 13, the Joint Verified Statement of Gehringer and Orr; "Parkerson V.S." is the labor-impact statement.

[2]Union Pacific's Responses and Objections to Brian Smith's First Set of Discovery Requests (served Nov. 6, 2026) ("UP Responses"), Requests for Admission Nos. 1, 2, 8 and 9. The same sentence, with "the communications network," "communication equipment or structures," "communication shelters" or "communication structures" in place of "communication sites," opens the responses to Nos. 3, 5, 10, 11, 15 and 17–20 (UP Responses at 5–31).

[3]FCC Universal Licensing System weekly public-access files for microwave (l_micro) and private land mobile (l_LMpriv) services, and antenna structure registration file (r_tower), dated November 4, 2026. Selection method and file fingerprints are in Exhibit 1.

[4]47 C.F.R. §§ 17.4(a), 17.7; 14 C.F.R. § 77.9.

built, 2. The dates are the owner's entries. If older structures were registered with later dates, these counts understate the number of older structures.

Why this is before the Board. The Board weighs the likelihood of transitional service problems in deciding whether a merger is in the public interest, and it requires applicants to identify the process for integrating their information systems, the operations-related systems and operating areas affected, the schedule, the training the work requires, and contingency plans for service disruptions.[5] The Federal Railroad Administration's (FRA) safety-integration rule requires a plan that addresses signal and train-control systems, the migration of dispatching systems, and training for "Employees who maintain or upgrade communication systems affecting rail operations."[6] Train control and dispatching depend on the communications network: the Applicants' Safety Integration Plan states that the vast majority of Norfolk Southern's centralized-traffic-control track is "controlled wirelessly through NS's Interoperable Train Control Messaging communications network and associated infrastructure," and that the integration of the positive train control (PTC) back offices "will be conducted as part of UP/NS's overall IT systems integration plan."[7] Norfolk Southern describes integration as "a topic that is implicated in the proceeding" and says that "[m]ost of that work is still ahead."[8] Neither rule names towers or shelters. In my view, the structures and shelters that carry that network, and the work of combining them, are part of the integration these rules ask the Applicants to plan.

I ask the Board for two things. Before it decides the application, it should require the disclosures listed in Section IX.A, so that the record contains what the public record cannot show. If it approves the transaction, it should impose the staged reporting condition in Section IX.B as part of its oversight, so that each step of communications integration is preceded by a public

[5]49 C.F.R. §§ 1180.1(c)(2)(iii), 1180.10(e), (h), (i).

[6]49 C.F.R. § 244.13(b)(7), (e), (h).

[7]Safety Integration Plan, FD 36873 (filed Apr. 30, 2026), at 102, 106 (reproduced as Exhibit 2 to NS-125).

[8]Letter from counsel for Norfolk Southern to Administrative Law Judge Soulikias (NS-125, Nov. 10, 2026), at 4.

account of the structures, shelters and sites that step will rely on. I also ask the Board to bring the FCC's expertise into its review, because the rules that govern these sites are specialized (Section IX.A, item 13).

I take these subjects in the order that matters to me: the people first, then the towers, the bridges, the contractor workforce, the network itself, and why I raise all of this here.

II. People first: the older buildings

My first concern is the people who will be sent to do this work. Of the 498 antenna structures Norfolk Southern has registered with the FCC, 147 carry construction dates of 1980 or earlier (Section I). The equipment shelters at those sites, and signal and communications buildings elsewhere on the network, may be as old.

Under the Occupational Safety and Health Administration's (OSHA) construction standard for asbestos, thermal system insulation and surfacing material found in buildings constructed no later than 1980 is "presumed asbestos containing material" and must be treated as asbestos-containing unless the presumption is rebutted by the methods the standard prescribes. Before covered work begins, building and facility owners must determine the presence, location and quantity of such material at the work site. The standard also requires that asphalt and vinyl flooring installed no later than 1980 be treated as asbestos-containing unless it is determined not to be by the method the standard prescribes. And it requires the owner to notify employers applying or bidding for work whose employees can reasonably be expected to work in or next to areas containing such material, and the owner's own employees who will work in or next to those areas, of its presence, location and quantity.[9] The Environmental Protection Agency's (EPA) asbestos rules separately require the owner or operator to inspect the affected part of a facility for asbestos before renovation or demolition.[10]

[9] 29 C.F.R. § 1926.1101(b) (definition of "presumed asbestos containing material"), (k)(1)–(2), (k)(5), https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1101.

[10] 40 C.F.R. § 61.145(a), https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-61/subpart-M/section-61.145.

In my experience, buildings of that era were commonly built with asbestos-containing materials, and often painted with lead-based paint, because that was the standard of the time. It was not a shortcut. Where a building of that age is still in use, its asbestos status should be documented, and that record should be given to the employees and contractors who will be asked to work in it, before the work begins.

Integrating communications networks means, in my experience, work inside buildings like these: installing, replacing and removing equipment, cabling and power systems during cutover, by technicians and contractors who enter the buildings to do it. The Revised Application does not disclose the number, age, asbestos status, testing history or condition of these buildings; in Volumes 1 and 2, my search found the word "asbestos" only in lists of commodity codes.[11] The public record does not show which of these buildings have been inspected. My First Set asked Norfolk Southern about asbestos surveys of its older shelters (Interrogatory No. 16), and it objected "to the extent it would require a new environmental survey, inspection, building-by-building compilation, or special study not maintained in the ordinary course of business" (NS Responses at 21–22).[12]

The Revised Application also does not say whether Norfolk Southern maintains an asbestos management and abatement program for its older buildings. I ask that Norfolk Southern state on the record whether it does and, if so, the program's current status, scope, staffing and funding (Section IX.A, item 2).

[11]I extracted the text of Volume 1 (UP-39/NS-37, 676 pages) and Volume 2 (UP-40/NS-38, 1,175 pages) of the Revised Application and searched it for, among other terms, asbestos, PACM, radiofrequency and RF exposure, OET-65, CERCLA, brownfield, microwave, radio, shelter, bungalow, TIA-222 and Section 106. The search found none of these terms, except "asbestos" in three lines of commodity-code lists in Volume 1 and "radio" only inside the word "radioactive" in such lists. An earlier search of Volume 3 (3,257 pages) by the same method found no substantive discussion of these subjects.

[12]Norfolk Southern's Responses and Objections to Brian S. Smith's First Set of Discovery Requests (Oct. 29, 2026) ("NS Responses"); Norfolk Southern's Responses and Objections to the Requests for Admission in the First Set (Nov. 5, 2026), at 2–10. The First Set was served October 22, 2026.

The Board generally mitigates only impacts that would result directly from an approved transaction, and does not require mitigation of existing conditions.[13] The asbestos status of Norfolk Southern's older buildings is, for the most part, an existing condition. I do not ask the Board to order it removed or repaired. I ask that it be disclosed, and made known to the people who will work in those buildings, because the integration work the Applicants propose will send employees and contractors into them (Section IX.A, item 1). The employees and contractors assigned to work in them should be told what is there before they go in.

III. The towers

By the construction dates entered in its FCC registrations, 227 of Norfolk Southern's 498 registered structures were built before 2000, and 147 in 1980 or earlier (Section I). In my professional experience, a tower built in the 1960s or 1970s was typically designed for the one or two antennas of its day, while a communications site today often carries several kinds of antennas, on several frequency bands, each adding load. In that experience, an older tower analyzed under the current standard often does not pass even before anything new is added. I do not say that of any Norfolk Southern tower: no structural analysis of one is in the public record, and that is what I asked for. Where integration work is done on these towers, people will climb them. They, and the companies that employ them, should know what the owner knows about a tower's condition before they get there. I also asked whether other parties' equipment is on Norfolk Southern's structures and whether its structural analyses account for that equipment (Interrogatory No. 21), and Norfolk Southern objected (NS Responses at 26–27).[14]

Antenna-supporting structures are designed to the ANSI/TIA-222 standard, which the International Building Code adopts for towers. The current revision, TIA-222-I, took effect January 1, 2024.[15] Revisions over the decades have changed the wind, ice and other loads that

[13] 49 C.F.R. § 1180.1(f)(1).

[14] See note 12.

[15] International Building Code § 3108.1 (2021); ANSI/TIA-222-I, Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures (approved

structures must be designed to carry, and a structure built decades ago was designed to the loads of its time. Adding or changing antennas and transmission lines changes the loads a structure carries. In the practice I know, a change of that kind calls for a new structural analysis; a common threshold is an increase of about five percent in the demand on any member. Where that analysis shows that the structure cannot carry the new loading under the standard applied, that practice is to reinforce or replace the structure before the change is made.

For train control, the exposure is narrower. Union Pacific and Norfolk Southern are both members of PTC-220, LLC, the consortium of Class I railroads formed to acquire and manage spectrum for positive train control,[16] so wholesale replacement of PTC radios, and the structural work it would bring, seems to me less likely. I expect the larger exposure to lie in the microwave backbone and the land-mobile voice and dispatch networks. Where integration adds, replaces or changes antennas and lines on Norfolk Southern's older structures, those structures call for analysis against the current standard, and some may need reinforcement or replacement. Microwave structures, which carry large wind-loaded dish antennas that must hold their alignment, are in my experience especially sensitive to such changes.

How many structures integration will touch, and what that will cost, is for the Applicants to say. My Second Set asked Norfolk Southern to admit or deny whether it has replaced communications towers since May 19, 2013, whether its average replacement cost reached stated amounts, whether it requires a structural analysis before adding or changing antennas or lines, and whether it expects integration to require replacements (Requests for Admission Nos. 45–55).[17] Norfolk Southern admitted or denied none of the eleven.[18] On whether its average replacement cost

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Sept. 25, 2023; effective Jan. 1, 2024).

[16]FCC Wireless Telecommunications Bureau, DA 23-564 (June 29, 2023), https://docs.fcc.gov/public/attachments/DA-23-564A1.pdf.

[17]Brian S. Smith's Second Set of Requests for Admission to Norfolk Southern (served Nov. 2, 2026), Nos. 16–55.

[18]NS's Responses and Objections to Brian S. Smith's Second Set of Requests for Admission to Norfolk Southern (served Nov. 9, 2026) ("NS Second-Set Responses"), Nos. 45–55, at 20–26; Nos. 46–50 at 20–23; No. 54 at 25.

reached even $250,000, it objected to the extent the request would require "new calculations not maintained in the ordinary course of business, which would require NS to perform a special study," and it objected that whether integration will require a replacement calls "for speculation about future integration-related engineering decisions." The public record therefore contains no figure for what Norfolk Southern has spent replacing communications structures, or for what it expects integration to require.

I ask that the Board require the Applicants to disclose, for the structures integration will modify, their structural-analysis status, the estimated cost of the analysis, reinforcement or replacement that integration will require, and whether those costs are reflected in any valuation of Norfolk Southern's property prepared for the transaction (Section IX.A, items 8–10).

IV. The bridges and the security of the network

The Coast Guard's drawbridge regulations provide for the remote operation of eight Norfolk Southern railroad bridges over navigable waters. They also provide for the remote operation of two railroad drawbridges on the Arkansas Waterway, the Rob Roy and Baring Cross drawbridges, whose remote drawbridge operator is contacted by radio in Omaha, Nebraska; I understand both to be Union Pacific's, though the regulation does not name the owner.[19] For Norfolk Southern's Tombigbee River bridge, for example, the regulation provides that the draw is operated remotely from Norfolk Southern's "bridge control center in Decatur, Alabama" (33 C.F.R. § 117.118(b)(3)).

I am not pointing a finger at either railroad. A bridge operated remotely depends on a communications link between the bridge and the person who operates it. Some of these regulations name the place from which the bridge is operated and some do not; none describes the link, and I have found nothing in the public record that says what carries it for any of these bridges. In my professional judgment, a bridge operated from somewhere else should have two physically

[19] 33 C.F.R. §§ 117.118(b), 117.237(b), 117.467(b), 117.847(b), 117.851(b), 117.853, 117.997(d), 117.1007(a) (Norfolk Southern); 33 C.F.R. § 117.123(a), (b) (Arkansas Waterway).

separate paths back to its operator, not two routes through a single router. Where radio is used, I would expect a licensed path, which the FCC protects from interference; a device operated without an individual license must accept the interference it receives.[20] And where unlicensed radio carries railroad operating data, it should be encrypted.

My Third Set asked Norfolk Southern, for each of its eight bridges, to admit or deny that the bridge is operated remotely, whether unlicensed radio is part of its control link, and whether a cybersecurity plan for its remote operation was submitted to the Coast Guard. It also asked what classes of path carry each link, and whether Norfolk Southern expects any bridge to be operated from a different location as part of implementing the transaction (Requests for Admission Nos. 56–82; Interrogatory No. 22).[21] Norfolk Southern admitted none of these requests and denied none. Asked to admit that the Safety Integration Plan does not mention the remote operation of movable bridges (No. 80), it responded that the plan "speaks for itself"; to the rest it objected and gave no answer. To Request No. 56, which closely follows the regulation for the Tombigbee River bridge, it objected that "remotely operated" is vague.[22] My word search of Volumes 1 and 2 of the Revised Application found no mention of a drawbridge, movable bridge, drawtender or remote operation, and my search of the text of the Safety Integration Plan found no mention of these bridges. Whether integration will change where or how any of them is operated is not in the public record (Section IX.A, item 12).

V. The contractor workforce

The Revised Application confirms that both railroads use contractors today (Operating Plan ¶¶ 448, 449 and 464, Rev. Appl. 2-814, 2-815, 2-822). But it does not state the size or functions of either Applicant's contractor workforce. The Service Assurance Plan states that contractors will be

[20] 47 C.F.R. § 15.5(b).

[21] Brian S. Smith's Third Set of Requests for Admission and Second Set of Interrogatories to Norfolk Southern (served Nov. 3, 2026) ("Third Set"), Requests for Admission Nos. 56–82 and Interrogatory No. 22.

[22] Norfolk Southern's responses and objections to my Third Set (Nov. 12, 2026), at 2–19; Request for Admission No. 56 at 2; Request for Admission No. 81 and Interrogatory No. 22 at 17–19.

trained in "FRA, OSHA, and Federal Motor Carrier Safety Administration regulations as determined by their scope of work," and that the Applicants "will review contractor support needs and determine synergies, gaps, and realignment opportunities, with most merger-related changes taking effect by the end of Year One" (Turner V.S. ¶¶ 326–328, Rev. Appl. 2-1002–1003). That passage names no training in radio-frequency exposure or in work on communications towers.

The Applicants' labor-impact table shows no communications positions abolished, created or transferred in any year (Turner V.S., Table 15, Rev. Appl. 2-979, as corrected by UP-100/NS-99, Attachment 8), while the Applicants count 349 communications craft employees on the two railroads, 138 at Norfolk Southern and 211 at Union Pacific (Parkerson V.S., Table 1, Rev. Appl. 1-539). The Applicants thus project no change in the workforce that maintains the communications network while Union Pacific states that final decisions on the network's sites have not been made (Section I).

In my experience, tower work and work on live networks are specialized trades, and the companies that do them are sized to the ordinary volume of work; when work on this scale goes out to bid, it is staffed with people who meet the minimum qualification the owner sets. Who will do the communications-integration work, and what training the owner will require of them, is therefore a safety question, and the public record does not answer it. I ask that the Applicants say who will do this work and how those persons are trained (Section IX.A, item 3).

My Second Set also asked Norfolk Southern to admit or deny who will perform integration field work and how those persons are trained and qualified (Requests for Admission Nos. 16–44).[23] Norfolk Southern admitted or denied none of these either. On whether contractors will do part of the integration field work, it objected that the request calls "for speculation about future decisions that have not yet been made."[24]

[23]See note 17.

[24]NS Second-Set Responses, Nos. 16–44, at 2–20; No. 18 at 4.

VI. Combining the two networks

Exhibit A to my First Set of Discovery Requests to Union Pacific showed, from the FCC's license records, that a Union Pacific licensed microwave site lies within 100 meters of a Norfolk Southern licensed microwave site at only four locations: Kansas City, Missouri, and Litchfield, Dix and Sidney, Illinois.[25] The license records show nearness, not connection: they do not show whether or how the two networks are connected at those places or anywhere else.

The antenna and equipment changes that integration requires, the structural analysis, reinforcement and replacement those changes bring, the environmental and historic-preservation review of new or modified structures, and the work inside older shelters during cutover would, in my view, result directly from the transaction. To the extent the integration plan depends on structures whose condition is unknown, its feasibility, schedule and cost have not been shown, and neither has the risk of a service disruption at cutover. I ask that the Board have those costs and risks in the record, and open to public comment, before it accepts the benefit estimates or decides whether the transaction is consistent with the public interest (Section IX.A, item 16). That is a request about what the record should contain first; it is not a position on the outcome.

A recent event shows why the network deserves attention. On November 13, 2026, the Federal Aviation Administration (FAA) issued a nationwide ground stop. The Secretary of Transportation said the next day that a contractor had been doing routine maintenance at a remote FAA location when a router began flooding other routers in the air traffic control system with data. The FAA has since said that its network service provider had been doing work at a remote facility, that data flooded its network, and that the root cause is still being investigated.[26] I cite it only to show how a problem at one remote site can spread across a network, a risk the public integration

[25]Brian S. Smith's First Set of Discovery Requests to Union Pacific (served Oct. 30, 2026), Exhibit A (FCC weekly license files dated Oct. 4, 2026).

[26]FAA, Nationwide Ground Stop: Questions and Answers (Nov. 15, 2026), https://www.faa.gov/newsroom/nationwide-ground-stop-questions-and-answers; U.S. Department of Transportation, briefing-room release (Nov. 14, 2026), https://www.transportation.gov/briefing-room/icymi-us-transportation-secretary-sean-p-duffy-provides-update-restoration-airspace.

record does not address. The same concern was behind my First Set's questions to Norfolk Southern about the routing of data across its network (Requests for Admission Nos. 4 and 10), served three weeks earlier, which it neither admitted nor denied.[27]

VII. Why I raise this here

The Revised Application does not address the communications structures, shelters and sites on which train-control, dispatch and operating communications run: their inventory, their condition, their environmental and historic-preservation review, or the work and cost of combining them. My searches of its volumes found no discussion of these subjects; in Volumes 1 and 2, my text search found no use of terms such as "microwave," "radio," "shelter," "TIA-222" and "Section 106."[28]

I do not criticize the Applicants' planning or anyone's review. The filings read as a detailed operating plan written by railroads that know railroading. What I do not find in them is the communications network, and I believe that is because it is new to a proceeding of this kind.

From the FCC's license records, and from my experience with carrier networks, a railroad's communications network today is built much as a wireless carrier's is: a terrestrial network of licensed radio sites and towers. As I read them, the FCC's and the FAA's rules for antenna structures and licensed radio sites apply to a railroad as they apply to a carrier or a tower company. Those rules are specialized, and I ask the Board to bring that expertise into this proceeding (Section IX.A, item 13).

The FCC also has a role in this transaction. In answer to my Request for Admission No. 15, Norfolk Southern responded that "the Proposed Transaction is subject to the FCC's authority under 47 U.S.C. § 310(d)," and in answer to Interrogatory No. 20 that transfer-of-control applications will be filed.[29] Applications to transfer control of private wireless licenses are processed

[27]See note 12.

[28]See note 11.

[29]Norfolk Southern's Responses and Objections to the Requests for Admission in the First Set (Nov. 5, 2026), at 10 (Request No. 15); NS Responses, Interrogatory No. 20.

without prior public notice.[30] The FCC's consent concerns the licenses. In my view, the structures, shelters and sites on which those licenses operate, and the work of combining them, are part of the transaction before this Board. I raise these questions here because I know of no other proceeding in which every railroad, and the public, can see and take part in what is happening.

VIII. What the public record shows, and what it cannot show

The public record cannot answer the questions that matter most here, but it frames them. Exhibit 1 maps the licensed sites and the registered structures and sets out the method and the counts used in these comments. Exhibit 2 contains drawings that show what a communications site is and which parts of it the Applicants' filings discuss.

The FAA record for the oldest structures. I searched the FAA's public case records for obstruction-evaluation cases entered from 1985 through November 9, 2026, in 21 states and the District of Columbia, which include every state where Norfolk Southern has a registered tower. Of those cases, 2,259 were filed by Norfolk Southern or a predecessor railroad, or are tied to a Norfolk Southern registration.[31] For none of the 163 towers Norfolk Southern registered as built before 1990 did that search find a filing at the site dated before the construction date entered for the tower. That does not show that none was made: the FAA's online records begin about 1990 in the regions where 140 of the 163 stand, so earlier approvals would not appear there, and for 148 of the 163 the construction date is entered as January 1, so only the year is known. For 133 of the 163, the first FAA filing on record is from 1997; for one, it is dated June 18, 1985, the same year as the construction date entered for that tower (January 1, 1985). The registrations themselves cite an FAA study for 162 of the 163: 141 of those studies are dated 1997 and only 3 are dated before 1990,

[30] 47 C.F.R. §§ 1.948, 1.933(d)(9).

[31] FAA, Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) public case-list web service (Web API RESTful Services User Guide, version 2026-MAY), queried November 9, 2026, by state and year. Exhibit 1 states the matching method (sponsor names, Norfolk Southern registration numbers and structure descriptions), the state-years the service did not return, and the limits of the search.

one of them four months before its tower's construction date and one in the same year as its tower.[32] From July 1996 to June 1998, the FCC's new registration rules reached antenna structures already standing,[33] which may explain why so many first filings date from 1997. Registering a standing tower in that window was what the rule then provided, but a filing made then is not a filing made before the tower was built. If earlier approvals exist, Norfolk Southern would be the one to have them. I ask that it produce them or say it does not have them (Section IX.A, item 6).

The review records. The FCC's rules have required its licensees to determine before construction whether a facility might have significant environmental effects, including effects on historic properties.[34] The FCC revised those rules in an order released October 1, 2026: it found that construction under site-based and geographic-area licenses is not a major federal action under the National Environmental Policy Act to the extent it does not require antenna structure registration, and it asked in a further notice whether licensed construction remains an undertaking under Section 106, including for towers built before 2005 and towers that lack documentation of that review.[35] For structures already standing, the question is not what review the rules now require but whether the review the rules required at the time was done and documented. The FCC advises applicants to retain documentation of their environmental review.[36] If those records exist, Norfolk Southern would be the one to have them. The dates matter here as well. Norfolk Southern's registrations place 202 of its structures in the 2010s. If those are construction dates, those structures were built within the last two decades, and their review records should exist and be readily found. If instead

[32]Computed from the construction dates, FAA aeronautical study numbers and determination dates in the FCC antenna structure registration file of November 4, 2026, and from the cases found in the search described in note 31 within 150 meters of each tower (Exhibit 1).

[33]*Streamlining the Commission's Antenna Structure Clearance Procedure*, Report and Order, FCC 95-473, 11 FCC Rcd 4272 (1995) (registration of existing structures, July 1, 1996 to June 30, 1998); 47 C.F.R. § 17.4(a)(2), as adopted at 61 Fed. Reg. 4359 (Feb. 6, 1996).

[34]47 C.F.R. §§ 1.1307(a)(4), 1.1312 (2025); see Program Comment, 79 Fed. Reg. at 30864 (reciting the licensee's duty to assess effects, including under Section 106, before construction).

[35]*Modernizing the Commission's National Environmental Policy Act Rules*, Report and Order and Further Notice of Proposed Rulemaking, FCC 26-64, WT Docket No. 25-217 (adopted Sept. 30, 2026; released Oct. 1, 2026); Further Notice of Proposed Rulemaking, 91 Fed. Reg. 66062 (Oct. 19, 2026).

[36]FCC, Tower and Antenna Siting, https://www.fcc.gov/general/tower-and-antenna-siting.

some of those entries reflect a later registration or a rebuilt structure, the dates do not show when the original was built. Either way, Norfolk Southern is in the best position to say which (Section IX.A, item 5).

The 2014 Program Comment. In 2014, at the FCC's request, the Advisory Council on Historic Preservation issued a Program Comment for PTC wayside poles. Its notice recites that at least 10,000 PTC poles had already been installed, that poles had been installed before Section 106 review was completed, and that under the memoranda described below the freight railroads could begin using almost 11,000, about one-third of the anticipated national deployment.[37] The Program Comment covers PTC wayside poles no more than 75 feet tall, and associated infrastructure, within existing railroad rights-of-way.[38] Carrying PTC traffic does not by itself bring a structure within it; a taller tower, or a structure outside the right-of-way, is outside its scope even if it carries PTC traffic. The FCC addressed the poles already built through memoranda of understanding with the seven Class I freight railroads, in which each committed to train its employees, to build relationships with Indian tribes and to comply fully on future PTC installations.[39] Norfolk Southern Railway Company's memorandum, signed in May 2014 on behalf of itself and its subsidiaries and affiliates, resolves the review obligations for the PTC wireless facilities it built through May 2013. It also required Norfolk Southern to establish a compliance plan so that employees whose duties relate to the environmental rules "applicable to all Railroad wireless communications facilities" are trained on those rules and comply with them, with "a process to ensure compliance with the Environmental Rules for all future construction of wireless communications facilities." A copy of

[37]Advisory Council on Historic Preservation, Notice of Issuance of Program Comment, 79 Fed. Reg. 30861, 30862–63 (May 29, 2014), https://www.govinfo.gov/link/fr/79/30861.

[38]79 Fed. Reg. at 30864–65; see also FCC, PTC Program Comment questions and answers, https://wireless.fcc.gov/ptc/ptc_q_a1.pdf (railroad structures and base stations outside the Program Comment's scope remain subject to review under the Nationwide Programmatic Agreements).

[39]79 Fed. Reg. at 30863; FCC, news release (May 19, 2014), https://docs.fcc.gov/public/attachments/DOC-327151A1.pdf.

the plan was to be filed with the FCC, followed by quarterly reports. Those obligations expired thirty-six months after the memorandum took effect.[40]

I therefore do not argue that the 2014 commitments run to the present. The point is narrower. The memorandum resolves the PTC facilities built through May 2013. It does not address Norfolk Southern's other communications structures, or what was built or modified after that date outside the Program Comment's scope. Norfolk Southern's compliance plan and its reports to the FCC, if it still has them, would show how it handled that review. My First Set asked Norfolk Southern about its memorandum, its compliance plan and its reports (Interrogatory No. 12), and Norfolk Southern objected (Section IX.A, item 4).[41]

Property fifty years old or older. The Revised Application states that no Historic Report is required because the transaction will not "result in the lease, transfer, or sale of a railroad's line, sites or structures," and adds: "Moreover, there are no plans to dispose of or alter properties that are 50 years old or older as a result of the proposed transaction" (Rev. Appl. 1-72, citing 49 C.F.R. § 1105.8(a), (b)(1)). The exception the Applicants cite concerns a sale, lease or transfer of a rail line for continued operations where further Board approval is required to abandon any service and there are no plans to dispose of or alter properties subject to the Board's jurisdiction that are fifty years old or older.[42] Another exception covers "common control through stock ownership or similar action which will not substantially change the level of maintenance of railroad property."[43] Whether integration will change the maintenance of Norfolk Southern's communications property is what the public record does not show. Of Norfolk Southern's 498 registered antenna structures, 145 were built fifty or more years ago. Whether integration will alter any of them has not been

[40]Memorandum of Understanding between the Federal Communications Commission and Norfolk Southern Railway Company (May 2014), §§ I, III, VI, VII and X, https://docs.fcc.gov/public/attachments/DOC-327140A1.pdf, linked from FCC, Positive Train Control (PTC), https://www.fcc.gov/general/positive-train-control-ptc (both visited Nov. 18, 2026).

[41]See note 12.

[42]49 C.F.R. § 1105.8(b)(1); see also § 1105.8(a), (e).

[43]49 C.F.R. § 1105.8(b)(3).

finally decided, by Union Pacific's account: it objected to thirteen of my requests for admission because "integration planning is ongoing and final decisions regarding" the merged entity's communication sites, structures, shelters, equipment or network "have not yet been made."[44] An absence of plans while planning is under way is not an assurance that older property will not be altered. Whether either exception applies to a control transaction whose communications integration is still being planned is for the Board and its Office of Environmental Analysis to decide. I ask that the record show which older structures, shelters and sites integration will alter (Section IX.A, items 7 and 15).

What I asked, and what I received. I asked Norfolk Southern for existing information on these subjects: the inventory of its communications structures, the standards they were built to, their inspection and structural-analysis records, their environmental and historic-preservation review, asbestos surveys of older shelters, and the work and cost of combining them with Union Pacific's network.[45] Norfolk Southern has responded to all 118 of my discovery requests. It gave two one-sentence answers, both about its FCC transfer filing, and said of one request that the Safety Integration Plan "speaks for itself." To the other 115 it objected and gave no answer. None of its responses to my 82 requests for admission says that a request is admitted or denied.[46]

Its counsel wrote that "[i]ntegration material responsive to your discovery requests has not been produced," that Norfolk Southern would produce it only to a party who signs the Protective Order undertaking, designated Highly Confidential, and that "NS is not preparing confidentiality designation redactions."[47] Under the Protective Order, Highly Confidential material goes to outside counsel and consultants, so signing the Confidential undertaking would not give me, as a self-

[44]See note 2.

[45]Brian S. Smith's First Set of Discovery Requests to Norfolk Southern (served Oct. 22, 2026): 21 interrogatories, 14 requests for production and 15 requests for admission, asking only for existing records.

[46]Norfolk Southern's responses and objections to my First, Second and Third Sets, dated October 29 and November 5, 9 and 12, 2026. The two answers are to Interrogatory No. 20 and Request for Admission No. 15; "speaks for itself" is its response to Request for Admission No. 80.

[47]Email from counsel for Norfolk Southern to Brian S. Smith (Nov. 4, 2026, 5:23 p.m.).

represented party, access to it.[48] My letter brief asked the Administrative Law Judge to direct Norfolk Southern to answer four narrowed groups of these requests.[49] At the November 13, 2026 conference, I deferred those four groups so that I could first read the Safety Integration Plan, which Norfolk Southern's counsel sent me that day. No ruling was made on them, and I have no answer from Norfolk Southern on these subjects.

I do not say that the information does not exist. I say four narrower things: it has not been produced to me; it has not been produced in public form; Norfolk Southern says much of it is not maintained in the form requested; and I have not found it in the Board's public record. The Applicants' October 30, 2026 letter on their discovery efforts lists "capital budgets and forecasts" among the categories Norfolk Southern has produced to other parties (UP-123/NS-121); what those materials say about the communications network is not in the public record (Section IX.A, item 11).

If the inventory, condition and cost of the network that carries the Applicants' train-control and dispatch communications can be established only by a study that has not been done, then that information was not part of the application as filed. Whether or not the Applicants have it, it is not in the public record, and without it the cost of integrating the two networks, and its effect on "the adequacy of transportation to the public," cannot be measured on that record. 49 U.S.C. § 11324(b)(1). As Board Member Kloster observed of the application generally, "The Board should not have to sift through vague language to try and figure out where any deficiencies may be in the Applicants' proposal and what potential conditions could mitigate any harm."[50]

Material bearing on these questions will continue to arrive after these comments: the disputes over my requests to Norfolk Southern are not resolved, and Union Pacific's responses

[48]Decision No. 1 (served Aug. 5, 2025), Protective Order and Exhibit B; NS-125 at 5 (Norfolk Southern: "'Highly Confidential' information is only available to outside counsel and outside consultants").

[49]Letter brief of Brian S. Smith on discovery disputes with Norfolk Southern (filed Nov. 5, 2026).

[50]*Union Pac. Corp.—Control—Norfolk S. Corp.*, FD 36873 (Decision No. 37), slip op. at 5 (STB served Sept. 18, 2026) (Kloster, Board Member, concurring).

state that integration planning is ongoing. The Board "may order the submission of additional argument or evidence" before it closes the record (Decision No. 30 at 10). I ask that the Board permit me to supplement these comments with any answer or document that Norfolk Southern or Union Pacific provides in response to my discovery requests after today, within 14 days of receiving it (Section IX.A, item 14).

IX. What I ask the Board to do

In this section, a "communications site" is a location at which Norfolk Southern or Union Pacific operates communications equipment, together with every structure, shelter and item of equipment there that Norfolk Southern or Union Pacific owns, operates or controls. Except where a request says otherwise, each request below applies to communications sites, structures and shelters whatever service or technology they support, including PTC, voice, dispatch, signal and data. Of the requests in Part A, the most important are item 1 (what is in the older buildings), item 7 (which older structures integration will alter) and item 11 (any integration assumptions and cost estimates the Applicants hold).

A. Before the Board decides the application

I respectfully request that the Board:

1. Require Norfolk Southern to identify its signal bungalows, communications and equipment shelters, and other wayside buildings constructed in 1980 or earlier — in particular those at which integration work is planned — stating for each whether its thermal system insulation, surfacing material and flooring have been inspected or tested for asbestos and the result for each (asbestos-containing, shown not to be, or presumed under 29 C.F.R. § 1926.1101), whether lead-based paint is known to be present, its condition, and how often employees and contractors enter it; and require that this information be marked at each such building and given to the employees and contractors assigned to work there before the work begins;

2. Require Norfolk Southern to state whether it maintains an asbestos management and abatement program for its older buildings and, if so, its current status, scope, staffing and funding;

3. Require the Applicants to state who will perform communications, signal and tower work during integration, whether employees or contractors; the approximate number of contractor personnel in that work; and the training those persons receive for radio-frequency exposure, tower work and work in buildings presumed to contain asbestos;

4. Require Norfolk Southern to produce the compliance plan it filed with the FCC under its 2014 memorandum of understanding and the reports it made under that memorandum, and the Section 106 records for communications structures it built or modified after May 2013, other than PTC wayside poles within the Program Comment's scope — or a statement that it holds no such records;

5. Require Norfolk Southern to produce, for each of its licensed communications structures outside the Program Comment's scope, the environmental and historic-preservation review record prepared under the FCC's rules in effect when the structure was built or last modified, or a statement identifying the structure and confirming that no such review was performed or that the records cannot be located; for each structure registered with the FCC, its registration record and the associated FAA determination; and the identity of any structure the Applicants contend falls within the Program Comment's scope, with the basis for that contention;

6. Require Norfolk Southern to produce, for each registered structure built before 1990, its notice of proposed construction to the FAA, the FAA's determination, and its notice of actual construction, or a statement identifying the structure and confirming that Norfolk Southern does not hold them;

7. Require the Applicants to identify each communications structure, and each associated shelter or building, fifty years old or older that integration will alter, replace, decommission or remove, or, if they maintain that none exists, a statement of the basis for that conclusion

— the Revised Application having stated that "there are no plans to dispose of or alter properties that are 50 years old or older as a result of the proposed transaction" (Rev. Appl. 1-72) — and supplement the environmental record accordingly;

8. Require the Applicants to disclose, for each communications structure that integration will modify: the year it was built; its most recent ANSI/TIA-222 structural analysis, with the date and the revision applied, or a statement that none exists or can be located; and the estimated cost of the analysis, reinforcement or replacement that the modification will require;

9. Require the Applicants to produce, for the same structures, the dates and results of structural and condition inspections in the past five years, or a statement identifying any structure with no such inspection in that period;

10. Require the Applicants to disclose how the communications structures are carried in any valuation of Norfolk Southern's property prepared for the transaction, and whether the structural, inspection, and environmental and historic-preservation review costs identified above are reflected in, or reserved against, that valuation;

11. Direct the Applicants to supplement the record, in public form, with any integration assumptions, cost estimates and records they hold for combining the two communications networks, including any estimate of the structural work those assumptions require, and to state whether any unlicensed radio carries train-control, dispatch or other operating data on either network and, if so, whether it is encrypted. Site-level detail may be filed under seal under the Protective Order, with a public summary. Norfolk Southern has produced capital budgets and forecasts to other parties (UP-123/NS-121); what they say about the communications network is not in the public record;

12. Require the Applicants to state, for each movable bridge that either of them operates from a remote location: the place from which it is operated; the classes of communications path that carry its control link (such as leased circuit, fiber, licensed microwave or unlicensed radio) and whether those paths are physically separate; whether any unlicensed radio in that

link, including any backup or alternate path, is encrypted; and whether integration is expected to change where or how the bridge is operated;

13. Consult the Federal Communications Commission, or assign staff or counsel experienced in its rules for antenna structures and licensed radio facilities, in reviewing the communications matters raised in this proceeding;

14. Permit me to supplement these comments with any answer or document that Norfolk Southern or Union Pacific provides in response to my discovery requests after the date of these comments, within 14 days of receiving it;

15. Direct the Office of Environmental Analysis to include within the scope of its environmental review of this transaction the environmental and historic-preservation review status of Norfolk Southern's communications structures, shelters and sites — in particular those fifty years old or older that integration will alter — and to afford the public an opportunity to comment on them; and

16. Allow public comment on the disclosures in items 1 and 7 through 12 before deciding the application.

B. If the Board approves the transaction

The Board "may impose conditions governing the transaction." 49 U.S.C. § 11324(c). Its rules make oversight a condition of approval of any major transaction, for at least the first five years, with jurisdiction retained to impose additional conditions.[51] Union Pacific has stated, subject to its objections, that it expects each Norfolk Southern communications structure that will be under its control, and any such structure or shelter constructed or modified in integration, to "comply with any applicable federal rules" (UP Responses at 21–23). The following condition asks the Applicants to show that compliance, site by site, as integration proceeds. It is limited to the sites where integration work occurs or whose role changes, to keep it proportionate and

[51] 49 C.F.R. § 1180.1(g).

operationally feasible.[52] If the Board approves the transaction, I request that it impose the following condition and make it a subject of its oversight:

> Before soliciting bids for, or beginning, each phase of work, or each cutover, that integrates the communications, signal or train-control systems of Norfolk Southern and Union Pacific, the Applicants shall file with the Board, and serve on all parties in public form, an assessment of (1) each communications structure, shelter and site at which that work will be performed, and (2) each other communications structure, shelter and site whose role in carrying train-control, dispatch or operating communications that work or cutover will change. For each, the filing shall state: (a) its location, type, height, owner and FCC antenna structure registration number, if any; (b) the structural standard to which it was designed, and the date and result of its most recent structural analysis and inspection; (c) the status of its environmental and historic-preservation review, including any Section 106 consultation for a structure or shelter fifty years old or older; (d) for shelters and buildings constructed in 1980 or earlier, the results of any asbestos inspection and how the persons who will work there will be told of them; and (e) the work planned for it, including any tower replacement the work requires and its estimated cost, who will perform that work, and how those persons are trained and qualified, including for radio-frequency exposure and tower work, in addition to what the Safety Integration Plan provides. Site-level detail may be filed under seal under the Protective Order, with a public summary stating, for each item above, the number of sites covered and the number for which the record or result called for does not exist.

I ask that the Board retain jurisdiction to require corrective measures based on each filing, and require the Applicants to report on the condition in each oversight filing.

[52] 49 C.F.R. § 1180.1(d) (conditions that are "operationally feasible and produce net public benefits").

X. Conclusion

Nearly half of Norfolk Southern's registered antenna structures were built before 2000, and the public record does not show the age or condition of the rest of the network the Applicants would combine. It was built under review rules whose records are not in the public record, and combining it will take integration work whose scope and cost the Revised Application does not describe. The people who do that work, employees and contractors alike, will climb towers and work inside older buildings. Union Pacific says final decisions on that network have not been made; Norfolk Southern has objected to my questions about it. I recognize that what I ask may add time to the Board's review. I am sorry for that. I believe it is important enough to be addressed here: accidents are prevented by understanding the work before it starts, including the structures and buildings the work has to deal with. I respectfully ask the Board to require the disclosures in Section IX.A before it decides the application and, if it approves the transaction, to impose the condition in Section IX.B.

Respectfully submitted,

/s/ Brian S. Smith
Brian S. Smith
Party of Record, Finance Docket No. 36873
8014 Cumming Hwy, Suite 403-169
Canton, GA 30115
smithbss.sti@gmail.com

Dated: November 18, 2026

VERIFICATION

I, Brian S. Smith, declare under penalty of perjury that the foregoing comments, and Exhibits 1 and 2 to them, are true and correct. Further, I certify that I am qualified and authorized to file these Comments and Request for Conditions.

Executed on November 18, 2026.

/s/ Brian S. Smith
Brian S. Smith

CERTIFICATE OF SERVICE

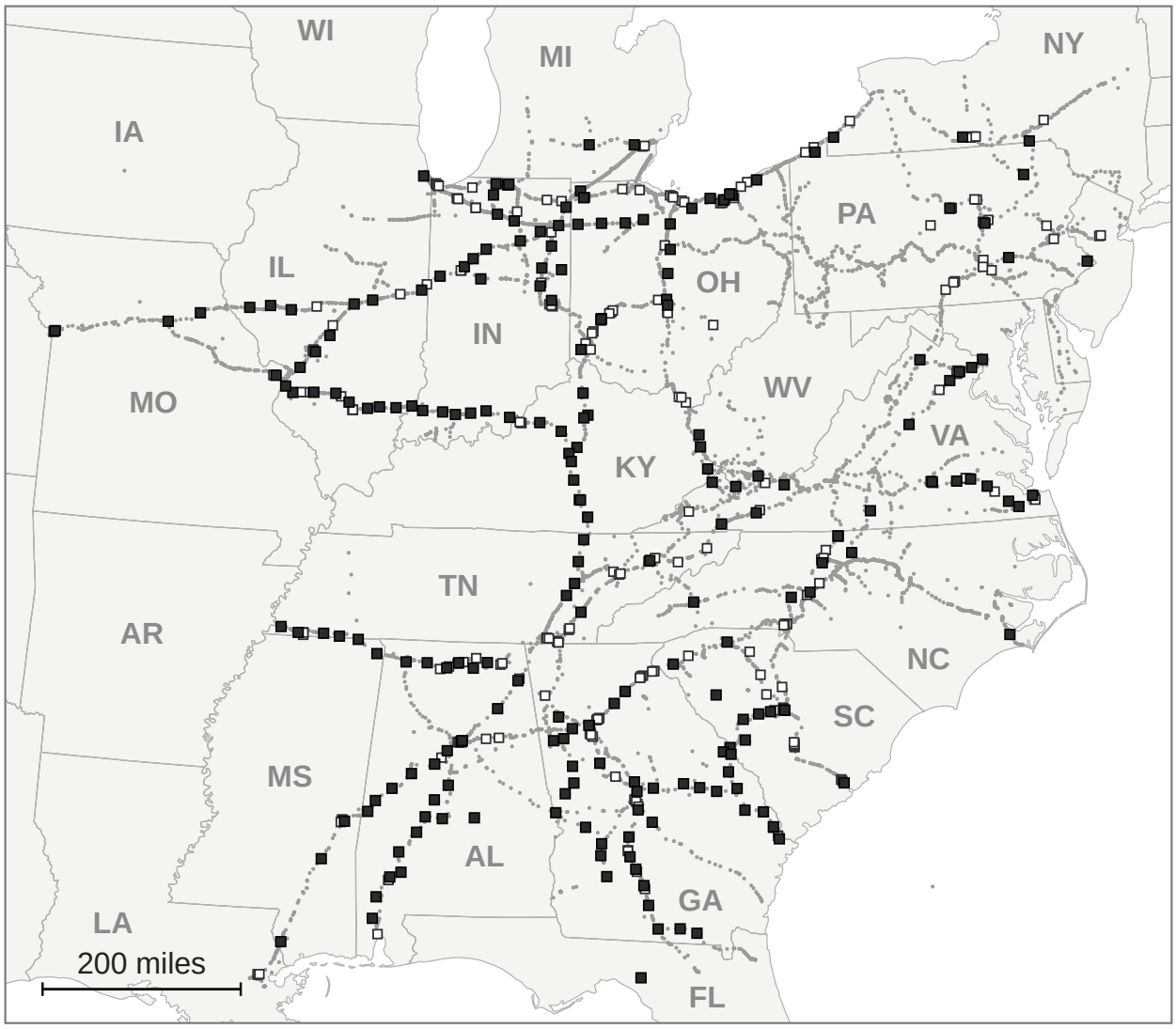
I certify that on November 18, 2026, I served the foregoing Comments and Request for Conditions, with Exhibits 1 and 2, by email on each party of record in Finance Docket No. 36873 with an email address on the Board's service list and on Administrative Law Judge Jenifer J. Soulikias. On November 19, 2026, I will serve it by first-class mail on each party of record without an email address on that list, on each party of record whose email address fails to deliver, and on the Secretary of Transportation and the Attorney General of the United States, in accordance with 49 C.F.R. § 1104.12 and Decision No. 30 (served August 18, 2026), and I will file a supplemental certificate of service when that is done.

/s/ Brian S. Smith
Brian S. Smith

Every map and count in this exhibit is built from public records of the Federal Communications Commission and the Federal Aviation Administration. Anyone can download the same files and reproduce them by the method stated at the end of this exhibit.

EXHIBIT 1

Map 1. Norfolk Southern's Licensed Sites and Registered Antenna Structures

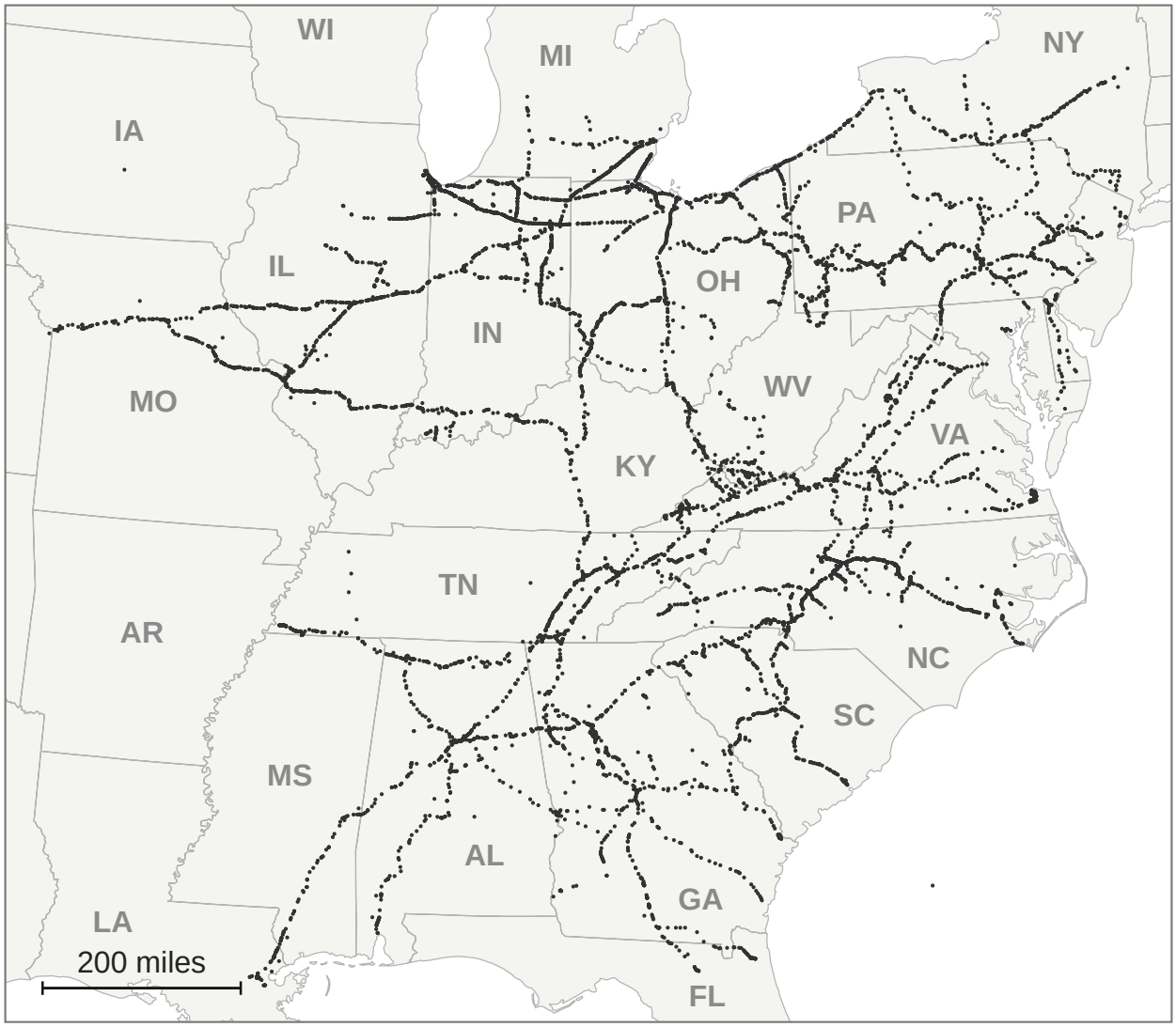


- Licensed site: a fixed location, or a group of fixed locations each within 50 meters of another, on active FCC licenses held by Norfolk Southern (6,364 sites).
- ■ Antenna structure registered to Norfolk Southern, construction date before 2000 (227).
- □ Antenna structure registered to Norfolk Southern, construction date 2000 or later (269) or none on file (2).

Locations are plotted as filed with the FCC; one licensed location plots offshore at its filed coordinates. No paths or routes are shown. Construction dates are those the owner entered. A filled square marks only a construction date before 2000. It says nothing about a structure's condition or its compliance with any rule.

EXHIBIT 1

Map 2. Every Licensed Site on Norfolk Southern's Active FCC Licenses



•••• Licensed site: a fixed location, or a group of fixed locations each within 50 meters of another, on active FCC licenses held by Norfolk Southern (6,364 sites).

This map shows only what is licensed. It is not the complete network: equipment operated without an individual license does not appear in the FCC's files and is not shown. Locations are plotted as filed with the FCC; one plots offshore at its filed coordinates. No paths or routes are shown. A dot shows only that a site is licensed. It says nothing about what is at the site or its condition.

Table 1. Licenses and licensed sites (FCC license files of November 4, 2026)

License records held by Norfolk Southern in the files	3,473
Active licenses	2,654
Fixed microwave (radio service codes MG 426, MW 1)	427
Private land mobile (IG 2,204, RS 19, YG 3, GO 1)	2,227
Fixed locations with coordinates on active licenses	8,900
Licensed sites (fixed locations grouped when each is within 50 meters of another)	6,364
Sites with a microwave location	457
Sites with land mobile locations only	5,907

Table 2. Antenna structures registered to Norfolk Southern (FCC registration file of November 4, 2026)

Registrations in the FCC file, all owners	197,961
Registered to Norfolk Southern, all statuses	555
Constructed	496
Granted, not yet built	2
Dismantled	29
Application pending	27
Terminated	1
Counted in these comments: constructed or granted	498

By decade of construction, as the owner entered it:

Decade	**1950s**	**1960s**	**1970s**	**1980s**	**1990s**	**2000s**	**2010s**	**2020s**	**No date**	**Total**
Structures	2	82	63	16	64	38	202	29	2	498

Construction date before 2000	227 (45.6%)
Construction date before 1990	163
Construction date 1980 or earlier	147 (29.5%)
Construction date on or before November 18, 1976 (fifty years before the date of these comments)	145

The two structures with no date are the two granted and not yet built.

Table 3. Search of the FAA's public obstruction-evaluation case records (November 9, 2026)

Cases entered from 1985 through November 9, 2026, in 21 states and the District of Columbia. A case was kept when it was filed by Norfolk Southern or a predecessor railroad, cites a Norfolk Southern antenna structure registration number, or names Norfolk Southern in the structure description. Cases kept: 2,259.

By state:

Ohio	294	Tennessee	126	Missouri	23
Virginia	291	South Carolina	110	Florida	10
Pennsylvania	225	Kentucky	77	New Jersey	7
Georgia	211	Mississippi	47	Maryland	7
Indiana	202	New York	42	District of Columbia	2
Alabama	197	West Virginia	36	Delaware	2
North Carolina	159	Louisiana	29		
Illinois	136	Michigan	26		

By decade the case was entered:

1980s (from 1985)	13	2000s	85	2020s (to Nov. 9, 2026)	196
1990s	310	2010s	1,655		

State and year combinations the FAA's service did not return on November 9, 2026 (12): Florida 2017, 2018 and 2021 through 2026; Illinois 2023, 2025 and 2026; Michigan 2003. None is earlier than 2003.

Table 4. Where the FAA's online record begins: cases of all sponsors entered 1985 through 1989

Alabama	0	Tennessee	0	New York	1,047
Georgia	0	Florida	1	New Jersey	751
Illinois	0	South Carolina	1	Maryland	551
Indiana	0	Louisiana	2	West Virginia	355
Michigan	0	Kentucky	11	Delaware	144
Missouri	0	Ohio	24	District of Columbia	37
Mississippi	0	Virginia	1,177		
North Carolina	0	Pennsylvania	1,051		

On these counts, the online record begins about 1990 in the FAA's Southern and Great Lakes regions and reaches back at least to 1985 in its Eastern region. Years before 1985 were not searched, apart from a test of four earlier years in Georgia, which returned no cases.

Table 5. The 163 structures registered as built before 1990, against the FAA search

With a kept FAA case dated on or before the structure's construction date	0
With a kept FAA case within 150 meters, the earliest dated after construction	158
With no kept FAA case within 150 meters	5

Year of the earliest kept case within 150 meters, for the 158:

1985	2	1991	3	1998	1	2001	1	2010	2	2023	2
1989	1	1992	2	1999	2	2002	1	2011	2	2025	1
1990	1	1997	133	2000	2	2006	1	2016	1		

For one of the two structures whose earliest kept case is from 1985, that case is dated June 18, 1985, and the structure's construction date is entered as January 1, 1985, so only the year of construction is known.

FAA region of the study cited in each registration:

Southern	100	Great Lakes	40	Eastern	17	Central	4	not identified	2

The FAA studies cited in the registrations of the 163, from the FCC registration file:

Registrations that cite an FAA study	162
Study dated 1997	141
Study dated 1990 or later, other than 1997	18
Study dated before 1990	3

Of the three studies dated before 1990, one (July 1975) is dated before its structure's construction date (November 1975); one (March 1988) is from the same year as its structure, whose construction date is entered as January 1; and one (1987) is later than its structure's construction date (1972).

Method

1. **Files.** FCC weekly public-access files downloaded November 4, 2026: microwave licenses (l_micro.zip, 209,092,282 bytes, SHA-256 beginning e3e2033f), private land mobile licenses (l_LMpriv.zip, 423,138,677 bytes, SHA-256 beginning 3c8235f1) and antenna structure registrations (r_tower.zip, 37,867,103 bytes, SHA-256 beginning 761a72fa).
2. **Licenses.** Records whose licensee FCC Registration Number is 0002088664 or whose licensee name contains "Norfolk Southern." A license is active when its status in the file is "A."
3. **Licensed sites.** Every location with coordinates on an active microwave license, and every fixed location with coordinates on an active land mobile license. Locations are grouped into one site when each is within 50 meters of another.
4. **Registered structures.** Registrations whose owner's FCC Registration Number is 0002088664 or 0004228979, or whose owner name contains "Norfolk Southern," with a status of constructed or granted. The construction year is the registration's "date constructed" entry.

5. **FAA cases.** The FAA's Obstruction Evaluation / Airport Airspace Analysis public case-list web service, queried by state and year. Sponsor names searched: Norfolk Southern, Norfolk & Western, Southern Railway, Conrail and T-Cubed. A case is tied to a registered structure when its filed location is within 150 meters of the registered coordinates.
6. **Maps.** Albers equal-area projection. State outlines are from U.S. Census Bureau cartographic boundary files (2017), simplified. No paths or routes are drawn.

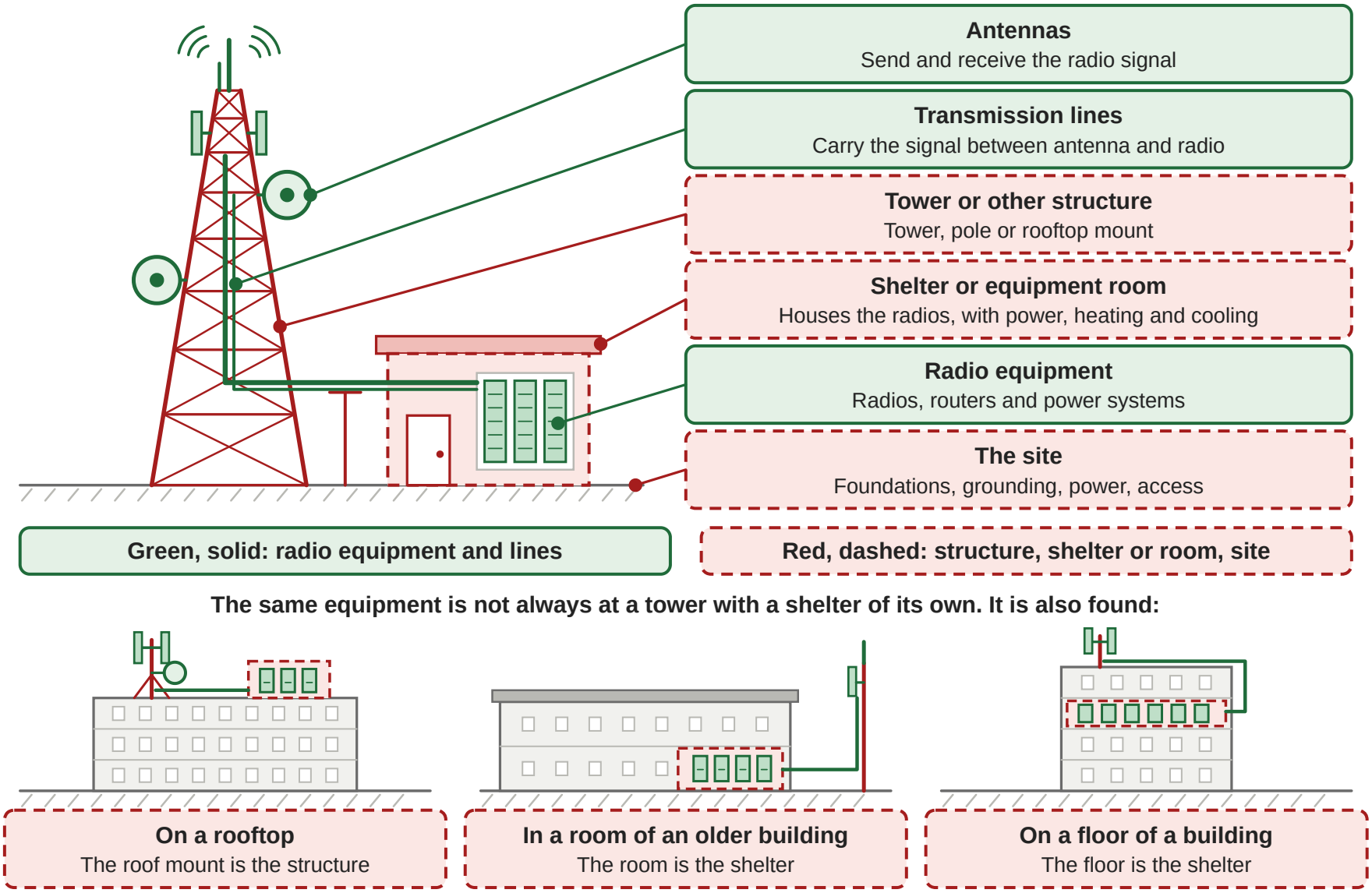
Limits

1. Registration is generally required only for structures more than 200 feet tall or near airports. The 498 are the structures registered, not all of the structures the network uses.
2. The maps and counts show only what is licensed or registered. Equipment operated without an individual license does not appear in the FCC's files.
3. Construction dates are the owner's entries. If an older structure was registered with a later date, the counts of older structures are too low. For 148 of the 163 structures registered as built before 1990, the construction date is entered as January 1, so only the year is known; a filing from the same year cannot be placed before or after construction.
4. A construction date, and a filled square on Map 1, show only when a structure was built. They say nothing about its condition or its compliance with any rule.
5. The FAA search keeps only cases filed in the names listed, citing a Norfolk Southern registration number, or naming Norfolk Southern. A notice filed under another sponsor's name would not be found.
6. Registered coordinates may have been re-surveyed since a case was filed; the 150-meter tolerance allows for that.
7. Locations are plotted as filed with the FCC. One licensed location plots offshore at its filed coordinates.

Figure 1 is a schematic. Figure 2 is drawn from the Applicants' filings at the pages it cites. The counts in Figure 3 are those in Exhibit 1.

EXHIBIT 2

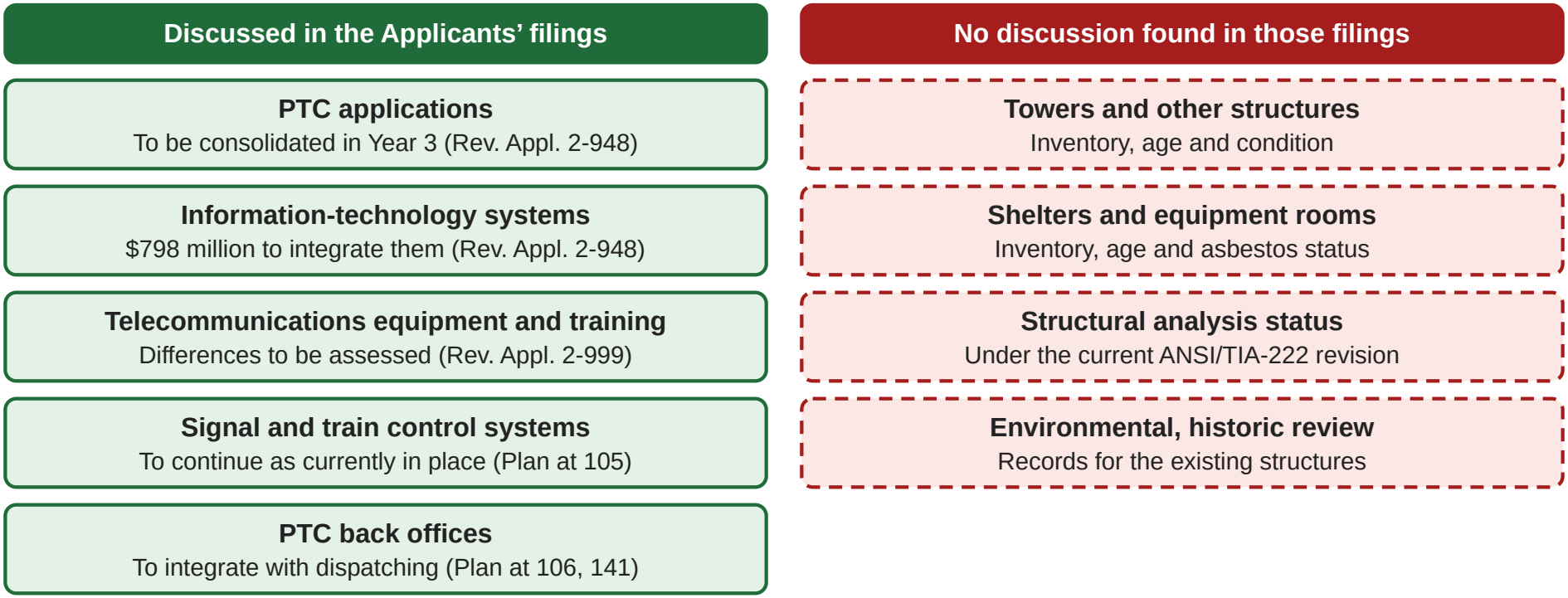
Figure 1. A Communications Site



Schematic from general engineering practice; not to scale and not a drawing of any actual site or building. The smaller drawings show other places the same equipment is found. The terms follow the definitions in my First Set of Discovery Requests to Norfolk Southern (Nos. 5 to 7, 9 and 10).

EXHIBIT 2

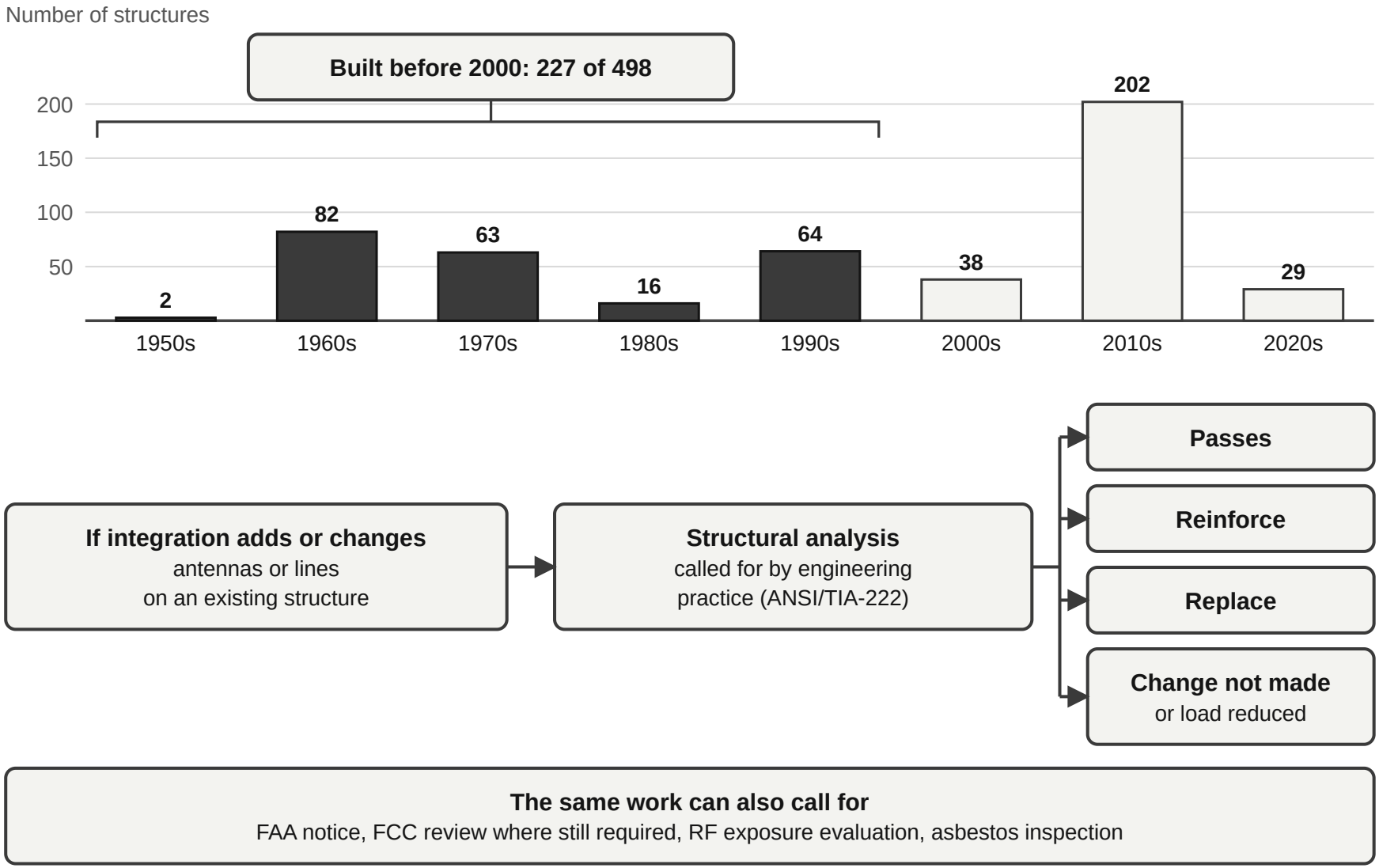
Figure 2. What the Applicants' Filings Discuss, and What They Do Not



Sources: Revised Application at 2-948 and 2-999 (Turner V.S. ¶¶ 183, 184, 317); Safety Integration Plan at 105, 106 and 141. A search of Volumes 1 and 2 of the Revised Application and of the Safety Integration Plan found no discussion of the structures, shelters and sites those systems run on. Terms not found in Volumes 1 and 2 include "microwave," "radio" (other than inside "radioactive"), "shelter," "TIA-222" and "Section 106." The Revised Application speaks to historic properties generally at 1-72; the last row concerns review records for the existing communications structures. A red, dashed row means only that no discussion was found. It says nothing about any structure's condition or its compliance with any rule.

EXHIBIT 2

Figure 3. When Norfolk Southern's Registered Structures Were Built, and What an Equipment Change Sets in Motion



Construction dates are those the owner entered in its FCC antenna structure registrations (file of November 4, 2026); two of the 498 structures carry none, and only registered structures are counted. Dark bars: built before 2000. A bar shows only when structures were built; it says nothing about any structure's condition. The flow shows engineering practice. I know of no federal rule that requires the analysis; whether Norfolk Southern requires it is the subject of my Request for Admission No. 53 to Norfolk Southern. RF means radio-frequency.