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October 16, 2014

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street SW
Washington, D.C. 20554

Re: *Ex Parte Supplemental Comments of CenterPoint Energy Houston Electric, LLC
in GN Docket No. 12 -354*

Dear Ms. Dortch:

CenterPoint Energy Houston Electric, LLC (“CenterPoint”), through counsel, and pursuant to 47 C.F.R. § 1.1206(b), submits these supplemental comments on the new Part 96 rules proposed by the Commission, and the application of those rules to frequencies in the 3650-3700 MHz band.¹ In particular, these supplemental comments detail CenterPoint’s substantial, long-term investment in smart grid and advanced metering infrastructure based on the Commission’s current regulation of the 3650-3700 MHz band, and the likely adverse effects of consolidating frequencies now relied on by CenterPoint with the 3550-3650 MHz band, subject to its proposed Part 96 rules. At bottom, the licensing framework now under consideration, as set forth in the FNPRM, not only would upset the planned expansion of CenterPoint’s network, but also would strand CenterPoint’s investment, and reverse CenterPoint’s progress in developing more secure, reliable, and efficient transmission and distribution systems. CenterPoint therefore concurs with, and fully supports the proposals by the Utilities Telecom Counsel (“UTC”) that would protect incumbent users of the 3650-3700 MHz band, and in particular, critical infrastructure industry (“CII”) technologies and applications.

CenterPoint is an investor-owned utility, headquartered in, and serving Houston, Texas, and surrounding areas. CenterPoint provides electric transmission and distribution services, and owns and operates wires, poles and other infrastructure throughout its five thousand (5,000) square mile geographic service area. CenterPoint currently delivers electric power to 2.3 million metered homes and businesses.

¹ See *In the Matter of Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550-2650 MHz Band*, Further Notice of Proposed Rulemaking, GN Docket No. 12 -354, FCC 14-49, 29 FCC Rcd 4279 (rel. Apr. 23, 2014) (“FNPRM”).

I. CenterPoint's Smart Grid and Advanced Metering Infrastructure on the 3650-3700 MHz Band is Fully Deployed and Operational.

In 2009, CenterPoint became among the first electric utilities in the United States to begin constructing a full scale smart grid and advanced metering network. Since that time, CenterPoint made direct capital expenditures on infrastructure exceeding \$766 million, including federal grant funds in the amount of \$200 million, awarded by DOE pursuant to federal statute.² CenterPoint's specific investment in telecommunications infrastructure, operating primarily on the 3650-3700 MHz band, has exceeded \$125 million.³ The "Fact Sheet" appended hereto as *Exhibit A* provides additional detail regarding the telecommunications facilities deployed by CenterPoint to date, and their broad capabilities relative to CenterPoint's electric transmission and distribution operations.⁴ The telecommunications technologies and applications using the 3650-3700 MHz band currently support CenterPoint's mission critical systems, including its Advanced Metering System, Outage Management and Recovery System, and Intelligent Grid. Overall, the segments of CenterPoint's network that have been updated to incorporate smart grid and advanced metering infrastructure are demonstrated to be 34 percent more reliable than the segments of CenterPoint's network that continue to be reliant on legacy telecommunications technologies. The anticipated total life span of CenterPoint's telecommunications infrastructure using the 3650-3700 MHz band is between ten (10) and fifteen (15) years.⁵

CenterPoint expects that the need for further investment in the expansion of its smart grid and advanced metering infrastructure will grow, proportionate to the future growth of the Houston metropolitan area. At this time, CenterPoint must add roughly 200-300 Telecommunications Sites each year,⁶ as needed to serve roughly 45,000 new metered customers during the same time period. CenterPoint forecasts that 5,000 additional Telecommunications Sites will be deployed within the Houston metropolitan area, within next ten (10) years.

² In 2009, CenterPoint was awarded Smart Grid Investment grant funds by the United States Department of Energy ("DOE"), pursuant to its program established under the American Reinvestment and Recovery Act of 2009. Such funds were awarded for the specific purpose of installing advanced metering infrastructure, and strengthening the self-healing properties of CenterPoint's electric grid.

³ This capital expenditure relates to advanced smart meters and licensed remote metering devices, licensed access points, licensed Intelligent Grid devices, licensed telecommunications sites, and automated substations, nearly all of which operates on frequencies in the 3650-3700 MHz band, installed by CenterPoint between 2009 and 2012.

⁴ The Fact Sheet appended hereto as *Exhibit A* provides detail regarding CenterPoint's telecommunications infrastructure deployments from 2009, to the present.

⁵ To fully recover its capital expenditure, all of CenterPoint's state commission approved smart grid and advanced metering infrastructure must be used to the end of life. Current infrastructure in the field is between two (2) and five (5) years old.

⁶ "Telecommunications Sites" refers to any registered or licensed wireless device operating on the 3650-3700 MHz band that is used to support CenterPoint's smart grid or advanced metering infrastructure, including, but not limited to the AMS Remotes, Access Points and Intelligent Grid Devices referenced in Exhibit A. All Telecommunications Sites currently are subject to the Commission's Part 90 regulations.

II. The Proposed Part 96 Rules Will Adversely Impact Current Operations on the 3650-3700 MHz Band, and Will Frustrate Network Expansion.

In considering available spectrum options to support its smart grid and advanced metering infrastructure, CenterPoint determined the 3650-3700 MHz band to be uniquely suited to its needs. Under the existing Part 90 licensing framework, use limitations minimize interference, and provide CenterPoint exclusive access to frequencies having superior capacity, latency, and availability. In particular, CenterPoint currently operates on licensed frequencies that support a data transmission rate of 2.5 Mb per second – a speed essential to the function of CenterPoint’s control applications, breaker trip/reclosers, switches, phase sensors, and real-time power flow meters. One single access point on the 3650-3700 MHz band is capable of servicing forty (40) data collectors, each of which, in turn, supports 20,000 meters. CenterPoint currently is guaranteed available channels in nearly all circumstances,⁷ and effectively coordinates interference with other non-commercial users, over at least seven (7) channels.⁸ CenterPoint attributes the astonishing success of its operations on the 3650-3700 MHz band to the licensing criteria and interference protections accorded by the existing Part 90 rules. The Commission’s proposal to subject the 3650-3700 MHz band to an experimental licensing framework, under its new Part 96 rules, threatens the foundation on which CenterPoint’s entire smart grid and advanced metering network has been built.

A. The Geographic Coverage Area of CenterPoint’s Existing Infrastructure Could Not be Maintained Under the Proposed Part 96 Power Limitations.

Pursuant to the Part 90 rules currently governing the 3650-3700 MHz band, base and fixed stations are authorized to operate with up to 25 Watts/25 MHz EIRP, provided that the peak EIRP density must not exceed one Watt in any one MHz slice of spectrum.⁹ CenterPoint, in accordance with this limitation, engineered its existing telecommunications infrastructure to achieve coverage of the largest possible geographic area, operating at a power level that complies with the applicable Commission rule. If CenterPoint ultimately is obligated to reduce its operating power level on the 3650-3700 MHz band to that mandated under the proposed Part 96 rules,¹⁰ much of the geographic area serviced by its existing infrastructure will be lost. CenterPoint estimates that implementation of the proposed Part 96 power limitations would reduce its current coverage area by 80-90 percent, impacting 6,500 Telecommunications Sites, and service to over two million existing smart meters. The coverage maps appended hereto as *Exhibit B* illustrate the geographic areas currently serviced

⁷ 3650-3700 MHz channels are available to CenterPoint in at least 99.999% of all circumstances.

⁸ CenterPoint currently coordinates its usage of the 3650-3700 MHz band with other non-commercial users, pursuant to negotiated spectrum sharing agreements. Over the course of the past six (6) years, CenterPoint developed strong, mutually-advantageous working relationships with such non-commercial users, including the City of Houston. Given CenterPoint’s spectrum needs, however, CenterPoint does not believe that spectrum sharing would be feasible with commercial users.

⁹ 47 C.F.R. § 90.1321(a).

¹⁰ Application of the proposed Part 96 would result in a loss of power at CenterPoint’s end receivers of 17 dBm.

by CenterPoint's infrastructure on the 3650-3700 MHz band, operating in accordance with the Part 90 power limitations, as compared to the markedly smaller geographic areas that would be serviced if the same infrastructure were required to operate in accordance with the proposed Part 96 power limitations. Undoubtedly, CenterPoint could not maintain, much less expand the current reach of its smart grid and advanced metering infrastructure under the proposed Part 96 power limitations, without substantial additional investment in new Telecommunications Sites and equipment.

B. CenterPoint Would be Obligated to Replace its Existing Infrastructure to Meet Part 96 Technical Requirements.

The proposed Part 96 framework includes technical requirements that CenterPoint did not, and could not have contemplated at the time its smart grid and advanced metering infrastructure was engineered and installed. In particular, the Part 90 framework governing CenterPoint's initial installations did not incorporate the proposed Citizens Broadband Radio Service Device General Requirements, mandating geo-location and reporting capabilities, SAS registration, interference reporting, interoperability, and enhanced security measures.¹¹ At this time, CenterPoint is unaware of any solution that would enable its existing telecommunications infrastructure on the 3650-3700 MHz band to be retrofitted in accordance with the proposed Part 96 technical rules, and the record before the Commission lacks any evidence that such a solution exists, or is even in the development stages. Accordingly, CenterPoint anticipates that its existing smart grid and advanced metering infrastructure will need to be replaced, at substantial cost, in the event that the proposed technical requirements of Part 96 are adopted.

C. Additional Operations in the 3650-3700 MHz Band Would Result in Increased Congestion and Interference, and Harm to CenterPoint's Existing Operations.

The Commission's proposal to consolidate the 3650-3700 MHz band, with the 3550-3650 MHz band, subject to its new Part 96 licensing framework would cause greater risk of interference and congestion to CenterPoint's existing operations, and the operations of other CII. In particular, the introduction of new operations of Priority Access licensees ("PAL"), and General Authorized Access ("GAA") users, and testing of the SAS in the 3650-3700 MHz band, without the protection of exclusion zones, raises an unprecedented likelihood of interference and congestion, without any real prospect of coordination. As UTC and other commenters have observed,¹² the SAS is remains untested and conceptual to date, and provides no assurances that incumbent users of the 3650-3700 MHz band will not be disrupted by new PAL and GAA operations.

Although the proposed Part 96 licensing framework would accord CenterPoint some limited protections against congestion and interference through acquiring its own PAL authorizations, such

¹¹ FNPRM at Appendix A – Proposed Rules, § 96.36.

¹² See, e.g., Comments of the Utilities Telecom Council in GN Docket No. 12-354, filed July 14, 2014 at 14; Comments of the WiMax Forum at 3-4.

approach would not be feasible for CenterPoint. As a public utility, operating under the jurisdiction of the Public Utility Commission of Texas (“PUCT”), CenterPoint lacks the financial resources to compete at auction with commercial users for PAL authorizations in the 3650-3700 MHz band.¹³ Moreover, even if CenterPoint were better positioned to obtain PAL authorizations under the proposed Part 96 rules, the one-year, non-renewable PAL license term, and diminished geographic coverage area, as compared to those Part 90 licenses that CenterPoint previously obtained for the 3650-3700 MHz band, are far less suitable for its operations.

III. CenterPoint Concurs with, and Supports the Proposals of UTC for the Long-Term Protection of Incumbent 3560-3700 MHz Band Users.

For the reasons set forth herein, and in the comments and reply comments submitted by UTC, CenterPoint urges the Commission take the follow steps to protect incumbent users of the 3650-3700 MHz band:

- Grandfather all incumbent operations on the 3650-3670 MHz band pursuant to existing Part 90 rules permanently, or until the end of life of existing infrastructure;¹⁴ and
- Maintain or increase the operating power limitation currently in effect, pursuant to the Part 90 rules;¹⁵ and
- Adopt permanent safeguards against inference to incumbent users of the 3650-3700 MHz band; and
- Enable expansion of incumbent CII operations on the 3650-3700 MHz band through PAL.

* * * * *

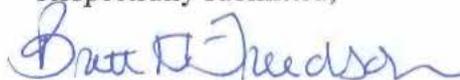
¹³ In addition to regulating the rates charged by public utilities, the PUCT is empowered to disallow infrastructure investments by public utilities that it determines are not prudent. Tex. Util. Code § 36.051.

¹⁴ As indicated above, the anticipated life span of CenterPoint’s telecommunications infrastructure the 3650-3700 MHz band is between ten (10) and fifteen (15) years. Thus, if the Commission is unwilling to grant incumbent users, such as CenterPoint, a transition period to Part 96 regulation of *at least* ten (10) years, the Commission must include in its final rules an expedited waiver process.

¹⁵ Although CenterPoint favors an increased power limitation for operations on the 3650-3700 MHz band, in concept, CenterPoint believes that further investigation is warranted to determine whether such increased power limitation would cause increased interference among incumbent users.

CenterPoint appreciates the opportunity to submit these supplemental comments regarding the rule proposals set forth in the FNPRM, and looks forward to working with the Commission to promote efficient use of the 3650-3700 MHz band, in a manner that protects the investments of CII, and other incumbent users.

Respectfully submitted,



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EXHIBIT A

CenterPoint Energy Houston Electric, LLC 3650-3700 MHz Deployment Fact Sheet

GN Docket No. 12-354

Advanced/Smart Meters	2,320,376 ¹
Registered 3.65 GHz AMS Remotes	5,557
Registered 3.65 GHz Access Point Radios	1,014
Registered 3.65 GHz Intelligent Grid Remotes	750
3.65 GHz Remote Radios in Inventory	862
3.65 GHz Access Point Radios in Inventory	72
Telecom Tower Sites	246
Interval read rate	99.5%
Remote service orders completed (including turn on, turn off, and read only orders)	>10M
Remote service order completion rate	98.6%
Time to reconnect after disconnect for non-pay	<15 minutes
Substations automated	31
2014 YTD reliability improvement	32.4%
Outage minutes saved	95.65M
Customers restored without a phone call	>875,000
Customers enrolled in power alert messages	>405,000
Fuel saved	>950,000 gallons
Emissions avoided	>8,500 tons
Average number of tamper related events received	600 per day

¹ CenterPoint's advanced meters collect 15-minute interval data, which is the equivalent of 96 reads per meter, per day, totaling more than 220 million reads. This interval data is delivered to CenterPoint's regulator, the Electric Reliability Council of Texas (ERCOT), in accordance with ERCOT's mandate, and to competitive electric retailers in the deregulated market.

EXHIBIT B

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC

TALKING POINTS FOR GN DOCKET NO. 12-354

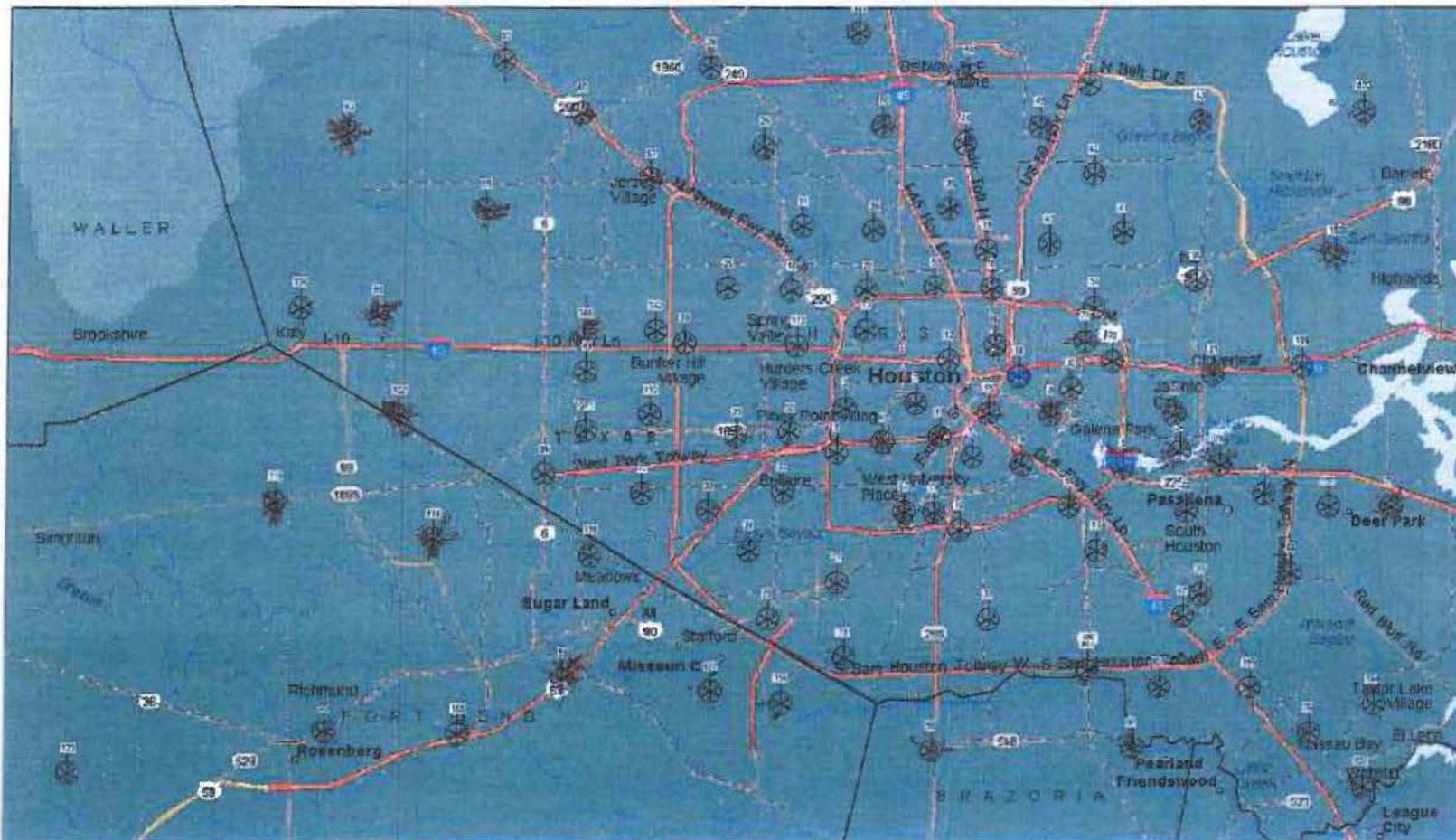


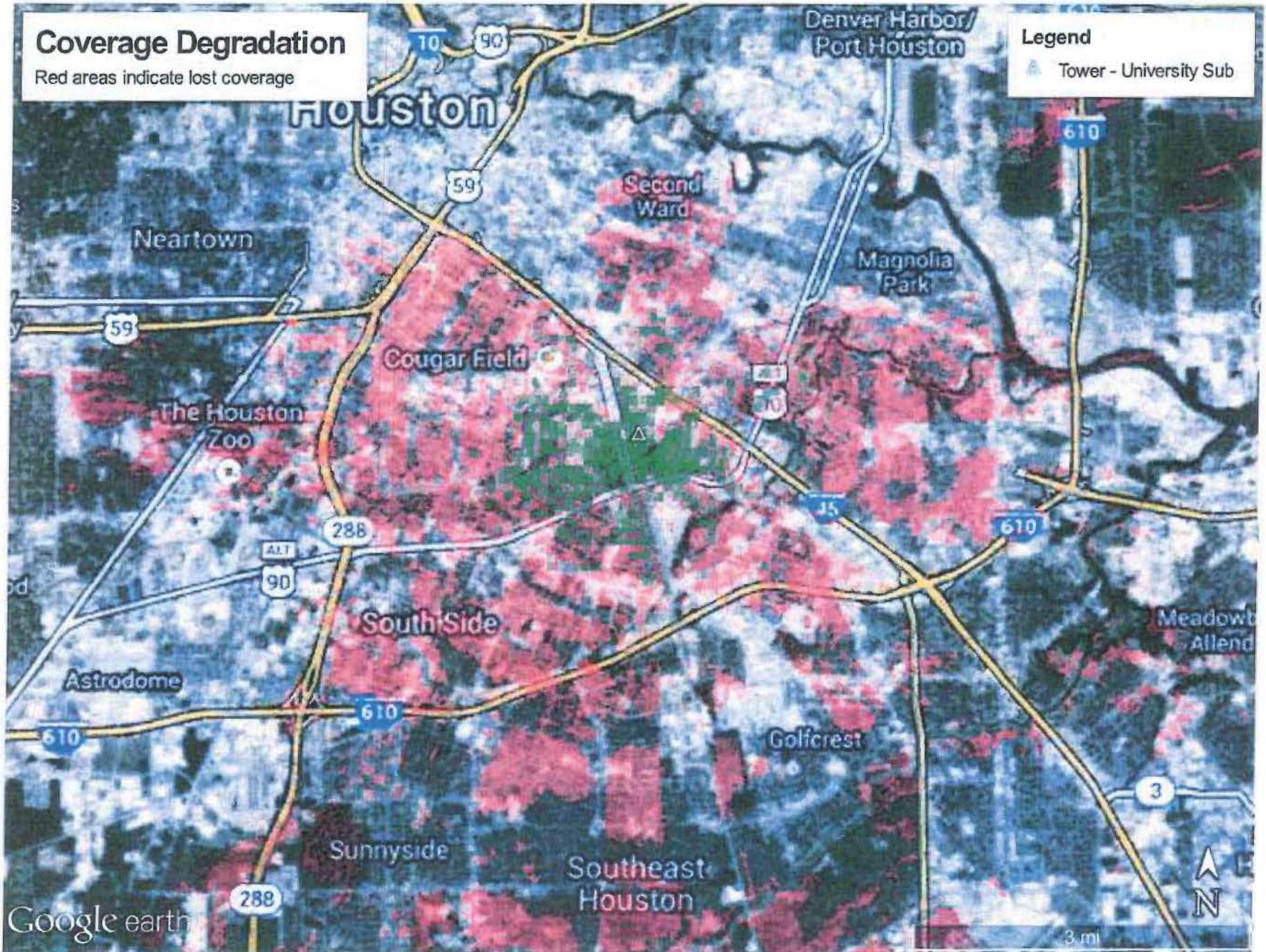
Figure 2: 3.65 GHz Coverage under the Part 96 Rules

Coverage Degradation

Red areas indicate lost coverage

Legend

 Tower - University Sub



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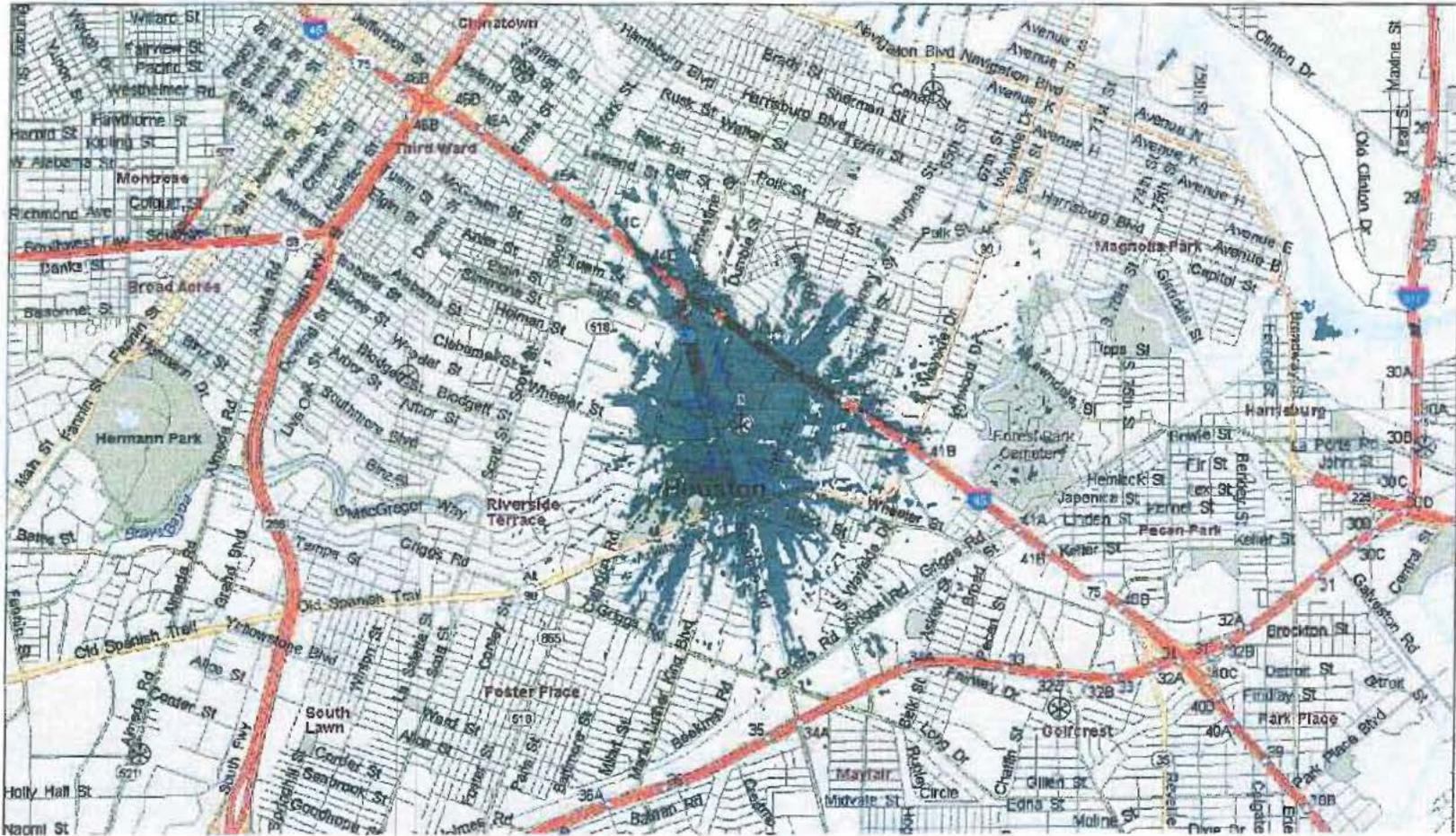


Figure 1: 3.65 GHz Coverage under the Part 90 Rules

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC

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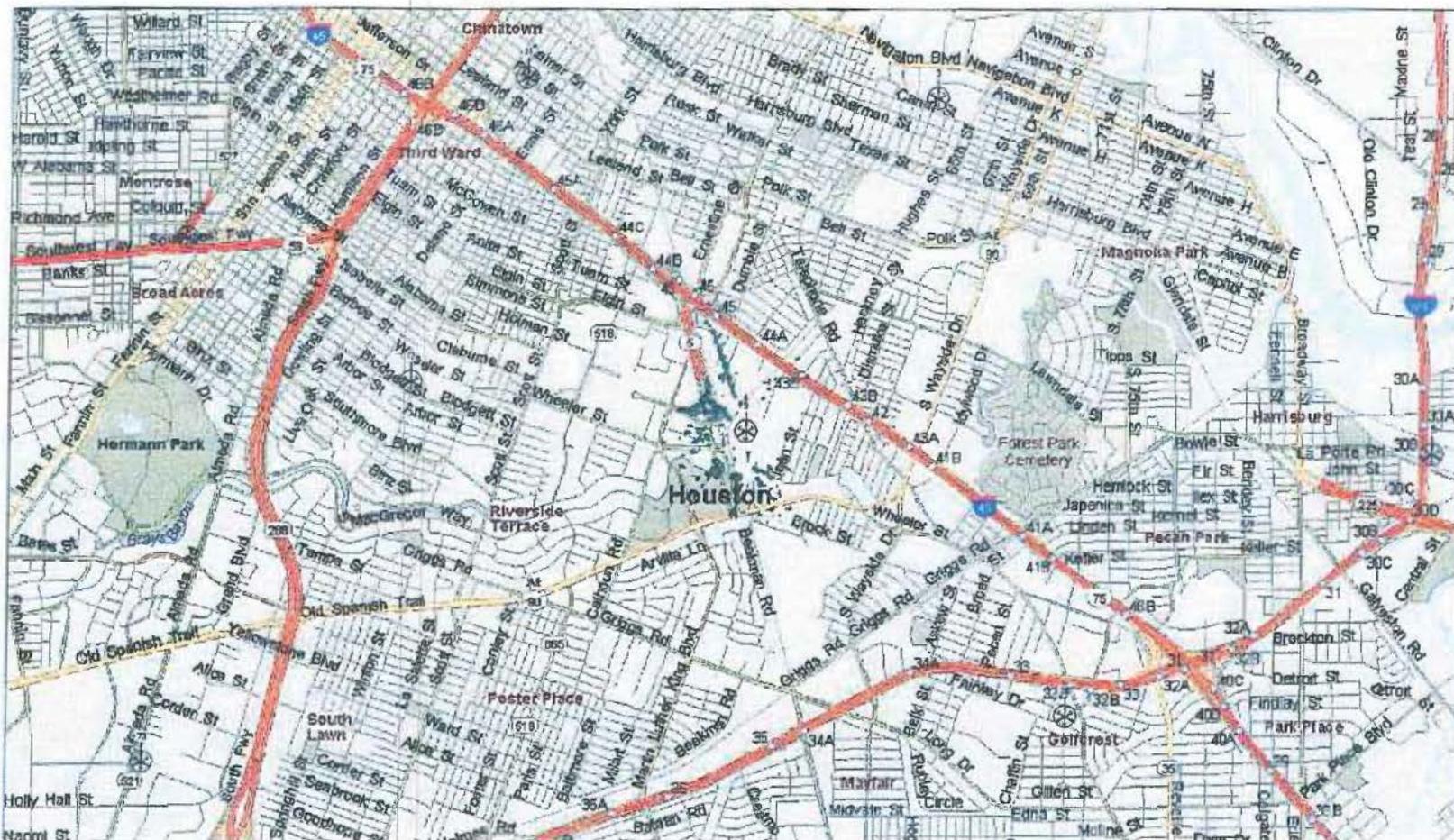


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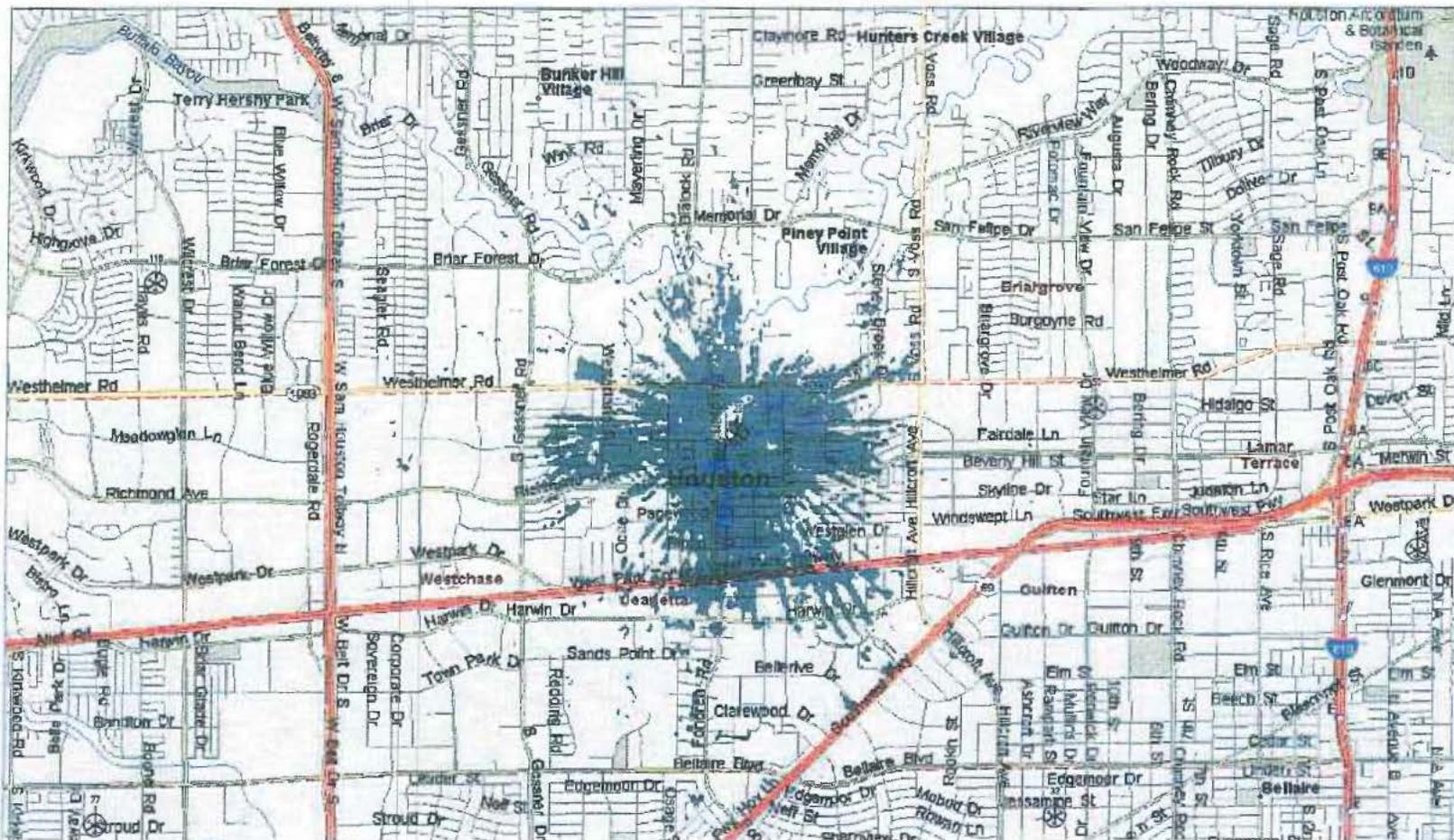


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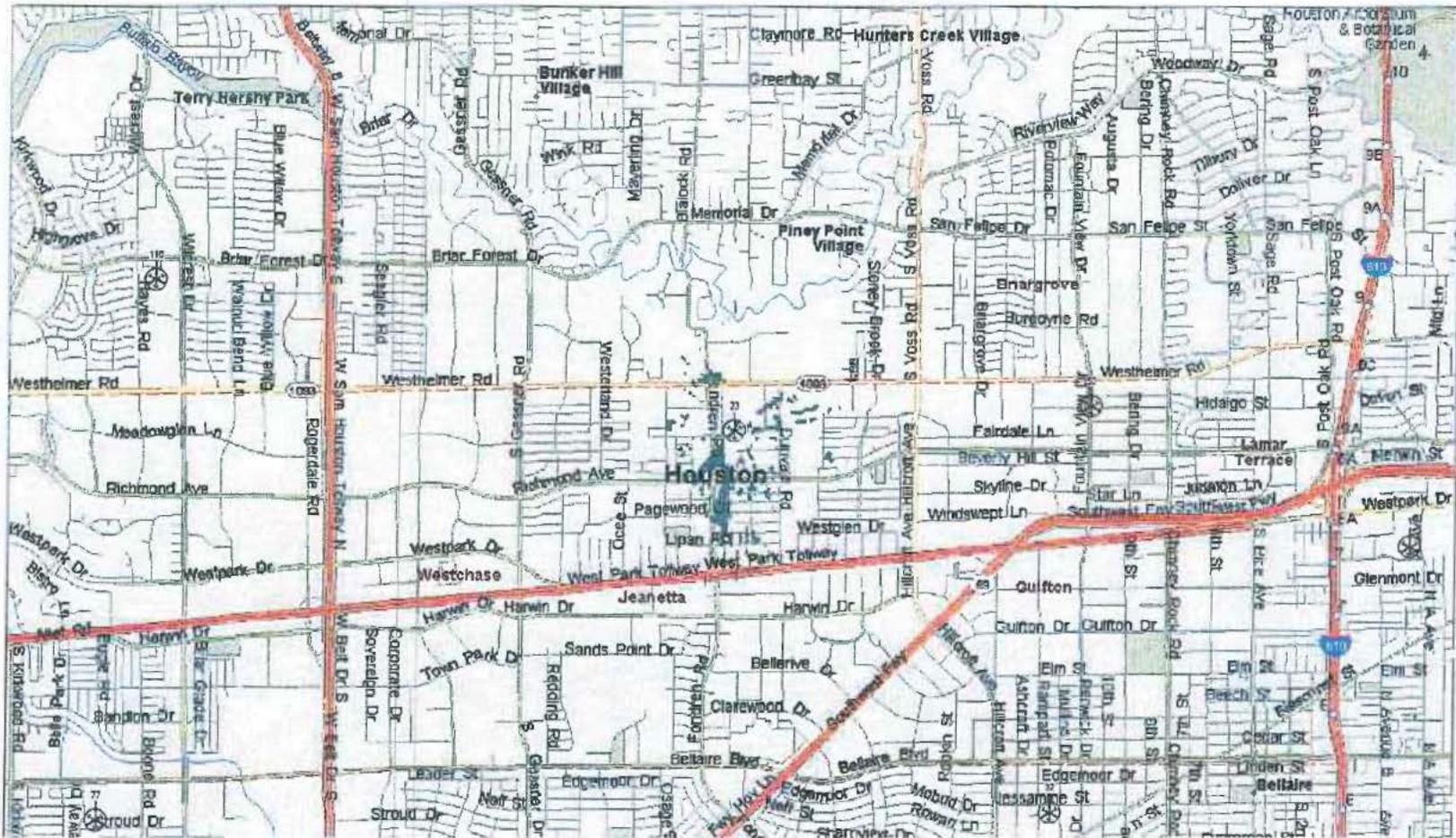


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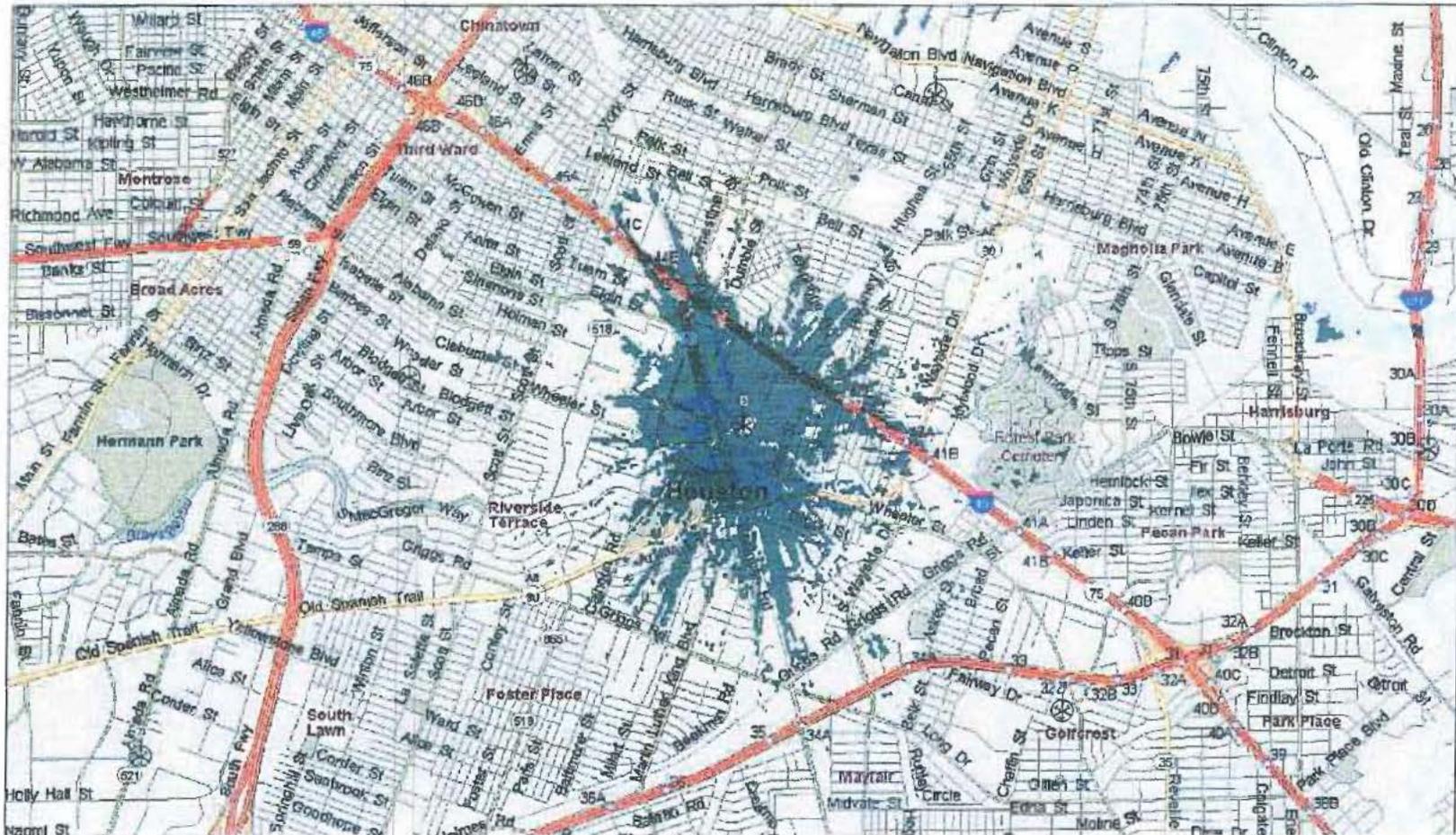


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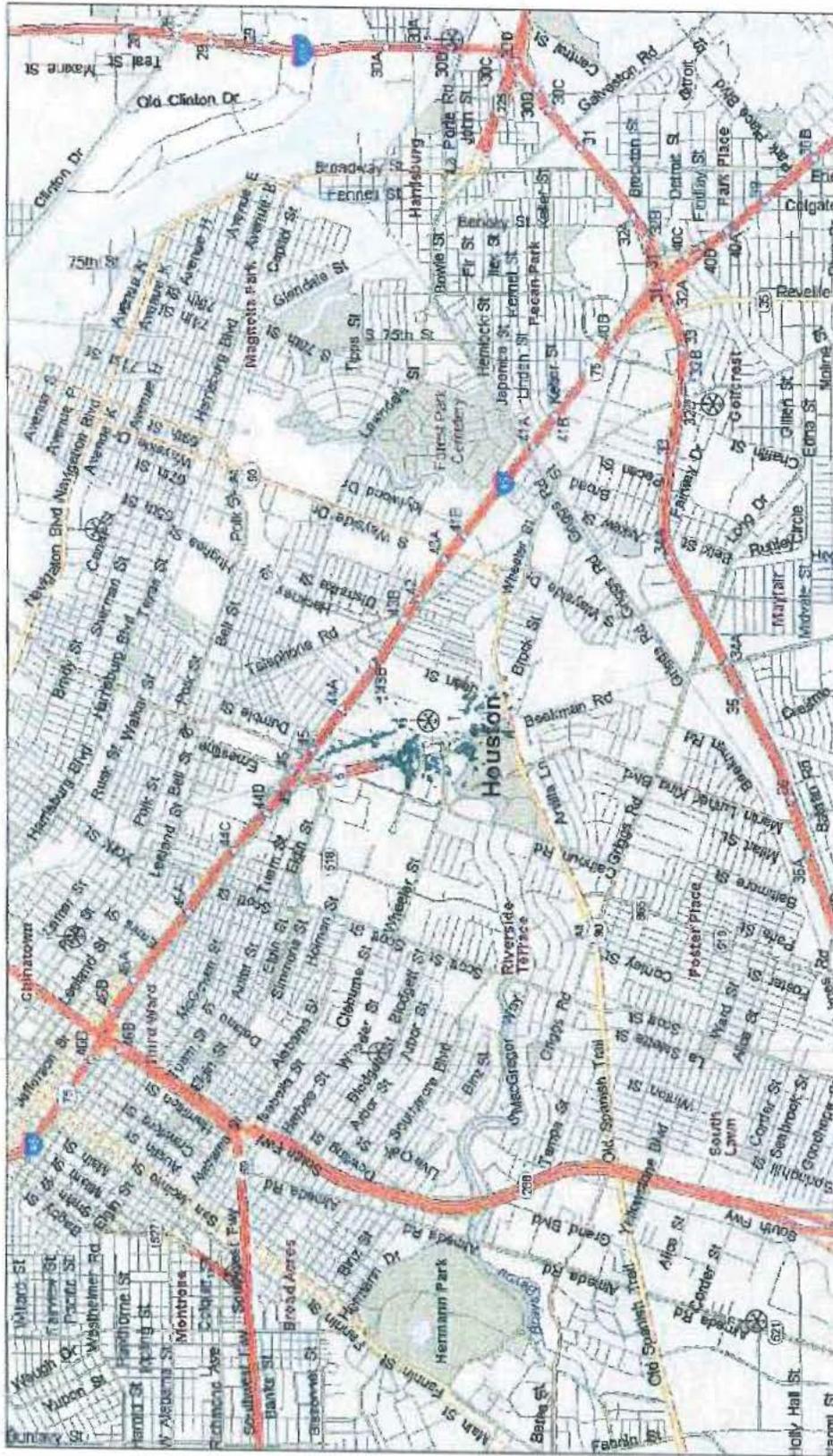


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