



# PUBLIC NOTICE

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## CONSTRUCTION FILING GUIDANCE FOR CERTAIN LOWER 700 MHz A AND B BLOCK LICENSEES

In response to questions received in the course of reviewing construction notifications, this Public Notice provides additional guidance to Lower 700 MHz A and B Block licensees<sup>1</sup> who must file electronic maps demonstrating compliance with their December 13, 2016, construction deadline. We encourage licensees to review the information in the 2015 *700 MHz Band Licensee Construction Notification Public Notice*<sup>2</sup> and 2016 *700 MHz Filing Reminder Public Notice*<sup>3</sup> and to follow the guidance below to help ensure successful filings by licensees and an efficient review by staff.

### **Background**

In the 2007 *700 MHz Second Report and Order*, the Commission established rules governing wireless licenses in the 700 MHz Band that, among other things, established interim and end-of-term construction benchmarks.<sup>4</sup> These rules require Lower 700 MHz A, B, and E Block licensees to provide service sufficient to cover 35 percent of the geographic area of their licenses within four years, and 70 percent of this area within ten years (the license term). For licensees that fail to meet the applicable interim benchmark, the rules specify that the license term will be reduced by two years and that the end-of-term benchmark must be met within eight years.<sup>5</sup>

As part of its efforts to promote interoperability in the Lower 700 MHz Band, the Commission released the *Interoperability Report and Order* in 2013, which extended the interim construction deadline

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<sup>1</sup> This interim construction benchmark deadline was waived for certain lower 700 MHz A Block licensees adjacent to channel 51 operations. See *Promoting Interoperability in the 700 MHz Commercial Spectrum*, Report and Order and Order of Proposed Modification, 28 FCC Rcd 15122, 15151-52, para. 65 (2013) (*Interoperability Report and Order*); *WTB Updates 700 MHz ULS Records Pursuant to Interoperability R&O*, Public Notice, 28 FCC Rcd 16832 (WTB 2013).

<sup>2</sup> *Wireless Telecommunications Bureau Establishes Electronic Map Format for Covered 700 MHz Band Licensee Construction Notifications*, Public Notice, 30 FCC Rcd 11407 (WTB 2015) (*700 MHz Band Licensee Construction Notification Public Notice*).

<sup>3</sup> *700 MHz Construction and Reporting Requirements and Related Deadlines*, Public Notice, 31 FCC Rcd 5297 (WTB 2016) (*700 MHz Filing Reminder Public Notice*).

<sup>4</sup> See *Service Rules for 698-746, 747-762, and 777-792 MHz Bands*, Second Report and Order, 22 FCC Rcd 15289 (2007) (*700 MHz Second Report and Order*).

<sup>5</sup> *Id.* at 27.14(g)(1), (h)(1). In cases where the end-of-term benchmark is not met, portions of the license where service is not provided terminate automatically. *Id.* at 27.14 (g)(2), (h)(2).

for Lower 700 MHz A and B Block licensees to December 13, 2016,<sup>6</sup> and removed the interim construction deadline for certain A Block licensees adjacent to Channel 51 operations.<sup>7</sup>

## **Filing Guidance**

The information below provides licensees with additional clarity on issues related to demonstrating geographic coverage, leveraging the exception for Government Lands, and providing certain technical data.

### **Geographic Coverage**

**When demonstrating compliance with a geographic benchmark, are the population benchmark file attributes (*i.e.*, “Pop Covered,” “Total Population,” and “Percentage of Population Covered”) required to be included in the coverage shapefile?** No. Geographic benchmark coverage showings should include an attribute table that contains the geographic coverage area, total area, and the percentage of area covered.<sup>8</sup>

**When demonstrating coverage within a particular licensed market, can the demonstration extend into other markets?** No. Each filing must provide a coverage shapefile that shows where service is provided *only* within the licensed market. For example, if showing construction in Market 1, do not show coverage in adjacent Markets 2 and 3.

**Should all transmitter sites that contribute to the market coverage be shown even if they are located outside the licensed market?** Yes. Service from a licensee’s neighboring transmitters should be included in the coverage shapefile. However, the filing may only include coverage within the licensed market that is the subject of the filing.

**Can coverage of government lands be included as part of the demonstration?** Yes. Licensees may count covered government land for purposes of meeting their geographic construction benchmarks, but if they do so they are also required to include that covered government land within the total geographic area for purposes of calculating percent covered.<sup>9</sup>

### **Government Lands**

Government lands may be excluded from the total licensed area when demonstrating compliance with geographic benchmarks. Government lands include areas that are owned or administered by the Federal Government, including the Bureau of Land Management, the Bureau of Reclamation, the U.S. Department of Agriculture’s Forest Service, the Department of Defense, the U.S. Fish and Wildlife Service, the National Park Service, the Tennessee Valley Authority, and other agencies and governmental entities, as well as areas that are owned or managed by individual states.<sup>10</sup> The FCC uses a government land shapefile downloaded from <http://gapanalysis.usgs.gov/padus/data/download/>.

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<sup>6</sup> 700 MHz Second Report and Order, 22 FCC Rcd at 15348, 15349, paras. 153, 157; *Interoperability Report and Order*, 28 FCC Rcd at 15151, para. 64.

<sup>7</sup> See *Interoperability Report and Order*, 28 FCC Rcd at 15151-52, para. 65.

<sup>8</sup> See 700 MHz Filing Reminder Public Notice, 31 FCC Rcd at Attach. A.

<sup>9</sup> 47 C.F.R. § 27.14(g)(1).

<sup>10</sup> 700 MHz Second Report and Order, 22 FCC Rcd at 15350, para. 160.

**Should the coverage demonstration include government lands that extend over the licensed market boundary?** Only include those portions of government lands within the licensed market for purposes of submitting shapefiles and making coverage calculations.

**If the physical layers of federal and state government lands overlap, which physical layers should be included in the attribute table?** The attribute table should include all government lands that are being excluded. If there is an overlap, include all federal lands and the non-overlapping state lands (or vice versa). Note: when calculating the square mileage of government lands for exclusion, lands that overlap cannot be counted twice. For example, if a 10 square mile state government land overlaps a 10 square mile federal government land by 5 square miles, then you may count the 10 square miles of federal land and the 5 square miles of state land that do not overlap (or vice versa); this must then be properly reflected in the attribute table. In addition, each of the excluded government lands in the attribute table should include the primary designation name, for example, Yellowstone National Park.

#### Exhibits and Information

**The 700 MHz Band Licensee Construction Notification Public Notice states that when a licensee seeks confidentiality of a shapefile map, the PDF version of the map will serve as the publicly-available, redacted version of the shapefile.<sup>11</sup> Must the PDF version of the map include transmitter sites?** Yes. This approach discloses for public inspection basic information on the extent of coverage and transmitter locations, while allowing licensees to seek confidential treatment of highly accurate and machine-readable location information contained in the shapefile map.

**With respect to submitting shapefiles, can all three files be zipped together or should we create a separate “.region” file and a “.point file”?** Yes. When uploading shapefiles in ULS, you may zip the Signal Coverage file, Excluded Federal/State Government Lands file, and Transmitter Site(s) file into a single zip file labeled as “Shapefiles”.

**The 700 MHz Band Licensee Construction Notification Public Notice states we must show Received Signal Strength Indicator (RSSI) on the maps.<sup>12</sup> However, if RSSI doesn’t accurately reflect our system, can we show an alternative measurement? If yes, what is required?** Use the most appropriate metric to accurately show the received signal level obtained in the downlink by the user equipment (UE). RSSI is a conventional metric (primarily used in 2G and 3G systems) to display signal strength. However, Reference Signal Received Power (RSRP) may be more appropriate for a 4G LTE system. In sum, the metric used should represent the required minimum signal from the serving base station at a given point to allow data communication at minimum target rate. For example, in the case of LTE, the minimum RSRP that is independent of carrier bandwidth or the minimum total received signal from the serving cell, *i.e.*, RSRP scaled to carrier bandwidth, may be appropriate as a metric for downlink coverage.

**We are designing an LTE-based system. Although the system is being designed to support data rates achievable in LTE-based networks, should the link budget show the minimum level accepted if loaded, or the target data rate?** Minimum data rate in this context refers to minimum design target data rate, which may be much higher than the minimum data rates offered by the radio technology.

**What information should we provide if we are using the 700 MHz system as backhaul?** The information outlined in the *700 MHz Filing Reminder* and *700 MHz Band Licensee Construction Notification Public Notices* is required for all construction notifications submitted to satisfy the 700 MHz

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<sup>11</sup> *700 MHz Filing Reminder Public Notice*, 31 FCC Rcd at 5301, 5308.

<sup>12</sup> *700 MHz Band Licensee Construction Notification Public Notice*, 30 FCC Rcd at 11409.

construction requirements. Full downlink and uplink budget analyses (taking all antenna configurations on both sides and target data rates) are required.

**What are some examples of successful submissions you have received to date?**

Examples of successful submissions can found in ULS by searching under advanced applications at

[http://wireless2.fcc.gov/UlsApp/ApplicationSearch/searchAdvanced.jsp;JSESSIONID\\_APPSEARCH=gM6nXWKRtYfGv4JZpWRRhdBywqWR5FyByhvynw61Nl9vk2FMh6Rt!2129332733!1946076554](http://wireless2.fcc.gov/UlsApp/ApplicationSearch/searchAdvanced.jsp;JSESSIONID_APPSEARCH=gM6nXWKRtYfGv4JZpWRRhdBywqWR5FyByhvynw61Nl9vk2FMh6Rt!2129332733!1946076554).

Select **Radio Service Code:** WY, **Status:** Q-Accepted, **Purpose:** NT-Required Notification of Coverage/Construction, **Authorization Type:** Regular and then select **Search**.

For further information, contact Jeremy Reynolds, Mobility Division, Wireless Telecommunications Bureau, at (202) 418-0447, [Jeremy.Reynolds@fcc.gov](mailto:Jeremy.Reynolds@fcc.gov).

By the Chief, Mobility Division, Wireless Telecommunications Bureau.

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