

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Service Rules for the Advanced Wireless Services) WT Docket No. 12-357
H Block – Implementing Section 6401 of the)
Middle Class Tax Relief and Job Creation Act of)
2012 Related to the 1915-1920 MHz and)
1995-2000 MHz Bands)

To: The Commission

COMMENTS OF SAVARI, INC.

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SUMMARY

Savari specializes in mobilizing Intelligent Transportation Systems (ITS) with cost-effective wireless devices in order to improve roadside infrastructure while connecting vehicles and drivers to a network. ITS holds the answer to many of the transportation problems currently plaguing our Nation.

The FCC has a unique opportunity in this rulemaking proceeding to further promote and enhance ITS services, along with an enormous array of other low power wireless services, at a critical time in their development. As explained herein, Savari asks the FCC to adopt rules and requirements in the “Lower H Block” that will promote these advanced transportation solutions for our Nation. Savari’s proposals are complementary with the needs of incumbent users in adjacent spectrum bands and are in complete accord with Congressional intent.

Savari’s regulatory proposals would benefit many creative uses of radio spectrum. Savari’s licensing and operational plan would allow for the use of this radio spectrum, with its outstanding propagation and operational characteristics, in ways that complement the adjacent UPCS band, while not creating any potential for harmful interference to licensed PCS operations. Savari’s band plan would promote the deployment of low power services on a licensed basis, fostering rapid, nationwide deployment of ITS and other job-generating and money-saving products and services.

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COMMENTS OF SAVARI, INC.

Savari, Inc., by its attorneys, and pursuant to Section 1.405 of the FCC’s Rules, 47 C.F.R. § 1.405, submits these Comments in the above captioned proceeding pursuant to the Federal Communications Commission’s Notice of Proposed Rulemaking (NPRM), released December 17, 2012. In support thereof, the following is respectfully shown:

I. Statement of Interest

Savari specializes in mobilizing Intelligent Transportation Systems (ITS) with cost-effective wireless devices in order to improve roadside infrastructure while connecting vehicles and drivers to a network. ITS holds the answer to many of the transportation problems currently plaguing our Nation. ITS is comprised of existing and new technologies, including information processing, sensors, communications, control and electronics. Combining these technologies in innovative ways, and integrating them into multimodal transportation systems, will save lives, money, time and resources.

Savari was formed in 2008 by industry veterans from Nokia, Siemens, and Qualcomm Atheros with the mission of providing wireless infrastructure to the ITS

market. Savari is also the chosen supplier for the United States Department of Transportation's (USDOT) SafeTrip-21 and E-VII programs, and maintains close partnerships with the automotive Office of Emergency Medical Services (OEMS), traffic controller companies, system integrators and semiconductor chipset vendors.

Savari ITS Products and Services

Savari focuses on three primary ITS applications: safety, e-payment and traffic engineering. In the area of transportation safety, Savari is working on many critical goals, including: reduction of traffic-related fatalities and injuries, reducing congestion on highways by offering safety applications in cooperative intersections collision avoidance systems, signal violation warnings, in-vehicle signing for static advisories (sharp curves, school zones) and dynamic advisories (temporary work zones, weather impacts, presence of emergency vehicles, congestion ahead, etc.), and vehicle-to-vehicle communications.

In the area of e-payment, Savari provides roadside wireless infrastructure and smart tags to enable advanced electronic payment systems, regardless of radio technology. Savari's e-payment applications include toll collection, free-flow tolling, gas payment, drive through payment and parking lot payment. Additionally, in the area of traffic-engineering, Savari delivers dynamic information to mobile devices (both in-vehicle or nomadic handheld devices such as cell phones/personal digital assistant devices), and generates alerts regarding static roadway features such as school zones, high hazard locations, parking locations and traffic restrictions (one-way, no left turn). Savari's applications in traffic engineering include traffic congestion data collection, weather data collection, road surface conditions data collection, traffic signal priority for emergency and transit vehicles and a parking spot locator.

Savari employs leading-edge technologies to provide travelers seamless access to real-time roadway information and vehicular safety while in transit. Two of these leading-edge technologies employed by Savari are based on IEEE 802.11p and DSRC standards. IEEE 802.11p is a draft amendment to the IEEE 802.11 standard to add Wireless Access in the Vehicular Environment (WAVE). It defines enhancements to 802.11 required to support ITS applications. This includes data exchange between high-speed vehicles, and data exchange between the vehicle and the roadside infrastructure in the licensed ITS band of 5.9 GHz (5.85-5.925 GHz). Savari believes that its ability to deliver its services will be greatly enhanced if, as a result of this rule-making proceeding, the Commission allocates the 1.9 GHz portion of the spectrum to ITS, and allows more of the spectrum for IEEE 802.11p and DSRC.

ITS and the Lower H Block

The FCC has a unique opportunity in this rulemaking proceeding to further promote and enhance ITS services, along with an enormous array of other low power wireless services, at a critical time in their development. As explained herein, Savari asks the FCC to adopt rules and requirements in the “Lower H Block” that will promote these advanced transportation solutions for our Nation. Savari’s proposals are complementary with the needs of incumbent users in adjacent spectrum bands and are in complete accordance with Congressional intent.

Savari’s regulatory proposals would benefit many creative uses of radio spectrum. Savari’s licensing and operational plan would allow for the use of this radio spectrum, with its outstanding propagation and operational characteristics, in ways that complement the adjacent UPCS band, while not creating any potential for harmful interference to

licensed PCS operations. Savari's band plan would promote the deployment of low power services on a licensed basis, fostering rapid, nationwide deployment of ITS and other job-generating and money-saving products and services.

II. Summary of the NPRM

Due to rapid growth of wireless broadband services in the past decade there has been a marked increase in demand for wireless spectrum; that trend is expected to continue despite technological developments that allow for more efficient spectrum use.¹ In the Middle Class Tax Relief and Job Creation Act of 2012, Congress directed the FCC to grant new, initial licenses for the 1915-1920 MHz and 1995-2000 MHz bands (the Lower H block and Upper H block, respectively) through a system of competitive bidding, unless doing so would interfere with commercial mobile service licensees in the 1930-1995 MHz (PCS downlink) band.²

In response, the Commission tentatively concluded that the potential for harmful interference to the PCS downlink band related only to the Lower H Block, due to susceptibility of some legacy PCS devices to Lower H Block transmissions, and that this harmful interference could be addressed by appropriate technical rules. The Commission then proposed to pair and license the Lower H Block and the Upper H Block for flexible use, including mobile broadband, with an aim to assign the licenses through competitive bidding in 2013. Following receipt of public comments, if the FCC determines that the Lower H Block cannot be used without causing harmful interference to PCS, then only

¹ NPRM at ¶ 9 (citing The Council of Economic Advisors, *The Economic Benefits of New Spectrum for Wireless* at 5 (Feb. 21, 2012), available at <http://www.whitehouse.gov/administration/eop/cea/factsheets-reports> (last visited Dec. 11, 2012).

² NPRM at ¶ 2 (citing Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6401, 125 Stat. 156, 222-223 (2012), 47 U.S.C. § 1451 (Spectrum Act); *see also*, 47 U.S.C. § 309(j)).

the Upper H Block will be authorized for full power use. In that event, the FCC has sought comment on appropriate uses for the Lower H Block.³

The Commission tentatively concluded that licensing the Upper H Block under flexible use service rules will not cause harmful interference to commercial mobile licensees in the 1930-1995 MHz band.⁴ Then, the Commission sought comment on its proposed band plan including technical rules for the Lower H Block to avoid interferences to PCS, including earlier proposals by PCS licensees.⁵ The Commission has tentatively concluded that it will be possible to auction and license the Lower H Block under flexible use service rules without causing harmful interference to commercial mobile licensees in the PCS downlink (1930-1995 MHz).⁶

The FCC has also sought comment on should be done if it is determined that any portion of the H Block cannot be licensed due to harmful interference with licensees in the PCS downlink band. In particular, the FCC has asked whether any of this radio spectrum should be designated for Unlicensed PCS (UPCS).⁷

The Commission proposed to license the H Block as paired 5 megahertz blocks, with the Upper H Block used for high power base stations, the Lower H Block used for mobile and low power fixed stations. It has tentatively concluded that licenses in the H Block would be issued by Economic Areas; inviting commenters to propose other licensing areas.⁸ The FCC also tentatively concluded that the 1915-1920 MHz and 1995-

³ *Id.*

⁴ *Id.* at ¶P 19.

⁵ *Id.* at ¶ 20.

⁶ *Id.*

⁷ NPRM at ¶ 21.

⁸ *Id.* at ¶ 22.

2000 MHz bands should be paired as a single band and that higher power base station operations will be prohibited in the Lower H Block.⁹

Regarding the service area, the Commission has proposed to adopt a geographic area licensing scheme for the H Block because, in the agency's view, it is well-suited for the types of fixed and mobile services that would likely be deployed in these bands.¹⁰ Further, the Commission sought comment on whether it should license the H Block on a nationwide basis, and the extent to which nationwide licenses maximize or limit the opportunity for licensees to provide the widest array of services. The FCC wants to know whether nationwide licenses provide necessary incentives to foster growth of existing technologies and the development of new technologies. The Commission also asked commenters to compare the advantages and disadvantages of nationwide licensing to those of licensing by Economic Areas (EAs), including economic and financial considerations.¹¹

The Commission sought comment on the appropriate power limits for 1915-1920 MHz mobile devices in order to prevent interferences to PCS operations.¹² Further, the Commission noted that, since fixed stations antennas are generally located some distance above ground level, the possibility of interference from fixed stations to PCS mobiles will likely be less than the anticipated interference from 1915-1920 MHz mobiles to PCS mobiles. The agency believes that 1915-1920 MHz fixed stations should be permitted to

⁹ *Id.* at ¶ 25.

¹⁰ *Id.* at ¶ 26.

¹¹ *Id.* at ¶ 30.

¹² *Id.* at ¶ 45.

employ a higher power level than mobiles operating in that band, and sought comment on what the power level should be.¹³

The Commission further sought comment on the appropriate license term, criteria for renewal, and other licensing and operating rules pertaining to the H Block, including the potential impact of Commission proposals on competition.¹⁴ Furthermore, the Commission proposed to apply the regulatory status provisions of section 27.10 of the Commission's Rules to licensees in the H Block, which requires an applicant for mobile services to identify the regulatory status of the services it intends to provide, and notify the Commission if it changes the status of those services.¹⁵ The Commission took the stance that this approach is likely to achieve efficiencies in the licensing and administrative processes and sought comment on the appropriate licensing approach.¹⁶

In regard to ownership reporting, the Commission proposed to apply the provisions of section 27.12 of the Commission's rules to applicants for licenses in the H Block, an open eligibility standard, and requested comments on the costs and benefits to that approach.¹⁷ The Commission also sought comment on whether the acquisition of H Block spectrum should be subject to the same general mobile spectrum holding policies applicable to frequency bands that the Commission has determined to be available and suitable for wireless services, and whether H Block spectrum should be distinguished for purposes of evaluating mobile spectrum holdings.¹⁸

¹³ NPRM at ¶ 46.

¹⁴ NPRM at ¶ P 69.

¹⁵ *Id.* at ¶ 69 and 72; *see* NPRM n.139 (citing 47 C.F.R. § 27.10; Part 27 Report and Order, 12 FCC Rcd at 10846-48 ¶¶ 119-122).

¹⁶ *Id.* at ¶ P 70.

¹⁷ *Id.* at ¶ 73-74 (citing 47 C.F.R. § 27.12 (except as provided in §§ 27.604, 27.1201, and 27.1202, any entity other than those precluded by §310 of the Communications Act is eligible to hold a license under Part 27)).

¹⁸ *Id.* at ¶ 77.

The Commission sought comments in regard to license term, performance requirements, renewal criteria, and permanent discontinuance of operations. First, the Commission proposed to establish a 10-year term for licenses for the H Block.¹⁹ Under this license term proposal, if a license in these bands is partitioned or disaggregated, any partitionee or disaggregatee would be authorized to hold its license for the remainder of the partitioner's or disaggregator's original license term.²⁰ The Commission sought comment in relation to these aforementioned licensing proposals.²¹

Regarding performance requirements, the Commission set forth two buildout requirements: the H Block Interim Buildout Requirement (within four years, an H Block licensee shall provide signal coverage and offer service to at least forty percent of the population in each of its license areas), and the H Block Final Buildout Requirement (by the end of the lease term, an H Block licensee shall provide signal coverage and offer service to at least seventy percent of the population in each of its license areas).²² In the event H Block licensees fail to meet their buildout requirements, the Commission proposed penalties. For failure to meet the H Block Interim Requirement in its license area, the Commission proposed the term of the lease will be reduced by two years. For failure of a licensee to meet the H Block Final Buildout Requirement in its license area, the H Block license for each license area in which it fails to meet the buildout requirement will terminate automatically without Commission action.²³ Further, an entity that forfeits its license in this manner will be precluded from regaining its license.²⁴ The

¹⁹ NPRM at ¶ 78.

²⁰ *Id.* at ¶ 79.

²¹ *Id.*

²² *Id.* at ¶ 81.

²³ *Id.* at ¶ 85.

²⁴ NPRM at ¶ 86.

Commission then sought comment on these aforementioned buildout requirements and penalties.

III. SAVARI'S COMMENTS

Savari is primarily interested in the FCC's plans for the Lower H Block. As explained herein, due to adjacent spectrum allocations and related interference problems, the Lower H Block is ideally situated for ITS operations and comparable low power wireless operations. In essence, the Lower H Block is ideal for the type of "super WiFi"/Internet everywhere services that this Commission has attempted to promote for the past few years.

The FCC and ITS

In 1999, the FCC announced that it would allocate 75 megahertz of spectrum for ITS "to improve highway safety and efficiency as part of [USDOT's ITS] national program,"²⁵ the same programs that Savari has under development. In its Report and Order adopted on October 21, 1999, the FCC decided to use the 5.850-5.925 GHz band for Dedicated Short Range Communications (DSRC) uses such as traffic light control, traffic monitoring, travelers' alerts, automatic toll collection, traffic congestion detection, emergency vehicle signal preemption of traffic lights, and electronic inspection of moving trucks through data transmissions with roadside inspection facilities.²⁶ In adopting that Report and Order, the FCC emphasized that "providing additional spectrum for ITS services would further the goals of Congress, the [USDOT] and the ITS

²⁵ Audrey Spivack, *FCC Allocates Spectrum in 5.9 GHz Range for Intelligent Transportation System Uses, Action Will Improve the Efficiency of the Nation's Transportation Infrastructure*, Federal Communications Commission, Oct. 21, 1999.

²⁶ *Id.*

industry... and facilitate the growth of the ITS industry.”²⁷ At the time, the FCC found that “the spectral environment and propagation characteristics of the 5.9 GHz band are appropriate for short range DSRC applications and would enable sufficient signal coverage and considerable frequency reuse.”²⁸

Recently, the FCC has made known its desire to make a large portion of the 5GHz radio spectrum available for unlicensed WiFi use. On January 9, 2013, Chairman Genachowski announced that the Commission plans to “free up the unlicensed spectrum available for ultra-high-speed, high-capacity Wi-Fi.”²⁹ The FCC plans to take its first steps in February to “unleash up to 195 megahertz of spectrum in the 5 gigahertz band.”³⁰

Savari supports any FCC efforts to improve the availability and utility of WiFi services; nevertheless, the widespread deployment of additional, unlicensed wireless products and services in the 5 GHz spectrum band has the potential for constraining or even interfering with ITS operations in that band. Consequently, at a time when the FCC is taking a broad look at available spectrum to meet the needs of a variety of wireless operations for the foreseeable future, it is critical to ensure that ITS services will have the spectrum they need for successful deployment throughout the Nation. Savari asks that the FCC adopt Lower H Block rules and regulations that will help promote ITS and other low power services.

²⁷ *Id.*

²⁸ *Id.*

²⁹ Justin Cole, *FCC Chairman Julius Genachowski Announces Major Effort to Increase Wi-Fi Speeds and Alleviate Wi-Fi Congestion at Airports, Convention Centers, and in Homes with Multiple Devices and Users*, *Federal Communications Commission*, Jan. 9, 2013.

³⁰ *Id.*

ITS: Promoting Transportation Safety and the Nation's Economy

ITS is a rapidly growing technology that has been recognized as an essential step forward in the improvement of transportation in the United States. The Department of Transportation has conducted research on the value of vehicle-to-infrastructure and vehicle-to-vehicle communications, stating,

The vision of [vehicle-to-infrastructure] [c]ommunications is that a minimum level of infrastructure will be deployed to provide the maximum level of safety and mobility benefits for highway safety and operational efficiency nationwide. Importantly, [vehicle-to-infrastructure] communications have the potential to resolve an additional 12 percent of crash types not addressed under [vehicle-to-vehicle] communications While the primary goal is safety, vehicle-to-infrastructure communications are also significant in improving mobility and environment by reducing delays and congestion caused by crashes, enabling wireless roadside inspections, or helping commercial vehicle drivers identify safe areas for parking³¹

In addition to promoting transportation safety and mobility, ITS services and products will be critical to economic growth and job opportunity in the U.S. The Intelligent Transportation Society of America teamed up with IHS Global Insight to write a report commissioned by USDOT to report on the jobs outlook for the high-tech transportation industry.³² Deemed “the most comprehensive study to date on the scope of the ITS industry in the United States and North America,” that report stated that the ITS industry is already expanding, with revenues of \$48 billion in 2009, projected to grow to \$67 billion by the year 2015.³³ The report further suggests that the ITS sector will

³¹ Dep't. Of Transp., *Vehicle-to-Vehicle (V2I) Communications for Safety* (Jan. 28, 2013, 2:30 PM), <http://www.its.dot.gov/research/v2i.htm>; Dep't. Of Transp., *Vehicle-to-Vehicle (V2V) Communications for Safety* (Jan. 28, 2013, 2:30 PM), <http://www.its.dot.gov/research/v2v.htm>.

³² ITS America, *Annual Report 2010-2011*, at p. 12. Available at

<http://www.itsa.wikispaces.net/file/view/ITSA-AR-1011.pdf/389767768/ITSA-AR-1011.pdf>.

³³ *Id.*

surpass other industries in job creation and revenue growth, with jobs that pay almost 75 percent more than the national average wage.³⁴

It is rare that the FCC finds itself faced with such an obviously successful and proven service such as ITS, with a simple means of further promoting that service for the benefit of millions. In terms of job growth, revenue creation and the potential for dramatic improvement of safe travel on our Nation's burdened highways, ITS is a proven answer. Now, in this rulemaking proceeding, the FCC can deploy otherwise problematic radio spectrum, the Lower H Block, in ways that will ensure the successful deployment of ITS and other low power services throughout the Nation, while promoting economic opportunities for millions of Americans.

Interference Problems in the Lower H Block

High powered operations in the Lower H Block have already been identified as problematic.³⁵ All the major carriers have identified potential interference to their PCS operations as a major area of concern. Even with filters and other expensive improvements to PCS handsets, from a regulatory and business perspective it makes little sense to invite the wireless industry to place expensive bids for this problematic radio spectrum. In exchange for those bids, those carriers will get little more than a hope that their customers might someday be able to purchase PCS handsets that "might" be able to operate in this spectrum without causing or receiving harmful interference from adjacent bands.

The PCS industry doesn't work this way. Network carriers would have no interest in purchasing multiple models of PCS phones, one set with expensive filters that

³⁴ *Id.*

³⁵ NPRM at ¶¶ 41-43.

might function on this narrow section of the H block, on the odd chance that there would actually be a market for such devices. Rather, if interference is indeed a problem throughout the Lower H Block, and it apparently is, that means that all phones sold by PCS carriers in the United States will have to be designed to meet these higher interference avoidance criteria. Otherwise, the vast majority of PCS customers will never be able to operate on these Lower H Block channels without causing interference to other PCS operations. Given that AT&T itself has said that it is safer to simply leave the H Block idle, the FCC should heed that advice, at least with respect to high powered operations in the Lower H Block.

Moreover, intermodulation interference is not something that can be routinely detected in a test lab; it is by its nature random and caused by overlapping signals from different transmitting channels. By the time customers find out that there is a problem in their particular neighborhood, it may be too late or too expensive to fix the “intermod” interference problem. The sounder regulatory approach would be to adopt rules for the Lower H Block that prohibit high power operations and protect licensed PCS operations in the adjacent bands.

Saviri's Lower H Block Band Plan

Today, the Unlicensed PCS spectrum in 1.9 GHz band is perhaps the best location for unlicensed WiFi type services: cordless phones, WiFi routers, and other wireless devices that have truly revolutionized American lives. If the FCC wants to promote new and novel wireless products and services, with the broadest possible range of opportunities for businesses, the simplest way to do that would be to ensure that the 1.9 GHz band becomes an even better location for high powered WiFi services, ITS services

and other new/novel wireless services. The FCC can simply and cost-effectively promote these new and amazing wireless services by essentially expanding the bandwidth for UPCS, allowing operations in the UPCS band to be combined with licensed, low power operations in the Lower H Block band, in ways outlined herein by Savari.

Licensing Plan

Ideally, the proposal that the FCC would adopt for the Lower H Block would be comparable to the licensing model it employed for the 700 MHz Guard Bands. A “guard band manager” license would be issued on a nationwide or regional basis, consisting of a total of 5 megahertz of spectrum in the Lower H Block at 1915 to 1920 MHz. As with the FCC’s Guard Band licenses, the holder of this license authorization would be required to protect against harmful interference to adjacent band PCS licensees. This concept would address the main area of concern in the legislation and in the NPRM: interference-avoidance.

The 1.9 GHz Guard Band licensee could act as an ITS network system operator, or, it could elect to lease this spectrum to other low power system operators or directly to end users through the Commission’s Secondary Markets spectrum leasing or “private commons” regulations. The broad concept is to provide as much flexibility to these low power licensees as would normally be available to unlicensed product developers under Part 15 of the FCC’s rules. So long as the interference-avoidance requirements are met, the Lower H Block licensee should have the flexibility to deploy this spectrum, without arbitrary or inflexible construction obligations, to meet a variety of changing needs and demands.

At the same time, the Lower H Block licensee should be permitted to pair or technically partner the Lower H Block with unlicensed PCS channels in the adjacent 1920 – 1930 MHz band. This is the real power of Saviri’s proposal: it provides for a combination of up to 15 MHz of ideal radio spectrum to be deployed for a wide variety of lower power operations, in perfect harmony with licensed PCS networks. The ability to fashion a variety of ITS, or other machine and mobile applications, under Saviri’s proposal will be extraordinary. And, given that most of this spectrum will be available on an unlicensed basis, this type of spectrum plan could unlock numerous new services and business opportunities for countless start-ups and inventors who could not otherwise afford to sink all of their investment capital into purchasing an FCC license.

Output Power/Technical Requirements

The Lower H Block Guard Band licensees and their customers would be required to adhere to specific technical and operational measures designed to minimize interference to PCS licensees. In particular, Saviri proposes power limitations of 4 watts, regardless of the device (36 dBm EIRP with a WiFi-type outdoor antenna configuration). The FCC already allows this power level on an unlicensed basis under Part 15 of its rules; consequently, no licensed operators in adjacent PCS bands would have any fear of harmful interference from the Lower H Block licensee under these technical constraints.

Operating at these power ceilings, an ITS network in the 1.9 GHz band would have outstanding operational characteristics, with the ability to send and receive signals to moving vehicles at a range of approximately 500 yards. Saviri’s proposed ITS network would operate essentially on a broadcast-type basis, thereby reducing potential

for interference since the likelihood of an ITS device being anywhere near the receiving signal of a PCS unit in adjacent spectrum bands would be remote. The ITS network concept would allow for vehicle to vehicle and vehicle to ITS infrastructure communications on a low-cost, interference-free basis. This network design will enable the sort of “gee-whiz” products and services that have been demonstrated in this year’s automobile conventions (driverless cars, comprehensive safety and warning systems in vehicles and the like). But, instead of something only our children might see in the distant future, these ITS products and services could be available in the next few years, with the FCC’s help.

Geographic Licensing Area

To attract investment funds, and encourage equipment manufacturers to turn their attention toward new ITS and other nascent wireless products and services, it is essential that spectrum be made available on an interference-free basis through FCC licensing. Moreover, a service such as Savari’s ITS service requires geographic scope and scale to be cost-effective. That is why the most efficient deployment of the Lower H Block would be on a nationwide or regional basis.

Nevertheless, if the FCC opts for auctioning the Lower H Block channels and issuing exclusive use licenses on anything other than a nationwide basis, the more efficient band plan/license plan would be to award these licenses on an MEA basis, not an EA basis, akin to the FCC’s 700 MHz Guard Band license plan. To get the critical mass necessary to promote new, advanced, lower powered services such as ITS, means being able to provide those services to larger populations over larger geographic areas.

Consequently, issuing the licenses based on 52 MEAs would be far more efficient, practical and useful than the FCC's proposed EA licensing plan.

If despite these problems with smaller geographic areas the FCC proceeds with EA licensing in the Lower H Block, it should also allow licensing in the unserved areas between EAs. ITS services, such as those being developed by Savari, will be critical along our nation's highways. The FCC would get the most value, and promote the most services, by allowing for what amounts to a roadway or highway license in this radio spectrum.

This is the type of spectrum- creativity that the FCC has shown in recent years. These "roadway licenses" could be issued to cover official highways plus 100 foot borders or margins alongside these roadways, thereby allowing flexibility as to how roadway sensors, monitors and lower power transmitters could be deployed. This could either be accomplished by auctioning off these "highway licenses," or, making them available on an unlicensed basis, so long as the operators along the highways conformed with the necessary low power/interference avoidance requirements that would be necessary to co-exist with PCS and UPCS operations. By making roadway licenses available at the outset, the FCC will ensure that no portion of this valuable radio spectrum will lay fallow, while network operators focus on building out more densely populated areas.

Alternative Licensing Plans

In the alternative, the FCC could consider making the Lower H Block available for low powered operations on a privately-licensed basis, akin to the PMRS services. Given that the FCC lacks spectrum auction authority over PMRS operations, this may be

one way of ensuring that investment capital will be appropriately focused on products and services, not on the purchase of radio spectrum.

ITS services themselves surely do not fit the CMRS regulatory model. For one thing, this is a data-only service network; the products are not designed to allow for interconnected mobile/voice communications. Also, consumers are likely to be purchasing another primary product (such as a vehicle), with ITS capabilities being either embedded in the vehicle or installed by technicians as an “after market” product.

As a private radio service, the FCC has considerable flexibility as to how it issues licenses to ITS network operators, or to comparable lower power, “Super WiFi” operators, in the Lower H Block band. The FCC could assign PMRS “frequency coordinators”; indeed, there are many coordinators that are particularly attuned to the transportation and machine to machine communications sectors (the American Trucking Association for instance). Potential licensees could define their own geographic service areas, with guidance from the coordinators, based on spectrum availability and the existence of other licensees in a given area. The frequency coordinator’s job would be to ensure that no one gets a Lower H Block license in that part of the country if doing so would cause interference to incumbent or adjacent licensees.

CONCLUSION

The FCC has an extraordinary opportunity in this spectrum proceeding to promote a wide array of useful wireless products and services, while promoting diversity of ownership and economic opportunity. For these and other reasons stated herein, Savari respectfully requests that the FCC adopt Savari's plan for the development of the Lower H Block.

Respectfully submitted,
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