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September 20, 2017

By Electronic Filing

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

*Re: Notice of Ex Parte Communication
GN Docket No. 12-268 (Expanding the Economic and Innovation Opportunities of
Spectrum Through Incentive Auctions)
MB Docket No. 16-306 (Post Incentive Auction Broadcast Transition Plan)*

Dear Ms. Dortch,

This letter is submitted, pursuant to Section 1.1206(b)(1) of the FCC's rules, to notify you of a meeting held September 19, 2017, among representatives of American Tower Corporation ("ATC") and the FCC staff. The meeting was intended to update the staff regarding the steps ATC has undertaken to prepare for the repack of TV licensees following the Incentive Auction. Representing ATC were Peter Starke, Vice President – Broadcast and Paul Roberts, Vice President - Compliance; and ATC's undersigned counsel. Attending the meeting in person from the FCC staff were Jean Kiddoo, Hillary DeNigro, Pam Gallant, Joyce Bernstein, Charlie Meisch, Sasha Javid, Rachel Kazan, Evan Morris, Mark Columbo, Raphael Sznajder, Darren Fernandez, and Varsha Mangal. Kevin Harding, Rudy Sultana, Tony Coudert and Cindy Cavell (Cavell & Mertz) attended via telephone. ATC discussed the issues identified in the attached presentation. Please contact the undersigned if you have any questions.

Sincerely,

/s/ Christine M. Crowe

Christine M. Crowe
Jonathan V. Cohen

Attachment

Cc (w/att):	Jean Kiddoo	Hillary deNigro	Rachel Kazan	Joyce Bernstein
	Pam Gallant	Charlie Meisch	Sasha Javid	Evan Morris
	Mark Columbo	Kevin Harding	Rudy Sultana	Varsha Mangal
	Raphael Sznajder	Darren Fernandez	Tony Coudert	Cindy Cavell

FCC – TV Incentive Auction

American Tower TV Repack Program

UPDATE

September 19, 2017



AMERICAN TOWER®



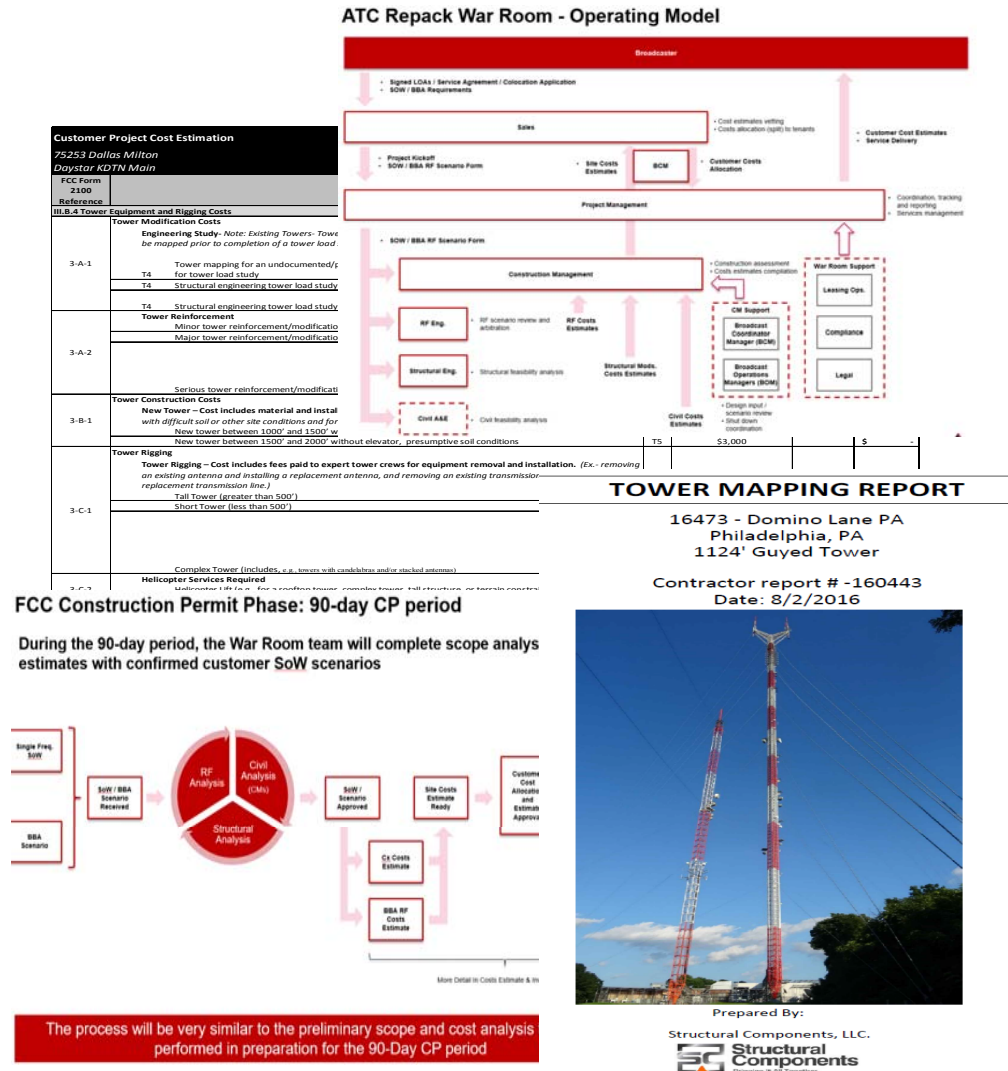
Agenda

- › Pre Repack Accomplishments
- › Current Program Status
- › Workload Pipeline
- › Broadband Antenna Initiative
- › External Supporting Resources
- › Summary



Pre Repack Accomplishments

- Over 100 broadcast tower inspections, equipment mappings, and civil audits completed
- Equipment uploaded to ATC systems of record and leases reviewed
- Tower DNA scrub, and existing structural baselines reviewed
- Structural baselines with projected load scenarios completed
- Broadcast Repack Services Scope of Work (SoW) in place
- ATC Repack Cost Estimate form (aligned with FCC Form 2100; Schedule 399) completed
- ATC Repack team structure, roles and responsibilities in place
- New “repack” broadcast lease application template in service and applications rolling in
- Advance procurement of RF transmission lines and antennas being assigned and released for projects
- Ongoing selection of engineering vendors, GCs and tower crews for sourcing strategies



Current Program Status

Highlights

90 Day Construction Permit Phase ended on 7/12/17

- Broadcasters requested \$2.1B vs budget of \$1.75B
- ATC completed ~ 170 cost estimate forms for 399 estimate support
- ATC supporting repack station 399 justification requests

Broadband Antenna Projects

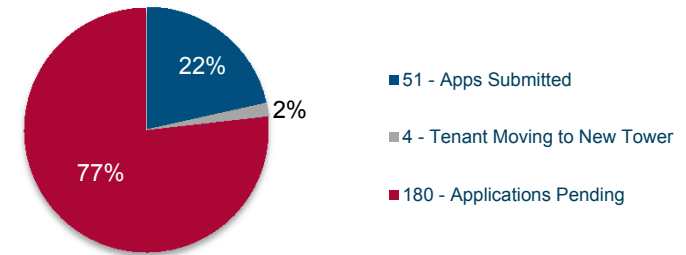
- Major market new BBA projects underway
- Existing BBAs fully analyzed for changes to station channels
- Finalizing RF system designs and station applications

Single Frequency Antenna Projects

- ATC received initial antenna specs from broadcasters – which were used to complete the cost estimates
- Expecting to receive equipment changes from priority and secondary filing windows

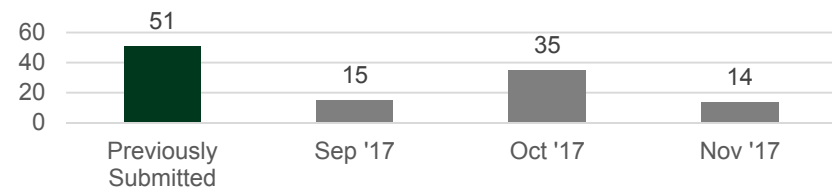
ATC Repack Team pushing to have all applications in and projects underway for Phases 1-3 stations by November

Metrics



Phase 1-3 Application Forecasted Submittal

~115 Total Applications by Nov 2017



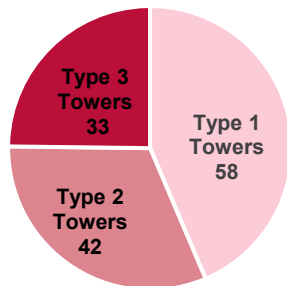
Observations

- CBS, NBC, Nexstar, Sinclair, Word of God, Univision, Tribune, Hearst, Trinity – 9 of 10 largest owners of repack stations on ATC towers (45%) – All working diligently with ATC to meet or beat their cutover phases
- A large number of interim antennas will be deployed to keep stations on the air during construction
- A majority of repack stations adding vertical polarization to their new channel antennas in anticipation of conversion to ATSC 3.0
- We anticipate a large number of repack stations filing for increases in power and pattern changes in the secondary filing window
- We see no impact to repack construction schedules on ATC towers from any present or future ATSC 3.0 planning and deployment

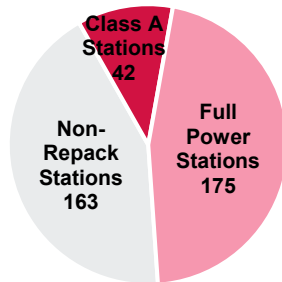


Repack Workload Pipeline

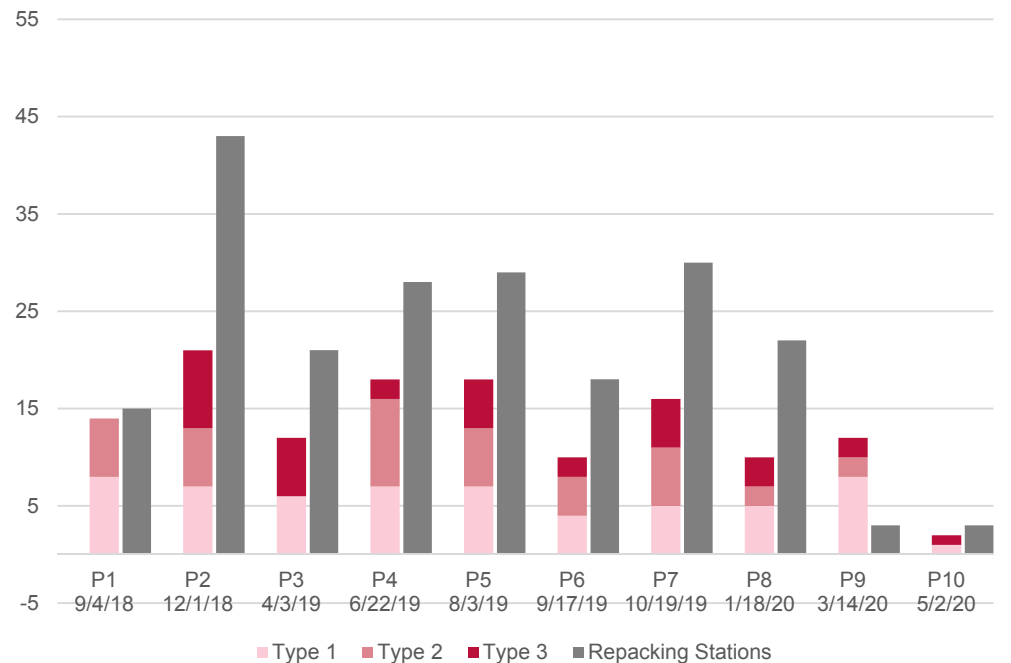
Total Impacted Towers = 133



Stations Moving to New Channels = 217



Repack Workload (Sites and Stations) by Phase

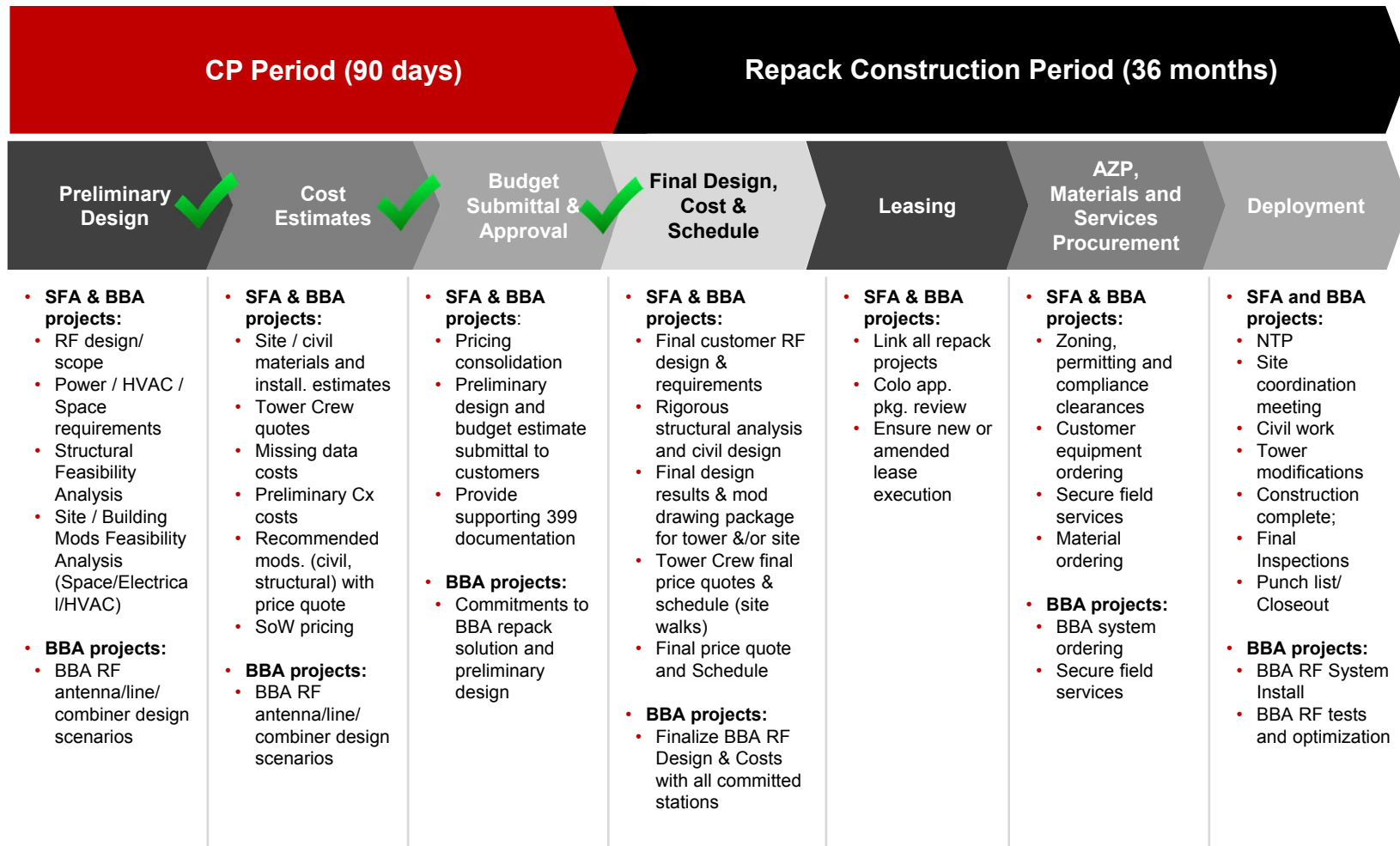


- Type 1 - No tower or site modifications
- Type 2 - Moderate tower and or site modifications
- Type 3 - Complex towers and BBA projects with major rigging, tower modifications, site renovations

Large number of overall Phase 2 projects, especially Type 3, presents a major challenge to ATC and those affected repack stations



Repack Workflow Timeline



ATC and repack stations waiting on release of reimbursement funding approvals to fully engage material vendors and construction crews

Existing & New TV Broadband Antenna

Existing UHF BBAs

- ATC currently operates 29 BBA systems in 19 TV markets
- 23 systems impacted by repack
- Impacted systems current channel use evaluated for their new repack channel
- 17 systems check out and will be refitted for new channel combiners
 - Design and pricing of new channel retrofit equipment provided
- 6 systems will not support new channel either due to antenna bandwidth limitations or transmission line limitations
 - Options for antenna and line to support channels and pricing provided
 - Only 2 of the existing systems are elliptical polarized

Existing BBAs were offered to other repack stations in each market for main or interim main use. There are only 3 additional repack stations using existing BBAs

New UHF BBAs

- 16 new BBA systems vetted and in final design for the following TV markets:
 - Los Angeles
 - Houston
 - Atlanta
 - Dallas
 - Boston
 - Detroit
 - Tampa
 - Orlando
 - Oklahoma City
 - Norfolk
- New systems will serve as main, interim main and auxiliary transmission use for 36 repack stations
- First new BBA to be deployed in October 2017

Most new BBAs will include vertical polarization (vPol). Costs for the additional vPol components is not included in 399 reimbursement estimates



External Resources

- › **Regulatory and Environmental** – Zoning, permitting and environmental requirements
 - › Consultants are committed to ATC timelines where required for height extensions, ground disturbance
- › **General Site Construction** – Transmitter building and ground modifications and upgrades
 - › GCs with transmitter site experience identified and prepared to take on building and site renovations
- › **RF Transmission Equipment** – Single frequency and broadband antennas, transmission line, combiners, filters
 - › Manufacturers have spent a significant amount of capital to expand facilities update tooling, pre order raw materials – all to improve production and shipping timelines
 - › ATC is receiving proposals, technical information and materials in a timely fashion and as needed for shipments
 - › ATC's pre repack equipment purchases of broadband antennas and transmission line are fabricated and inventoried
 - › ATC started drawing from inventory and will have its first broadband project completed by the end of November
 - › A few repack stations on ATC towers are having their single frequency antennas shipped as early as November to get out ahead of their cutover phases where possible
- › **RF Field Engineers** – Installation, testing, tuning of new and retuning of existing transmitters, combiners and filters
 - › Consensus among industry experts is there are not enough qualified engineers to meet the demand
 - › ATC has hired a dedicated field engineer to oversee the installation of new combiners and filters on existing ATC broadband UHF systems



External Resources

- › **Structural Tower Engineering** – Outsourcing of complex structural analyses, shop and installation modification drawings
 - › Structural engineers have sites prepped for final analyses and modification drawings through ATC's pre repack baseline analyses and mappings program
- › **Tower Components** – Structural steel and guy wires
 - › Tower material shops are prepared for release of materials for fabrication
 - › Bridge strand guy material deliveries still the longest lead time item – 12+ weeks from release of final design drawings
- › **On-Tower Construction** – Tower modifications, antenna and transmission line removals & installations
 - › ATC completed verification of tower rigging companies and their crew qualifications for the different skill, equipment and experience levels of rigging complexities and tasks required during repack tower on-tower construction
 - › Broadcast tower industry is still limited by the number of qualified broadcast tower crews. The numbers still remain the same and still present the biggest challenge to the repack timeline
 - › Ability to scale during high demand (limited by all contractors due to the limited qualified resource pool)
 - › **Five** Tier 1 tower riggers – total of **twelve** crews qualified to work on ATC's complex towers
 - › **Four** Tier 2 tower riggers – total of **six** crews qualified for less complex rigging and lighter antenna picks
 - › **ATC projects a high probability that by the end of Phase 2, lack of qualified tower crew availability will start delaying projects and will have a compounding impact on following phases**

Jim Tracy testifying to Congress as chairman of the National Association of Tower Erectors – “Of paramount importance to NATE is ensuring that all work be undertaken as safely as possible; proper education and training of tower personnel, which can take considerable time, is critical. However, while there is an enormous amount of tower work opportunities, there are not at present enough qualified workers to perform all that work. And those opportunities are expected to surge as a result of such mandates as FirstNet, tower marking mandates, and the repack. - NATE believes that the marketplace will ultimately dictate the time it will take to achieve the transition resulting from the repack.”



Summary

- › ATC is the largest owner of complex broadcast tower sites in the US
- › ATC will play a major role in the success of the FCC mandated repack program
- › ATC and other tower owners will experience an elevated level of construction risks associated with this large amount of on-tower work with varying levels of construction complexity under a very compressed build schedule
- › ATC will remain vigilant and continually assess ATC and vendor personnel risks associated with all on-tower and ground repack construction activities
- › ATC views the following as posing the greatest risks to the FCC 39 month mandated cutover timeline – in order of highest risk first:
 - › Scarcity of qualified broadcast tower crews
 - › Complex tower repack work front-loaded in the first half cutover phases
 - › Lack of weather related delay considerations in cutover phase timeline
 - › Continued hesitancy by a number of stations to move forward with equipment purchases and construction due to uncertainty of reimbursement approvals
 - › Shortage of qualified field RF engineers



Thank You

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