Case 15-M-0388
Charter/Time Warner Cable Transaction

Staff of the Department of Public Service
Interrogatory/Document Request

Request No.: DPS-53

Requested By: DPS Staff

Date of Request: September 9, 2015

Reply Date: September 22, 2015

Subject: Cable Network Architecture and Spectrum Loading

Identify separately, for each Time Warner and Charter cable franchise system in New York State:

a. The bandpass (i.e, 450 MHz, 550 MHz, 750 MHz, 1 GHz) of the cable networks serving each franchise area.

RESPONSE:

For Time Warner Cable's response, please see attached Exhibit 53-A.

Charter's Plattsburgh system has a bandpass of [redacted] MHz, while the Chatham system's bandpass is [redacted] MHz. For a list of communities served by each system, please refer to the response to DPS-13.

b. Indicate what types of signals (analog and digital video, digital audio, upstream and downstream broadband channels, VoIP phone, status monitoring, others) are provisioned over the cable networks. Provide details as to the forward and reverse frequency spectrum that the signals occupy. For cable systems that are atypical from most others in the state, in design or service provisioning, please explain the differences.

RESPONSE:

For Time Warner Cable's response, please see attached Exhibit 53-A for downstream.

[redacted]

For Charter:

System	**Signals Provisioned**	**Forward Spectrum**	**Reverse Spectrum**
Plattsburgh	Digital video, high-speed data, VoIP, Video On Demand, switched digital video	[redacted] MHz	[redacted] MHz
Chatham	Analog video, digital video	[redacted] MHz	Not activated

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c. Identify the number of upstream and downstream channels (i.e., 1, 2, 4, 8, 16, etc.) currently provisioned to provide broadband service. Indicate theoretical upstream and downstream broadband speed capabilities (not actuals currently marketed) based on current channel bonding provisioning.

RESPONSE:

For Time Warner Cable's response, see attached Exhibit 53-A, and response to (b) above.

[redacted]

For Charter: On its Plattsburgh system, Charter allocates [redacted] downstream and [redacted] upstream digital channels for broadband service. The theoretical downstream and upstream broadband speed capabilities are [redacted] Mbps and [redacted] Mbps, respectively. Charter does not currently provide broadband service over the Chatham system.

d. Indicate if unused spectrum is generally available in the cable networks forward and return paths, under current channel loading and design, to provision any additional bonded downstream or upstream channels for faster broadband service up/downstream. If spectrum is available, indicate how many additional upstream and downstream channels could be added for bonding purposes.

RESPONSE:

Time Warner Cable:

[redacted]

Charter:

Charter [redacted] on its Plattsburgh System. This question is not applicable to the Chatham system as Charter does not currently offer broadband service over that system.

e. Explain engineering work and equipment deployment (i.e., optical and RF electronics, passive devices, fiber or coaxial cable) that would be required in headends, outside plant, and customer premises, to provision additional channel bonding for higher broadband service capability in the networks (i.e., 300 mbps and 1 gbps). If engineering work includes node splitting, or other significant construction activities, to reduce the number of subscribers served by a node, please explain. Indicate typical number of subscribers served, both pre and post-node split, in this type of scenario.

RESPONSE:

Time Warner Cable will respond to this question as soon as possible.

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For Charter's Plattsburgh system, [redacted]. This question is not applicable to the Chatham system, since Charter does not offer broadband service over that system.

f. Indicate what Channel types (i.e., DOCSIS 1.x, 2.0, 3.0) and modulation types (i.e., 16 QAM, 64 QAM, 256 QAM) are currently employed in the upstream and downstream paths for broadband service. Indicate if there are plans to modify channel and modulation types.

RESPONSE:

Time Warner Cable:

[redacted]

Charter:

[redacted] This question is not applicable to the Chatham system, since Charter does not offer broadband service over that system.

g. Identify how many DOCSIS 1.0/x, 2.0 and 3.0 cable modems are currently deployed in the New York State cable networks. Indicate any plans, including time frames, to remove older cable modem types (1.x, 2.0) from service.

RESPONSE:

Time Warner Cable:

Time Warner Cable will respond to this question as soon as possible.

Charter:

Charter currently has the following number of cable modems deployed in New York State.

DOCSIS 1.x	[redacted]
DOCSIS 2.0	[redacted]
DOCSIS 3.0	[redacted]

[redacted] This question is not applicable to the Chatham system, since Charter does not offer broadband service over that system.

h. Indicate if there are any planned or conducted DOCSIS 3.1 trials in New York State or other cable networks outside of the state. If so, provide summary overview of those plans or trials.

RESPONSE:

Time Warner Cable [redacted]

Charter [redacted]

i. Indicate average number of premises served per fiber optic node. If number varies by system or particular circumstances, please explain.

RESPONSE:

Time Warner Cable:

New York City: [redacted] Passings per Node Average

Upstate New York: [redacted] Passings per Node Average

Charter:

Charter serves an average of [redacted] customers per node on its Plattsburgh system and [redacted] customers per node on its Chatham system.

j. Indicate typical HFC cascade design with respect to fiber optic nodes and amplifiers (i.e., Node + 6; Node + 5, etc).

RESPONSE:

Time Warner Cable:

AREA	Design Amp Cascade
Albany	[redacted]
Hudson Valley	[redacted]
Central NY (Syracuse/Binghamton)	[redacted]
Western NY (Rochester/Buffalo)	[redacted]
Southern Manhattan	[redacted]
Northern Manhattan	[redacted]

AREA	Design Amp Cascade
Staten Island	[redacted]
Brooklyn/Queens	[redacted]
Mt. Vernon	[redacted]

Charter:

The typical cascade design with respect to fiber optic nodes and amplifiers is [redacted]

k. *Indicate if there are current network redesign activities ongoing, or planned, to reduce amplifier cascades in the HFC cable systems, or if any Greenfield (new build) or upgrade FTTP/FTTH designs are in progress, or planned.*

RESPONSE:

Time Warner Cable:

[redacted]

Charter:

New Charter intends to transition Time Warner Cable's systems to all-digital within 30 months of the close of the transaction. The combined company will evaluate the design of all of its New York State networks upon closing.

Respondent Name (witness or panel): Noel Dempsey, GVP Network Expansion and OSP Design; Darron Butler, Senior Director, Network Planning at Time Warner Cable [Time Warner Cable]; Greg Mott, VP – Regional Engineering [Charter] Date: September 22, 2015