Google Inc.
Public Policy Department
1101 New York Avenue, NW
Second Floor
Washington, DC 20005

Phone 202.346.1100
Fax 202.346.1101
www.google.com

February 28, 2011

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Room TW-A-325
Washington, DC 20554

Re: ET Docket No. 04-186
Supplement to Database Administrator Proposal of Google, Inc.

Dear Ms. Dortch:

Google Inc. ("Google"), pursuant to the Commission's Order, DA 11-131 (Jan. 26, 2011) ("Order") in the above-referenced proceeding, hereby supplements its Proposal to Provide a TV Band Device Database Management Solution ("Proposal").

The Proposal, submitted on January 4, 2010, described Google's proposed TV bands geolocation database ("Database") and our qualifications to serve as a database administrator. The Order conditionally designates Google as a TV bands database administrator pursuant to Section 15.715 of the Commission's rules, and requires Google to supplement the Proposal to indicate how we will comply with rule changes adopted after the Proposal was submitted.[1] Below, we identify the applicable rule changes, and describe how Google will comply with the new requirements.

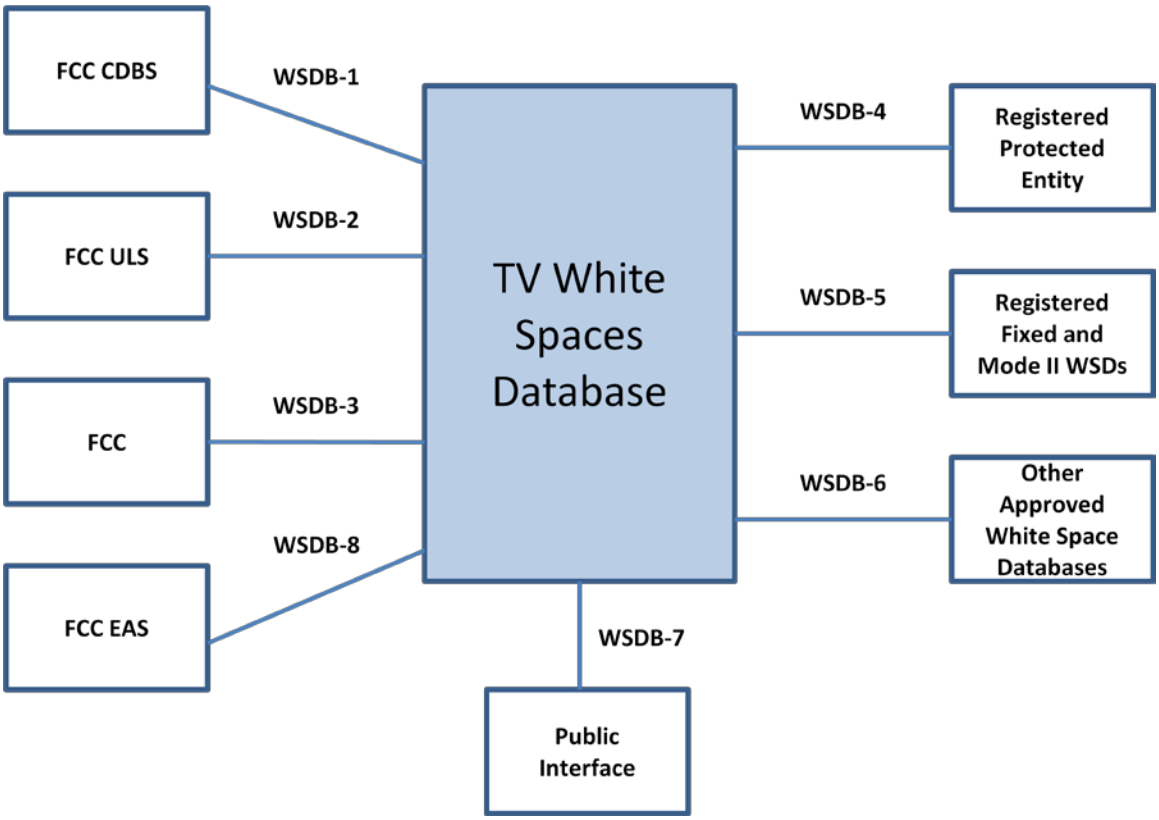
Channel Availability Information. Section 15.713(a)(1), as amended by the *Second MO&O*, requires that a database provide fixed and Mode II personal/portable television band devices ("TVBDs") with channel availability information that includes scheduled changes in channel availability over the course of the 48-hour period beginning at the time TVBDs make a re-check contact. Google will provide such channel availability information as part of the core query functions of its Database as set forth in the Proposal (at 6-7).

FCC ID Verification and EAS Interface. Section 15.713(a)(1), as amended by the *Second MO&O*, and new Section 15.713(j)(2), require a database to verify that the FCC

[1] *In the Matter of Unlicensed Operation in the TV Broadcast Bands*, ET Dkt. 04-186, Second Memorandum Opinion and Order, FCC 10-174 (Sept. 23, 2010), Erratum (Oct. 19, 2010) ("*Second MO&O*").

Identifier ("FCC ID") of a device seeking access to the database is valid and that the FCC ID of a Mode I device provided by a fixed or Mode II device is valid. Sections 15.713(a)(1) and 15.713(j)(3) also require a database administrator to obtain a list of certified TVBDs from the FCC's Equipment Authorization System ("EAS"). As stated in its Proposal (at 5), FCC IDs of fixed TVBDs and of personal/portable TVBDs operating in Mode II will be collected as part of the registration process and stored in the Database. In order to verify that the registered information is valid, the Database will include an interface with EAS (as shown by the interface identified as WSDB-8 in Revised Figure 1 below), through which it will obtain both a list of devices with valid FCC IDs and the FCC IDs of such devices. Interface WSDB-5 will include the capability for a Fixed or Mode II device to request and receive verification of the FCC ID of a Mode I device.

Revised Figure 1: Proposed TV White Spaces Database Architecture



TV Station Records. Section 15.713(h) requires databases to include certain information about TV stations. Section 15.713(h)(1), as amended by the *Second MO&O*, provides that where a TV station's FCC records include both a license and a license application, the database "should include the information from the license application

rather than the license," and that license applications also should take precedence over licenses where there are multiple license application records or license records for the same station. Accordingly, in the event of such multiple records for stations with ongoing operations, the Database will extract from the Commission's Consolidated Broadcast Database System ("CDBS") only the license application records.

Canadian and Mexican Station Information. In our Proposal (at 7), we stated that, pursuant to Section 15.713(d)(1), the Database would check for proximity of a registered TVBD to the Canadian and Mexican borders where operations may be prohibited. The *Second MO&O* deleted this requirement, and amended Section 15.713(h)(1) to require databases to include information about Canadian and Mexican stations that are within the border coordination areas specified in Section 73.1650. The Database will include the required information.

Security. New rules adopted in the *Second MO&O* require databases to employ reasonable and reliable security measures. In particular, Sections 15.713(j) and 15.715(f) require that a database ensure that all communications and interactions between the database and TVBDs are accurate and secure and that unauthorized parties cannot access or alter the database or the list of available channels sent to a TVBD. In addition, Section 15.713(j)(1) requires that communications between TVBDs and a database, and between different databases, must be secure to prevent corruption or unauthorized interception of data, and a database must be protected from unauthorized data input or alteration of stored data.

In our Proposal, we noted that the primary tasks of the Database's security design are to ensure that a TVBD receives accurate channel information from an authorized source and is not able to be spoofed or to receive invalid or altered channel information from someone impersonating a database administrator, and to avoid corruption of the operation of a database in performing its intended functions. We explained (at 9-12) that the security design for the Database focuses on the Internet-facing interfaces by which registered protected entities ("RPEs") and TVBDs communicate with the Database will encompass several mechanisms, including public key infrastructure, transport security, device and RPE management, data replication, intrusion detection and monitoring, and anti-malware software. The *Second MO&O*, while adopting specific security requirements, continues the Commission's approach of not dictating the use of specific protocols and procedures, but rather allowing administrators discretion in implementing their technology choices. Accordingly, Google will work closely with device manufacturers regarding our communications security methods so that, for purposes of seeking device certification, a manufacturer will be able to affirm that its device will conform to the security methods utilized by the Database.

In addition, new Section 15.713(j)(3) prohibits a database from providing lists of available channels to uncertified TVBDs for purposes of operation. To implement this

provision, and as required by Section 15.713(j)(3), Google will obtain a list of certified TVBDs from the EAS.

Database Administration Fees. Section 15.714(a), as amended by the *Second MO&O*, no longer permits database administrators to charge for registering temporary BAS links. In our Proposal (at 13), we noted that the prior rule permitted administrators to charge for registering temporary BAS links, although Google did not plan to do so. Consistent with the amended rule, we confirm that Google will not charge for registering temporary BAS links.

Registration of MVPD Receive Sites. In our Proposal (at 5), we stated that the Database would allow facilities entitled to protection but not recorded in CDBS or ULS, including cable headends, to register with the Database through the interface identified as WSDB-4 in Revised Figure 1. In the *Second MO&O*, the Commission amended Section 15.715(c) to extend such registration rights to receive sites of all multichannel video programming distributors ("MVPDs") (as defined by Section 602(13) of the Communications Act). Accordingly, the Database will permit such registrations through the WSDB-4 interface.

Public Availability of Database Information. Section 15.715(i), as amended by the *Second MO&O*, clarifies that all information that is required by FCC rules to be in a database must be publicly available, including fixed TVBD registration and voluntarily submitted protected entity information. In our Proposal (at 8-9), we noted that our proposed Database included a public, automatic interface (shown as WSDB-7 in Revised Figure 1) that would enable any individual or entity to search the Database's non-confidential publicly available information. Consistent with a core Google mission of making publicly available information easily searchable, we will incorporate the public interface into the Database.

Registration of Mode II Devices. In our Proposal (at 6), we stated that upon query by a personal/portable Mode II TVBD, the Database will establish that the device is registered with the Database. In the *Second MO&O*, the Commission concluded that Mode II personal/portable devices are not required to register in the database, and revised Section 15.713(e)(4) accordingly. Therefore, consistent with the amended rule, the Database will not require Mode II devices to register on initialization.

In addition to its compliance with the amended rules as discussed above, Google, consistent with the Order, will cooperate with all measures that OET deems necessary to ensure compliance with the Commission's rules, and will not use its capacity as a database manager to engage in discriminatory or anti-competitive practices or any practices that may compromise the privacy of users.

Finally, pursuant to the Order, Google hereby designates Alan Norman, Principal, Business Operations (alannorman@google.com) as its responsible party to represent Google at OET workshops and to ensure compliance with the conditions set forth in the Order.

Should there be any questions regarding this supplement, kindly contact the undersigned.

Respectfully submitted,

Richard S. Whitt
Director/Managing Counsel,
Telecom and Media Policy

Megan Anne Stull
Telecom Policy Counsel