

# INCENTIVE AUCTION TASK FORCE UPDATE

*August 9, 2013*

# REPACKING: THE PROCESS

**Repacking** - Process of reassigning broadcast TV channels to free up contiguous blocks of spectrum for mobile broadband use

**Key Components of the Repacking Process** – Two key initial steps in the process are:

- Calculating TV station coverage and interference characteristics (OET-69 and *TVStudy*); and
- Using the OET-69 coverage and interference calculations with other data to analyze repacking constraints (July 22<sup>nd</sup> Repacking Data Public Notice)

# REPACKING: NEW SOFTWARE, SAME METHODOLOGY

## *Statutory Obligation*

“Commission shall **make all reasonable efforts** to preserve, as of [February 22, 2012], the coverage area and population served of each broadcast television licensee, as determined using the **methodology** described in OET Bulletin 69...”

## **What is OET-69?**

- Longley-Rice methodology for evaluating TV service coverage and interference
- First developed over 16 years ago (1997; updated 2004)

## **What is TVStudy?**

- Modern software implementing the OET-69 methodology with improved datasets
- Provides more accurate and efficient modeling and analysis, which is critical for a successful incentive auction

# REPACKING: UPDATES TO ADHERE TO STATUTE

## ***Preserve “population served”***

- Updating census data to 2010
  - Population grew 9.7% (27 million) from 2000 to 2010
  - Over 30% of population moved residences between 2005 & 2010
- More precise geographic coordinates
  - More decimal places = more precise census block locations

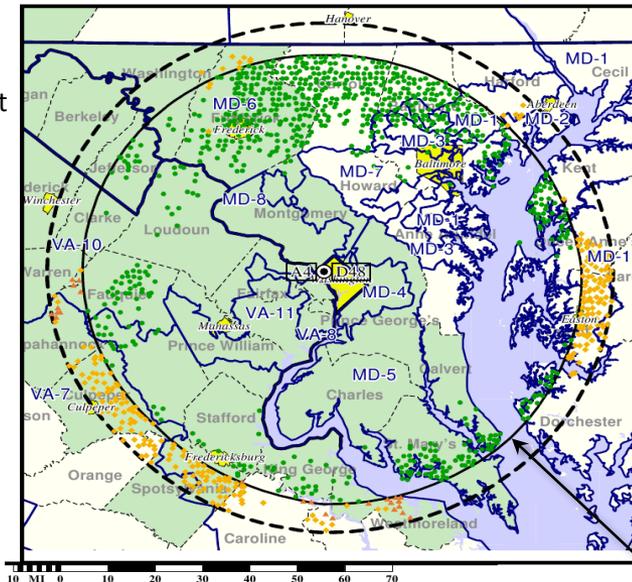
## ***Preserve “coverage area”***

- More accurate terrain data
  - 3X more granular terrain elevation data
- Actual antenna beam tilt
  - Default angle resulted in inaccurate calculation
- Corrected calculation of depression angle
  - Using proper antenna height parameter
- Universal cell/grid
  - ***Necessary for repacking -- Allows station-to-station, “pairwise,” interference calculation***

# REPACKING: DIFFERENT FROM THE DTV TRANSITION

DTV Gain/Loss Map

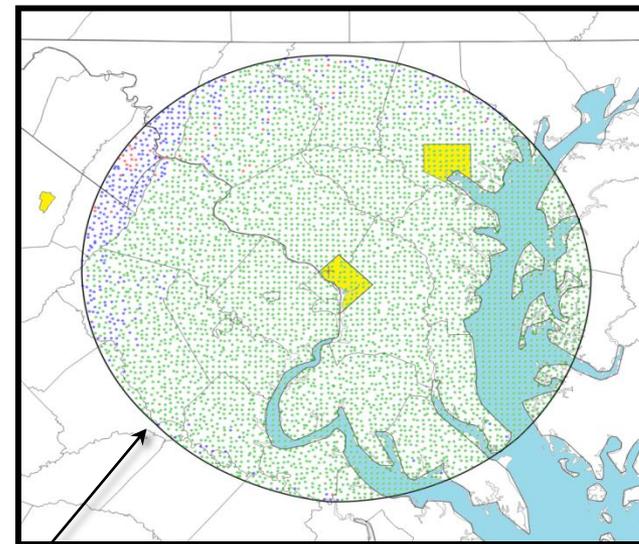
Digital License (solid) vs. Analog (dashed)



- Coverage gained
- ◆ Coverage lost but still served by same network
- ▲ Coverage lost & no services

Analog service	6,570,779 persons
Digital service	7,030,592
Analog loss	87,256
Digital gain	547,069
Net gain	459,813

TVStudy Interference Map



- Service
- No Service
- Interference

Notice matching contour maps

# REPACKING: DATA PUBLIC NOTICE

The public notice released on July 22, 2013 was the first of several public notices on the repacking process. The public notice includes:

1. Updated *TVStudy* software
2. Data about Canadian and Mexican television allotments, domestic TV stations, and other incumbents in the band
3. Descriptions of how stations **could** be assigned or reassigned to particular channels

The preliminary data released with the public notice are for **illustrative purposes only**. Many of the assumptions relate to issues that will be decided by the Commission.

# REPACKING: DOMAIN FILE

For each U.S. TV station, the *Domain file* provides a list of channels that the station may be assigned to in the incentive auction repacking process.

In the following sample, **Station #10001** may **only be placed** on **channels 2, 3, 4, 5, 6, 19, 20, 21, 48, 49, 50, 51**. A channel assignment algorithm could not place Station #10001 on any other channel.

```
DOMAIN, 10001, 2, 3, 4, 5, 6, 19, 20, 21, 48, 49, 50, 51
```

*Sample does not reflect real station data.*

# REPACKING: INTERFERENCE\_PAIRIED FILE

For each U.S. TV station, the *Interference\_Paired file* provides a list of other stations that cannot be assigned the same channel or an adjacent channel if the station were placed in one of the three television bands.

If after repacking **Station 1362** is placed in the UHF band (channels 14-51) then:

Stations 1116, 1301, 285, 1356, 390, 588, 1981 and 383 cannot be placed on the same channel (co-channel);

Stations 1116, 1301, 285, 1356, 1981 and 383 cannot be placed on the first adjacent channel above station **1362**;

Stations 1116, 1301, 285, 1356, 1981 and 383 cannot be placed on the first adjacent channel below station **1362**.

CO, 14, 51, **1362**, 1116, 1301, 285, 1356, 390, 588, 1981, 383

ADJ+1, 14, 51, **1362**, 1116, 1301, 285, 1356, 1981, 383

ADJ-1, 14, 51, **1362**, 1116, 1301, 285, 1356, 1981, 383

*Sample – does not reflect real station data.*

## NEXT STEPS: REPACKING

- Host webinar on technical details of publicly released repacking resources
- Release additional repacking information to the public

# TRANSITION AND REIMBURSEMENT PLANNING

- Working directly with broadcast and cable industries on transition planning and reimbursement issues
- Reviewing preliminary findings on cost models, timing, and logistics of transition planning
- Beginning long term planning for a Fund Administrator

# NEXT STEPS: TRANSITION AND REIMBURSEMENT

- Release preliminary reimbursement cost guidelines for public comment
- Host workshop in September on broadcaster transition and reimbursement processes

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