



NATIONAL RURAL TELECOMMUNICATIONS COOPERATIVE

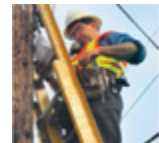
Spectrum Refarming

Two-Way Radio Issues

Ronald Billodeaux

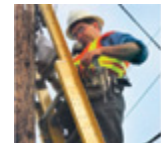


Refarming...



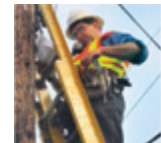
Background

- In December 2004, the Federal Communications Commission (FCC) mandated that all private Land Mobile Radio (LMR) users operating at 450 MHz and 150 MHz move to 12.5 kHz narrowband voice channels and highly efficient data channel operations by January 1, 2013.
- As of Today, March 31, 2010, there are 33 months until this mandate goes into effect.



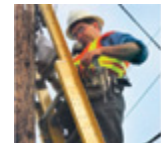
Background

- In March 2007, the Federal Communications Commission (FCC) mandated that all private Land Mobile Radio (LMR) manufacturers offering radio products operating below 512 MHz discontinue those operating with 25 kHz channel spacing by January 1, 2011.
- As of Today, March 31, 2010, there are 9 months until this mandate goes into effect.

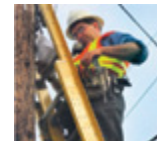
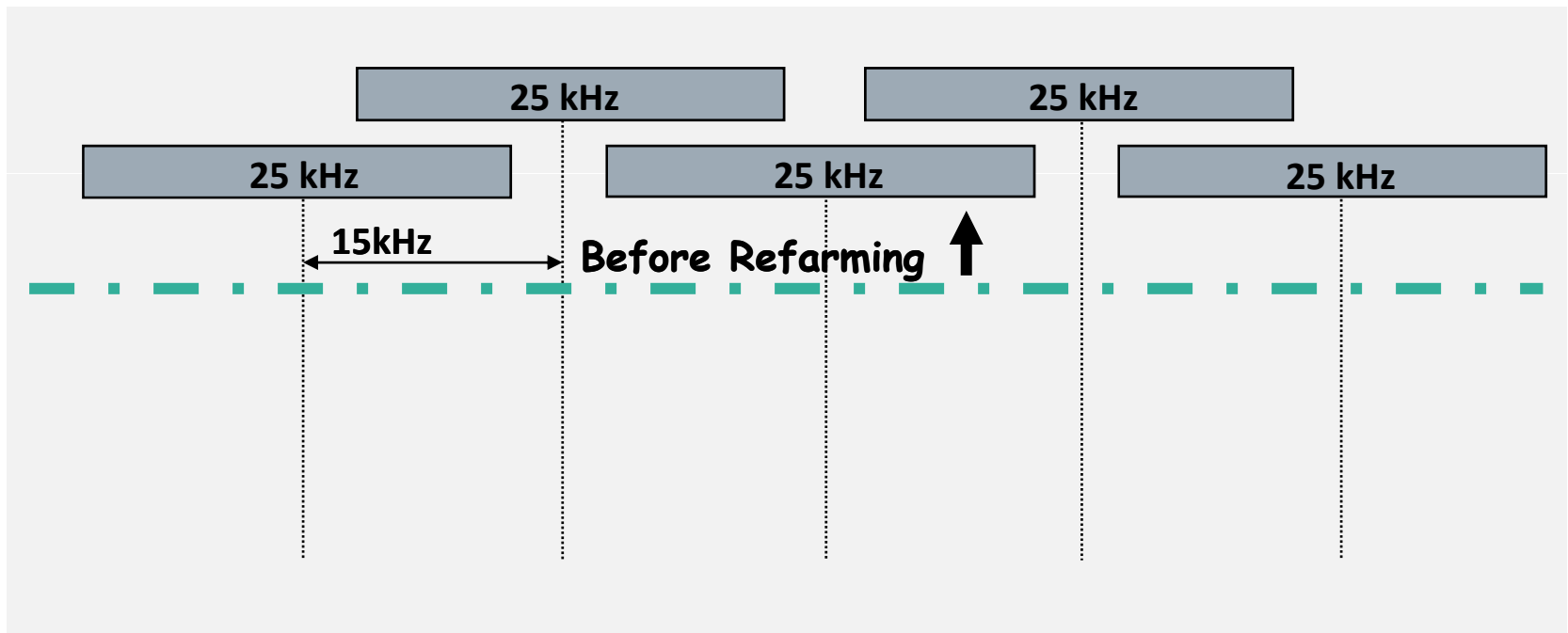


What does this mean?

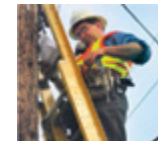
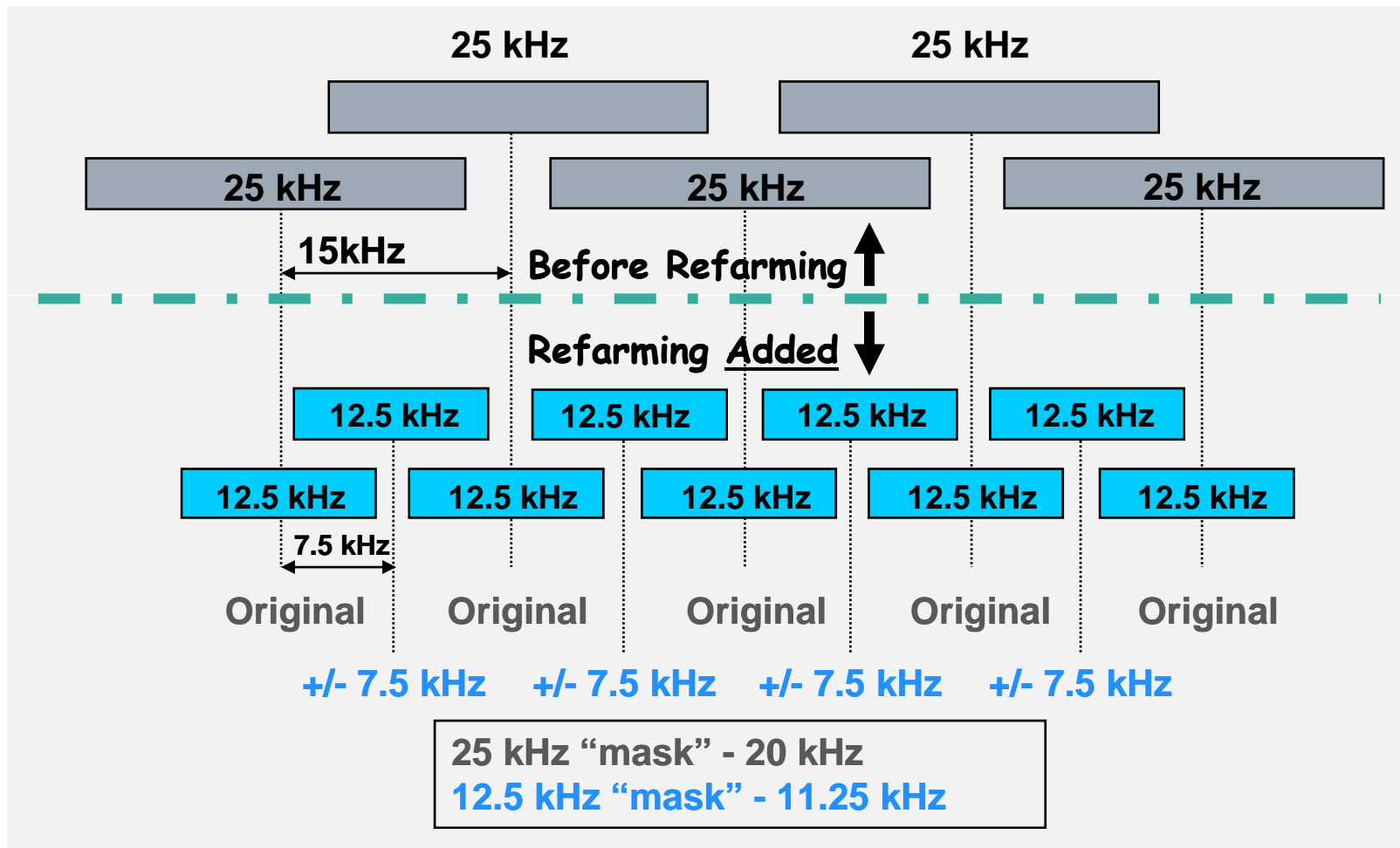
- Your radios used today can not be operated after 12/31/12
- Your radios used today can not be easily replaced or added to after 12/31/10



Where we are today



Where we will be



FCC Action: FCC 07-39, 3/26/07

“We conclude, based on the record in this proceeding, that January 1, 2011, is the most appropriate date to implement the requirement in Sections 90.203(j)(4)-(5) that certain applications for equipment authorizations specify 6.25 kHz capability. First, it is the same date as the interim deadline the Commission established in the *Third MO&O prohibiting the manufacture or importation of 25 kHz equipment*. Having these deadlines coincident will offer users a choice between 6.25 kHz and 12.5 kHz equipment well ahead of the 2013 deadline for migration to 12.5 kHz technology and increase economies of scale for equipment



FCC Action: FCC 07-39, 3/26/07

manufacturers. Availability of 6.25 kHz equipment before the 12.5 kHz migration deadline may encourage some users of wideband equipment to make one cost-saving transition directly to 6.25 kHz-capable equipment.”

“Based on our review of the comments, we will not establish a specific migration plan to 6.25 kHz at this time.”

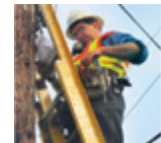
“We reiterate, however, that 12.5 kHz technology is a transitional step in the eventual migration of PLMR systems To 6.25 kHz technology.”





FCC Action: FCC 07-39, 3/26/07

“Given that the Commission will adopt a date by which users must migrate to 6.25 kHz technology, we strongly urge licensees to consider the feasibility of migrating directly from 25 kHz technology to 6.25 kHz technology prior to January 1, 2013.”



Political Realities

When did the FCC finally mandate a deadline for 12.5 KHz?

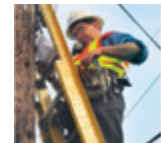
- When the manufactures had product?
- When the industrial / private users said OK?
- When the Public Safety community reached an agreement with Congress and the FCC as to how to fund the change?



Political Realities

When will the FCC finally mandate a deadline for 6.25 KHz channels?

- When the manufactures have product?
- When the industrial / private users say OK?
- When the Public Safety community reaches an agreement with Congress and the FCC as to how to fund the change?



Myths and Truths

- Licensees must implement digital technology
 - False – No digital requirement
- Licensees will end up with twice as many channels
 - False
- Hundreds of new channels will be available in 2013
 - False



Myths and Truths

- Failure to narrowband will result in secondary status
 - False – Failure to narrowband will be illegal and stations will have to go off the air or be fined.
- Interference may occur to existing systems
 - True – Wideband operations may experience interference from new narrowband stations.



Myths and Truths

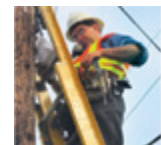
- The FCC will allow continued operation at 25.0 kHz after Jan 1, 2013 by waiver
 - Maybe – but don't count on it. The FCC has taken a hard line policy on narrowbanding. Critical infrastructure entities will receive no sympathy.
- 800 MHz must be narrowbanded
 - False – Refarming does not apply above 512 MHz.



As utilities, uncertainty drives us nuts!!!

The only certain thing - when and what the FCC will do with 6.25 KHz is its uncertain.

But 12.5 KHz IS certain, and you certainly need to do something soon!

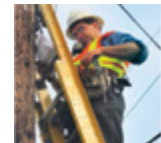


Options

Waiting on 12.5 KHz increases the risk of not having spectrum when you do move.

Why are some Co-ops waiting?

Proceed with an analog or digital 12.5 KHz rollout and trust politics to keep 6.25 KHz at bay for 15 more years!



Action Plans

- Most mobile equipment since 1997 has a programmable narrowband mode. Narrowband may be no more than programming , but repeaters and base stations may need replacement.
- Establish a schedule to meet the 2011 and 2013 dates.
- Assess whether 150 & 450 MHz channels meet long term needs – 220 MHz may be an option.



Action Plans

- Once equipment plans are set, submit a new frequency coordination request. Obtain new channels per your new operating bandwidth. These may not be the same channels you are using today.
- If you go to a trunked or digital technology, make sure you request “FB8” or “YG” channels that provide protected channels.



Thanks!

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Thanks to UTC & Homeland Security for research and information
from prior presentations.

