



CAPRAD – Overview

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Advancing beyond

Computer Assisted and Pre-Coordination Resource and Database (CAPRAD)

Primarily used by 700 and 800 MHz Regional Planning Committees (RPCs) to assign nationwide interoperability and general category channels

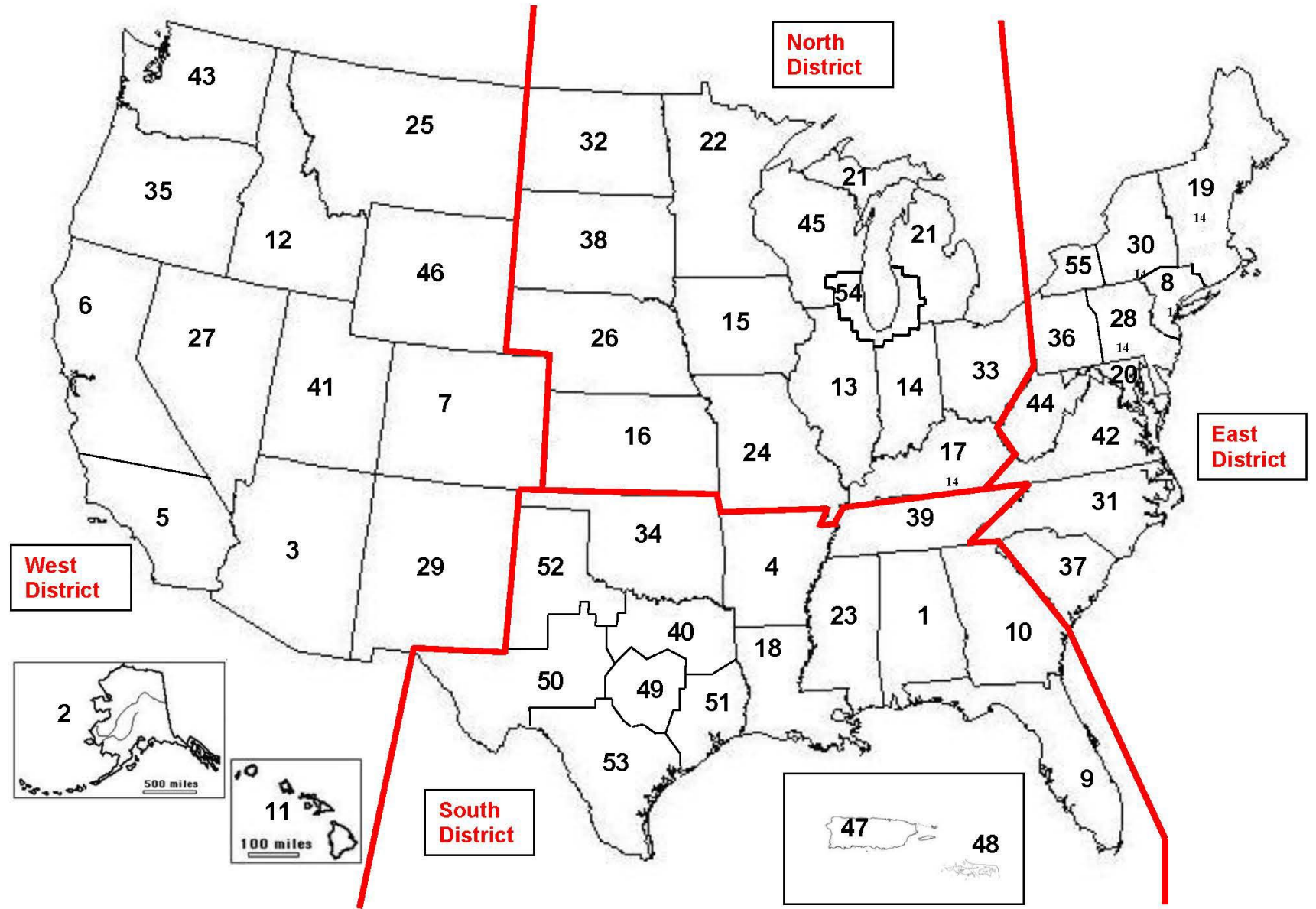
- Fifty-five RPCs across the country (totaling 110 volunteers)
- Also utilized by State Interoperability Executive Committees (SIECs)

The CAPRAD software equips regions with the tools to properly assign scarce spectrum resources without causing undue interference to new or incumbent users.

History of CAPRAD

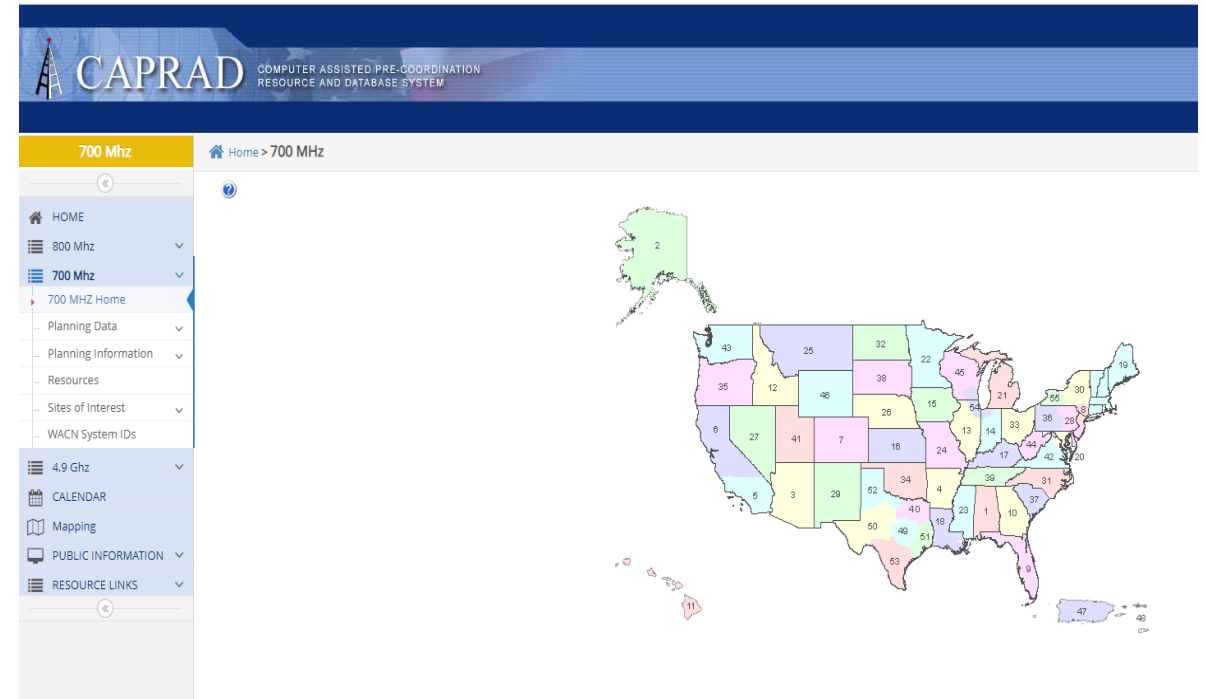
- 1) Adoption by the FCC in 1987 of a National Plan for public safety frequencies led to developing a regional planning structure.
- 2) FCC rules established 55 RPCs and APCO assisted RPCs with the original submission of regional plans.
- 3) CAPRAD was the outgrowth of meetings in 1999 between APCO and other public safety coordinators to create a software platform for utilization by 700 MHz RPCs.
- 4) NIJ/NLECTC funded the creation of CAPRAD to *initially* assist RPCs with *700 MHz* frequency planning and applications processing.
- 5) In 2007, 800 MHz RPCs were added to CAPRAD.

FCC rules established 55 RPCs



CAPRAD Platform (www.caprad.org)

- CAPRAD is used by RPCs to review applications, keep important documents, and coordinate 700/800 MHZ NPSPAC frequencies.
- There are two modules under CAPRAD:
 1. The **application** module is used for public safety agencies to submit applications to the RPCs for review.
 2. The **planning** module is used for the RPCs to house information about their region's plan to include channel allotments.



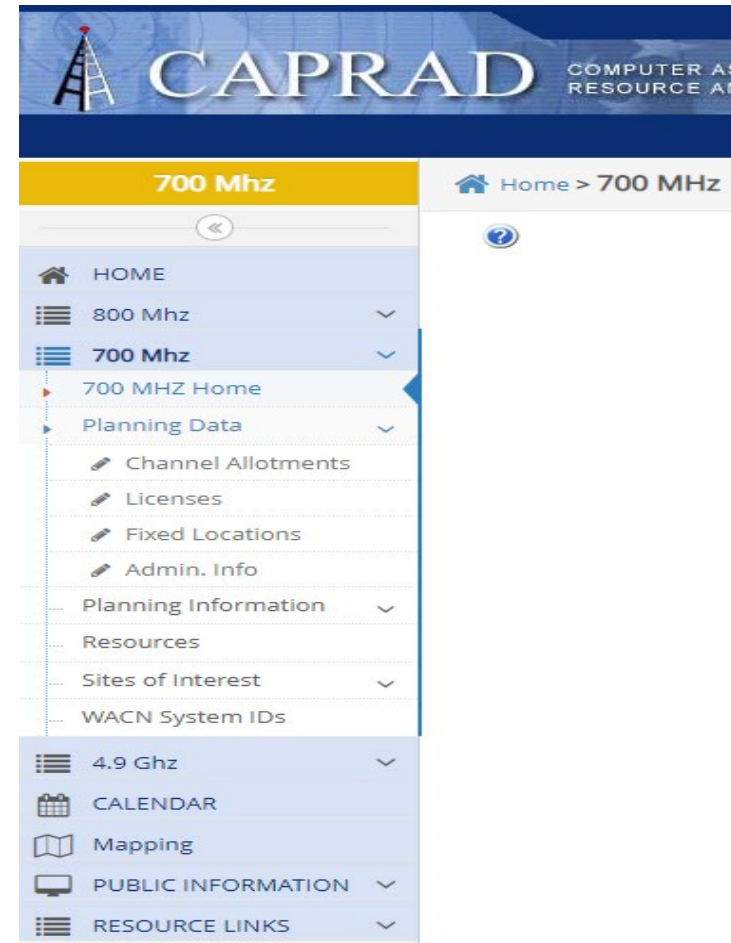
CAPRAD Application Module

- CAPRADs application module not only allows RPCs to review applications, but they can also send applications and notifications to their adjacent RPC regions for review.
- The RPC can send the applications back to applicants for more information, if needed. They can also submit the applications to the assigned Part 90 frequency coordinator.

Application	RSC	Entity	NPSPAC	Status Date	Modified Date	Purpos
CAP22053114006976	YE	Massachusetts Commonwealth of, Department of State Police	800	6/16/2022	6/16/2022	MD
CAP22053114006977	YE	Massachusetts Commonwealth of, Department of State Police	800	6/16/2022	6/16/2022	MD
CAP22072214007153	SY	VENTURA, COUNTY OF	700	8/1/2022	8/1/2022	MD
CAP22051111006950	YE	HILLSBOROUGH COUNTY SHERIFF'S OFFICE	800	8/1/2022	8/1/2022	NE
CAP22051115006951	YE	HILLSBOROUGH COUNTY SHERIFF'S OFFICE	800	8/1/2022	8/1/2022	NE
CAP21110213006621	SY	KENTUCKY, COMMONWEALTH OF	700	8/7/2022	8/7/2022	NE

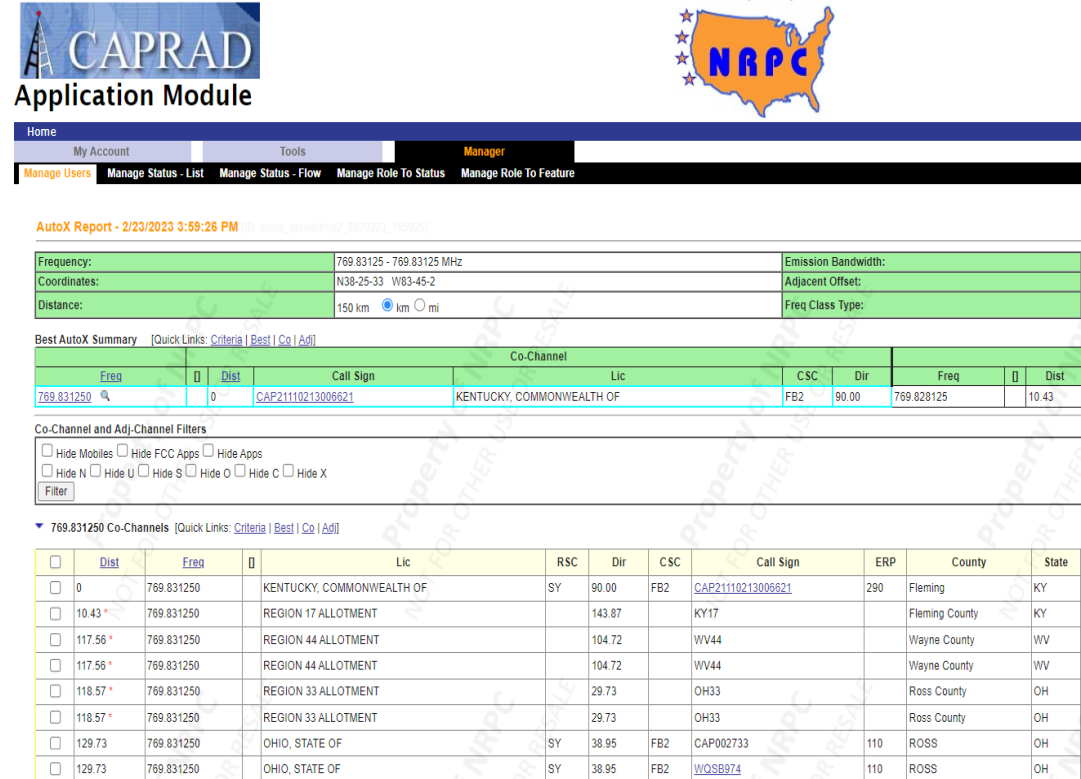
CAPRAD Planning Module

- CAPRAD Planning is a great tool for RPCs to keep important information handy regarding their plan.
- Common items found in CAPRAD are frequency allotments, plan documents, the FCC status of the plan, etc
- The mapping feature allows RPCs an easy view of licensees and frequency allotments for not only their region but surrounding regions.



CAPRAD Frequency Search Capabilities

- The application module houses the frequency search tool. This tool give RPCs an easy view of licensed incumbents and 700 MHz allotments for requested frequencies.
- A CSV file can be created that allows RPCs to easily enter the selected information into an engineering system for coordination.



The screenshot displays the CAPRAD Application Module interface. At the top, there is a navigation bar with 'Home', 'My Account', 'Tools', and 'Manager'. Below this is a menu with 'Manage Users', 'Manage Status - List', 'Manage Status - Flow', 'Manage Role To Status', and 'Manage Role To Feature'. The main content area shows an 'AutoX Report - 2/23/2023 3:59:26 PM'. The search criteria are: Frequency: 769.83125 - 769.83125 MHz, Coordinates: N38-25-33 W83-45-2, Distance: 150 km, Emission Bandwidth, Adjacent Offset, and Freq Class Type. A 'Best AutoX Summary' table shows a single entry for frequency 769.831250 MHz, call sign CAP21110213006621, licensed to KENTUCKY, COMMONWEALTH OF, with CSC FB2 and Dir 90.00. Below this is a 'Co-Channel and Adj-Channel Filters' section with checkboxes for 'Hide Mobiles', 'Hide FCC Apps', 'Hide Apps', 'Hide N', 'Hide U', 'Hide S', 'Hide O', 'Hide C', and 'Hide X'. A 'Filter' button is present. The '769.831250 Co-Channels' table lists various channels with columns for Dist, Freq, Lic, RSC, Dir, CSC, Call Sign, ERP, County, and State.

Dist	Freq	Lic	RSC	Dir	CSC	Call Sign	ERP	County	State
0	769.831250	KENTUCKY, COMMONWEALTH OF	SY	90.00	FB2	CAP21110213006621	290	Fleming	KY
10.43 *	769.831250	REGION 17 ALLOTMENT		143.87		KY17		Fleming County	KY
117.56 *	769.831250	REGION 44 ALLOTMENT		104.72		WV44		Wayne County	WV
117.56 *	769.831250	REGION 44 ALLOTMENT		104.72		WV44		Wayne County	WV
118.57 *	769.831250	REGION 33 ALLOTMENT		29.73		OH33		Ross County	OH
118.57 *	769.831250	REGION 33 ALLOTMENT		29.73		OH33		Ross County	OH
129.73	769.831250	OHIO, STATE OF	SY	38.95	FB2	CAP002733	110	ROSS	OH
129.73	769.831250	OHIO, STATE OF	SY	38.95	FB2	WQS8974	110	ROSS	OH

CAPRAD enables ...

- Regional RPC collaboration without the need for in-person meetings;
- Adjacent regional concurrence by simultaneously sharing FCC Form 601 among several regions (states);
- Automatic user notification via internally generated emails/notices;
- RPCs & SIECs to equitably manage licensee requests for 800 and 700 MHz interoperability and NPSPAC channels; and
- Essential storing of planning documents and agreed upon standards.

DHS funding supports ...

- Maintaining 24/7/365 the CAPRAD software with tools to equip regions to properly assign scarce spectrum resources without causing undue interference to new or incumbent users;
- Keeping CAPRAD up to date and adding features based on user feedback through the National Regional Planning Council (NRPC); and
- Training in the use of CAPRAD and spectrum management techniques via quarterly webinars and an annual in-person technical seminar.

The in-person seminar yields the level of regional participation and peer-to-peer interaction that results in improved productivity of the RPCs in fulfilling their regional planning duties.

Why APCO involvement?

- APCO has been a FCC certified public safety frequency coordinator for Part 90 land mobile radio licensing since 1986;
- APCO has been instrumental in guiding RPCs through the submission of their original regional plans and has been of support to RPCs ever since;
- APCO has been either the lead subcontractor (2009-2014) or prime contractor (2014-present) on DHS contracts and grants to support the RPCs in effectively using and updating the CAPRAD platform; and
- Without national coordination from a knowledgeable entity like APCO, most regions would work in isolation and without qualified RF support.

Q&A and Thank You!

Thank you to our sponsor



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