3.0 REGIONAL PLANNING

3.1 INTRODUCTION

CAPRAD is unique because it enables those who use public safety frequencies in the 700 MHz spectrum to coordinate their use prior to any frequencies being assigned. This enables all of the disparate regions and interests throughout the country to participate in a fair and equitable use of the spectrum as well as potentially achieving larger percentages of co-channel utilization. Its use should also minimize the effects of "first-come first-serve" on spectrum allocation, but it will not altogether eliminate the advantages of those whose needs are greatest and who can put their requirements together in a prompt and timely fashion.

The pre-allocation of spectrum by usage area (typically counties) was initially tried in the 800 MHz spectrum. This was marginally successful, but it clearly demonstrated that, with proper planning and cooperation, the scant spectrum resources available in densely populated regions could be optimized by pre-allocating the resource. This maximizes co-channel utilization while limiting interference from known sources such as TV stations and adjacent channels.

When you select the region of interest, a map of the region will be displayed and the menu options in the left side bar will change. Figure 3-1 displays what would appear if you had selected Region 7.

As with other displays in the CAPRAD system, options appear at the top of the information display area, in the sidebar menu to the left, and within the information area. Table 3-I describes the functions associated with the main menu options at the top of the display area. These menu options are general in nature and can be accessed any time, independent of the information being displayed in the information window.

The menu beneath the Options tag in the sidebar display can be used to access functions that directly relate to the regional planning function. Table 3-2 reviews the sidebar menu options.

Menu Text	Description	More Info in:
Regional Plans	Display a PDF file of Section 3 of the User's Guide in the information frame. Requires Acrobat Reader.	
User Name	Your user name enables user related information to be edited.	Section 2.5
Logout	Logout of the CAPRAD system. This will close the current browser window.	Section 2.1
New Region	Display a USA map with regions identified.	Section 2.5
Applications	Display Applications menu and allow edit / review of applications within current region.	Section 4.1
Documents	Display links to regional planning documents	Section 2.5
FAQ	Display information on the Frequently Asked Questions associated with Regional Planning.	Section 4.2
???	Receive contextual help for whatever information is being displayed in the information frame.	Section 4.2

Table 3-1
Main Menu Options
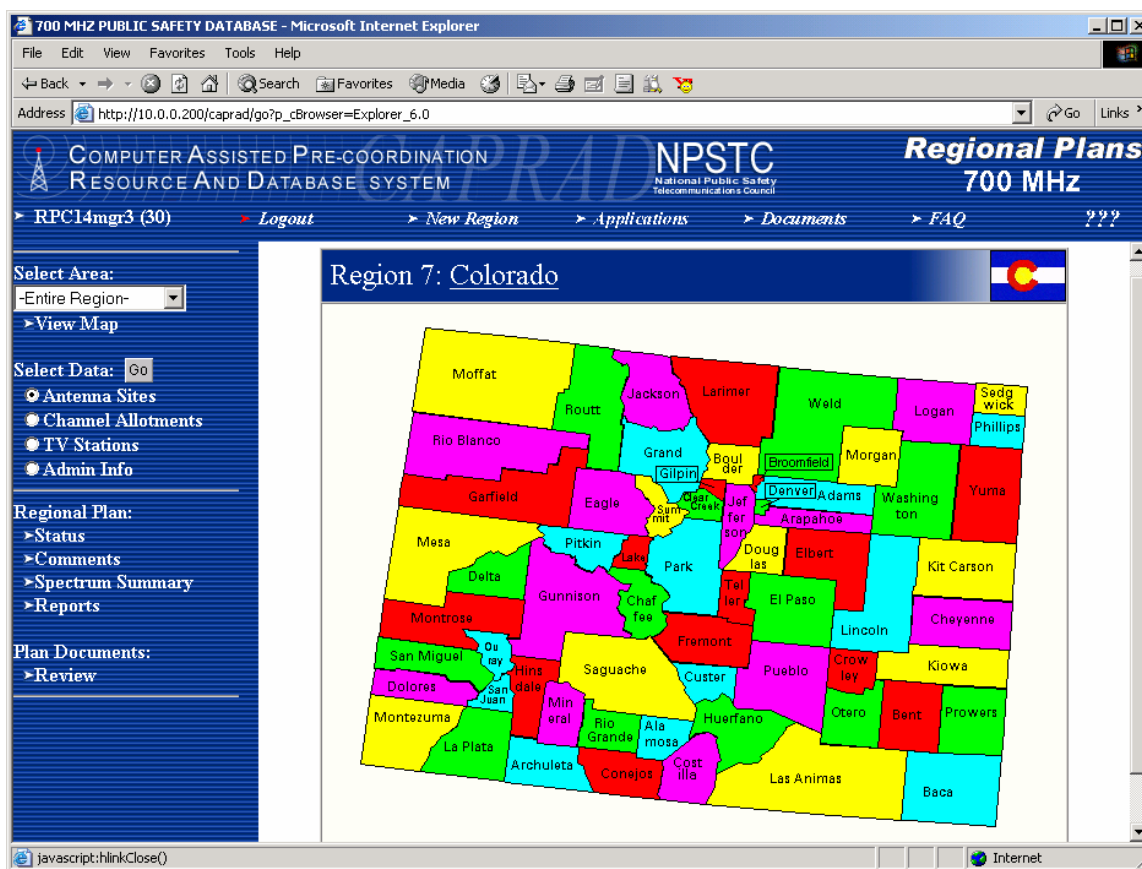
Figure 3-1: Regional Planning Initial Display

3.2   AREAS AND MAPS

The regional planning area can be viewed using the map displayed in the information area. This map can be seen at any time by selecting the View Map option. The map is related to the Select Area dropdown box. Every entity listed in the dropdown box is also displayed with the corresponding name on the map.

The map is hyperlinked so that, if you click the mouse cursor on the name of any county or city on the map, the information display will change to reflect a <u>review of the planning data option selected</u>. See Section 3.3.2 for an example of what this looks like.   The dropdown selection list for area will also be updated to reflect the area just selected. For example, if the planning option selection is set at Channel Allotments and you select Arapahoe County on the map, then a review list of channel allotments assigned to Arapahoe County will be displayed in the information area. If you want to edit the information just displayed, select the Edit option and this display will change to an edit mode for that planning option.

| Menu Text	Description	More Info at/in:
Select Area	Specifies the valid political entities within the region currently viewed. The list is alphabetical and generally restricted to counties. Some regions also include cities (VA, MD, MO) or census areas (AK) that have their own "county-like" government.	Section 3.2
View Map	Re-display the region map. This may be necessary as other functions will display their information in the map area.	Section 3.2
Select Data	Identify the various data that are available to the regional planner. They include: antennas, channel allotment, TV Stations, and admin info.	Section 3.3
Regional Plan	These various hyperlinks will allow you to review the plan status, plan comments, regional spectrum or see regional reports on allocation progress.	Section 3.4
Plan Document Review	Allows you to review the regional planning document that details the region's spectrum allocation.	Section 3.5
Plan Documents	Upload a new version of or review the regional planning document.	Section 3.5

Table 3-2
Sidebar Menu Options

The Select area dropdown list works in a similar fashion. Position the dropdown to select the area, select the data option for the planning option information to be displayed, and then select the GO button. Data for that area will be displayed.

Note that the Select Area dropdown has an initial entry of "Entire Region." Selecting this option will provide the ability to *review* selected data for the entire region. For example, select this area option, choose the Channel Allotments planning option and then choose GO from the menu, and a list of all the channel allotments by area will be displayed for the entire region. No editing is permitted at the regional level.

The Regional Plan options (e.g., comments) are region-wide selections, and any specific area is ignored when these hyperlinks are selected.

When the map is displayed, the name of the region is hyperlinked. Selecting this title will display additional summary information about this region. Figure 3-2 shows a representation of the information contained in this display. This is intended to be a summary of the various planning options for this region.
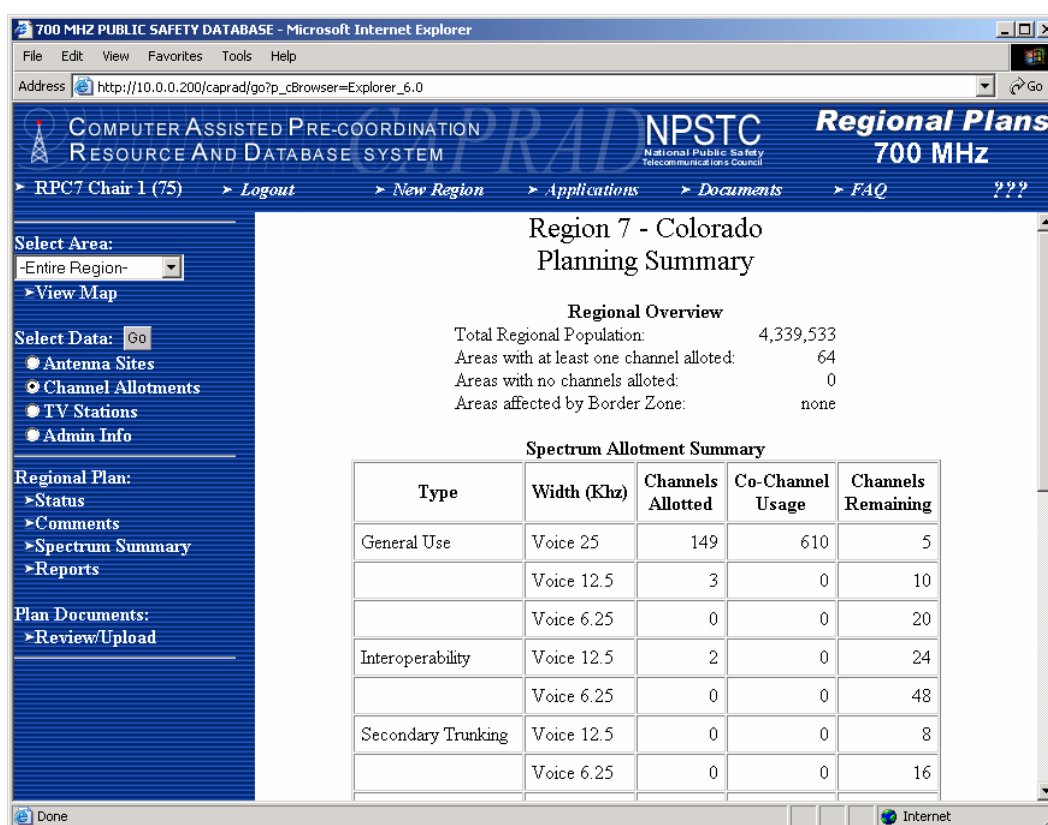
Figure 3-2: Regional Summary Information

Note that there is additional information associated with each television station in the region. Select the data option for TV Stations to review the additional information. This information includes location coordinates, effective radiated power, antenna height, number and radial power distribution, license type and expiration date. See Section 3.3.

3.3 REGIONAL PLANNING DATA OPTIONS

The regional planner has a variety of options with regard to regional planning. These are identified by the dropdown planning options box in the sidebar menu. The options are:

- Antennas
- Channel Allotment
- TV Stations
- Admin Info

Each of these plays a role in the overall planning process. In this section we will look at these data select options where they apply. Note that the channel allotment is area specific. You cannot enter or modify frequency information except at the area level. A non-editable review display is shown in the event Entire Region is in the area box when GO is selected for the Channel Allotment data selection.

The following sections describe the process for each of these selected data options.

3.3.1 Antenna Sites

 CAPRAD allows for users to assign antenna location information about existing or proposed antennas in the region that belong to a State License. Since the state licenses channels do not require a 601 form, this allows the system and consequently, users, to track and know where these channels are actually being used. When a State License channel is assigned to an antenna, the effect in CAPRAD is the same as the FCC granting a license for that channel usage. These assignments can also be monitored and updated with information as plans change. The purpose of the antenna assignments is to provide basic reference points for State License channel usage.

Data is managed as an antenna site. A site can contain multiple antennas and antennas can carry multiple channels. To review existing antenna sites for the entire region, set the regional area to be "Entire Region" in the drop down box, select the "Antenna" option and then select the "GO" button. The information will be displayed in the format represented in Figure 3-3. All counties in the region are displayed with their geographic country centers identified. For those counties with State License antennas assigned, basic antenna site information is also displayed. This information is an aggregation of all the antennas at the site. It includes the antenna identifier (assigned by the User) and the channels represented by the antennas at the site. To see details with respect to any given antenna, select the show button and additional details will be displayed. These include antenna coverage, ERP, height and the channels assigned to each antenna at the site.

To enter antenna information within the region you must have the appropriate rights to make changes, such as the RPC manager. Simply select the county for which an assignment is to be made from the drop down box in the left side menu bar then select GO being sure that the "Antenna" selection has been made. A display similar to the one shown in Figure 3-4 will be presented. Enter the new site information in the input boxes

Figure 3-3: Antenna Review for Entire Region

Figure 3-4: Antenna Details for a Specific Area

on the "Add" line and then press "Save". Be careful to make sure the antenna site is in the area being selected. A check is made to insure that coordinates are valid.

Once an antenna site is defined, press the Edit button to add information with regard to the antennas at that site. Each antenna entered should be identified by name, with specific information for range, ERP and environment type also entered at that time. To assign a State License channel to an antenna, go to the channel allotment for that area, use the mouse to tag the appropriate state license channel to be assigned, (tagging simply means to click the mouse pointer in the notation field on the row of information where the state channel is located) and then click the locate button. The display in Figure 3-4 will be shown again with a new column labeled assign containing a checkbox. Check the box next to antenna(s) which will carry this channel.

3.3.2   Channel Allotments

The primary function of the regional plan is to identify, prior to application submission, channel allotments for the region being planned. This provides the capability for more optimal use of the channel resource. This is especially important in high-population-density regions.

The CAPRAD database can be pre-loaded with channel allotments based upon external planning guidelines. This permits the optimization of regional allotments by automated means prior to RPC review. Whether pre-loaded or developed by the RPC from the beginning, the system allows channels to be flexibly assigned to the various areas within the region. Informational guidelines are provided to the planner, and some basic FCC guidelines are enforced to structure the planning process along certain lines.

The channel spectrum is divided into segments as defined by the FCC. The full spectrum is available for each region. Interoperability, general-use, low-power and state channels are available for the allotment process. Reserved channels are not available for allotment.

The FCC spectrum is divided into 6.25 KHz channels for narrow-band use and 50 KHz channels in the wide-band segment. The system allows channels to be allotted in 6.25 KHz, 12.5 KHz (2 channel) or 25 KHz (4 channel) groups in the narrow-band range, and 150 KHz (3 channel) groups in the wide band range. FCC rules associated with how channels can be grouped are strictly enforced (e.g., an odd-numbered channel must start each narrow band allotment).

Choosing the Channel Allotment option combined with a valid area selection choice allows information to be reviewed or edited for that area. Figure 3-5 shows a typical channel allotment display. You can get this display by choosing the area from the Select Area dropdown, positioning the planning option to Channel Allotment and then clicking on the GO button. Or, you can display the map, position the planning option to Channel Allotments, and click the desired area as identified by the text on the map.

Figure 3-5: Review Channel Allotment

The display allows complete flexibility in allotting frequencies to the various areas. Note that, for channels already allotted, you can change the band or the assigned channel number in the band, but not the class of use. To do this, simply mark the delete (Del) checkbox and then select the replacement information in the Add row. When the Save button is clicked, the information will be updated. Note that the various classes of use are color-coded for easier recognition. These colors match the colors identified in the spectrum definition.

The frequency for base and mobile is the center-point frequency for the channel range specified in the FCC channel number column.

To assign a new frequency, select the class and the desired band in the Add row, then click the Show button. A popup window will appear, identifying the available frequencies for this region, class and band. Select the hyperlinked channel designation that you want; that information will be automatically entered into the FCC Channel Number area. Select the Save button, and the channel is assigned to this area. Note that any channels already assigned that are within 100 km of the county center are automatically excluded from the allotment list.   [100 km is used only as an example.]

Figure 3-6: Channel Selection Display

It is possible to enter the channel number directly into the channel number input area. If you then select Save, the information will be saved if it conforms to the following rules:

- FCC channel numbering methodology
- The channel is in the class and band specified in the other input options
- The assignment is not duplicated in another area within 100 km [example only]

If any of these is not correct, the Save is ignored. *Since the Show window only lists valid channel inputs, it is highly recommended that it be used exclusively in assigning channels.*

The system checks for errors in the input so that any changes in the channel number selections that do not conform to the FCC rules are ignored. This applies to all of the existing channels as well.

The notation area is simply a free-text input area where the planner can provide notes indicating why a channel was allotted or giving specific conditions upon its use.

You are able to edit or change the channel allotment for a region only if you are a member of the RPC for that range as shown in Figure 3-6. All other users when

performing these actions see a review screen only. Figure 3-7 is a representation of what that display would look like.

Figure 3-7: Channel Allotments Review Display

It is very likely that RPC's who have allotted frequencies within the region will want to transfer the data based information to their own computers for incorporation into their regional plan.

The CAPRAD system allows for this transfer of information in the following manner. This can be accomplished using the Regional Plans, Reports selection, as described in section 3.4.4.

3.3.3 TV Station Data

Because the 700 Mhz spectrum overlaps existing TV stations for channels 63/64 and 68/69 it is important to know which stations are operating within a given region. This data option allows you to identify the TV stations in the region or area affected.

Hi-light the radio button for TV Stations and then select GO, or if the map is displayed, select an area from the map. The applicable TV stations that are located in that area are displayed. Figure 3-8 displays the information that will be shown. If the Select Area dropdown is positioned on Entire Region when the GO button is selected, all TV stations in the region will be displayed.

Basic information with respect to the station is displayed at this level. The TV station Call Sign, its geographic coordinate, and the State / County jurisdiction it is located in are shown. The Call Sign is hyperlinked for additional information. This includes this same information plus ERP, HAAT, RCAMSL, RCAGL and antenna ID for directional antennas. Further selecting the hyperlink on the directional antenna ID provides the ratio of radiated power for 10-degree increments around the full 360-degree azimuth.
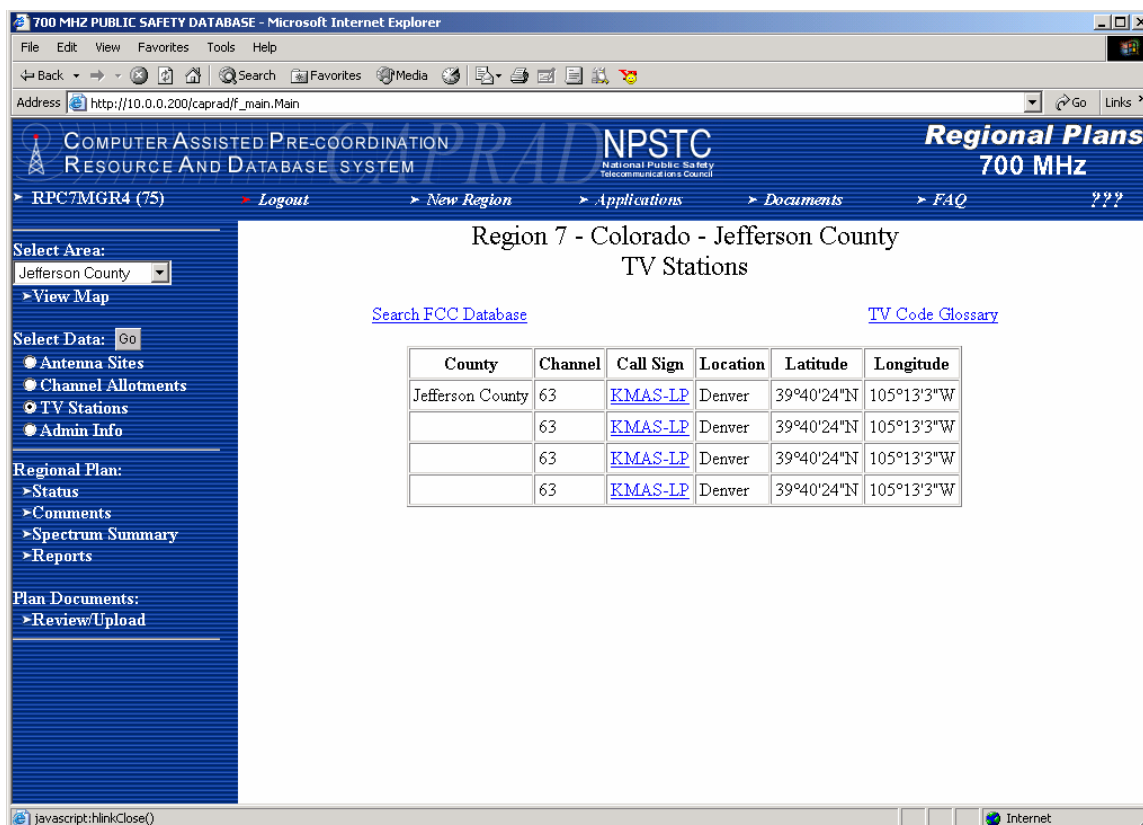
Figure 3-8: TV Station Data Display

3.3.4 Admin Info

The option to review / edit administrative information by area is also provided in the selected data category. Users can review the basic information associated with each area in a region. RPC users also have the capability to edit where the County "center" is located. Distances are important within the allocation process because counties determined to be 100 km or farther from the allotting county are determined not to have an impact on the allocation of the current county. Distances between counties are measured from the county centers. County centers are initially set to be the geographic center as determined by the USGS, good to the nearest minute. This is adequate in many instances, but it is possible that in a given county the antenna location for a center area will be at the highest point in the county, which is not at its center but at its western edge. In that case it could make sense to move the county center to the most likely spot for antenna sites.

Figure 3-9 shows the Admin Info display for a typical area. Note that only the latitude and longitude to the nearest second are capable of being changed by the RPC. All other data is provided for informational purposes only. Only RPC users can change geo-coordinate information for an area. Choosing Entire Region under Select Area will display contact information for the RPC of that region.

Figure 3-9: Area Administration Information

3.4   REGIONAL PLAN OPTIONS

The regional planning options are hyperlinks that allow the user to review / modify data that is region wide and pertain to the regional plan that the FCC requires each region to prepare.

3.4.1   Regional Plan Status

An objective of each region is to generate a channel allotment plan that can be approved by each of the adjacent regions and by the FCC. CAPRAD provides a facility for tracking this process by assigning various status codes to the plan that mark its progress. The available status codes are summarized in Table 3-3.

The RPC manager is the only user who can change the status of the regional plan. Other RPC members can modify allotments or upload new versions of the plan, but are not provided the right to change the status. This provides some control over the status and insures that some coordination at the RPC level occurs. Figure 3-10 displays what you might see if you were to review the status of an RPC plan.

Status	Description
None	The default status of all regional plans.
In Process	The initial status set by an RPC when work has begun on writing the plan narrative and allotting frequencies to the various areas within the region.
Review by Adjacent RPCs	The status set when the plan narrative includes the draft allotment of frequencies to the areas within the region. All adjacent regions are given the opportunity to review and comment on the plan.
Finalized, submitted to the FCC	When all adjacent RPCs have had the opportunity to comment on / approve a plan, the RPC can change the status. If all is ok, the plan is submitted to the FCC for their approval. If not the RPC can revert the status back to In Process.
Approved	Identifies the plan as having been approved for implementation by the FCC.

Table 3-3: Regional Plan Status Options

Figure 3-10: Review Regional Plan Status

Note that there is nothing to prevent the RPC from changing the status to whatever value is appropriate. However, every change of status is logged by user, change made and is time stamped. This event log is displayed every time the status is displayed. This provides everyone an opportunity to see what is happening in a given region.

When a change of status occurs, the RPC will notify the adjacent regions of the change of status. Figure 3-11 shows the notification display that results when a status change is saved. An email notification is drafted but can be changed by modifying the contents of the text box displayed. Selecting the SEND button emails the notification to the check box selected adjacent regions' RPC managers.

Figure 3-11: Change of Plan Status, Adjacent RPC Notification

When this option is selected, adjacent RPCs and other users will be provided a display of all of this information but without the capability to change or save the status. The exception to this is the adjacent RPC whenever there is a change of status from "In Process" to "Review by an RPCs". When this occurs, the adjacent RPCs will be provided a revised screen display. For example, if RPC 3 received the notification that Region 7's plan was ready for review, selecting Region 7 and then selecting plan Status would result in the display provided in Figure 3-12. Selecting the Notify button in this instance allows each adjacent RPC to notify the Region 7 RPC of his or her approval (Yes / No) of the plan. This tally is recorded and saved, and is displayed when the status is reviewed.

Note that if an RPC changes the status from "Review by RPCs" to "In Process", any adjacent RPCs who have approved the plan will have their approval status revert to N. This will require that they review the plan again when it is ready, and they will need to re-register their approval as required.

Figure 3-12: Adjacent RPC Display of Regional Plan Status when Status's Changed

3.4.2   Regional Plan Comments

Closely linked to the regional plan status are comments from adjacent RPCs. As with the status, any logged-in user can review plan status and comments, but only an RPC or adjacent RPC can affect the status and create or revise comments on a plan.

Comments are just that, text from an adjacent RPC and/or replies from an RPC that identify issues, suggestions or changes to a regional plan. This provides a method for conducting open dialog between the various regions affected by a given plan. Figure 3-13 depicts the display when a region's comments are shown.

Selecting the Show button displays the entire comment at the top of the display area. Only the first 40 characters of text or the first line (whichever is shorter) is displayed in the general review area.

RPCs and Adjacent RPCs have the capability to add, modify, or delete comments. You can only modify or delete comments that you originate. The originator of a comment is

identified in column 5 of the comments list. You will know if you are the originator of a comment because the select button in the left most column is labeled Edit as an originator or Show if you are not the author of the comment.
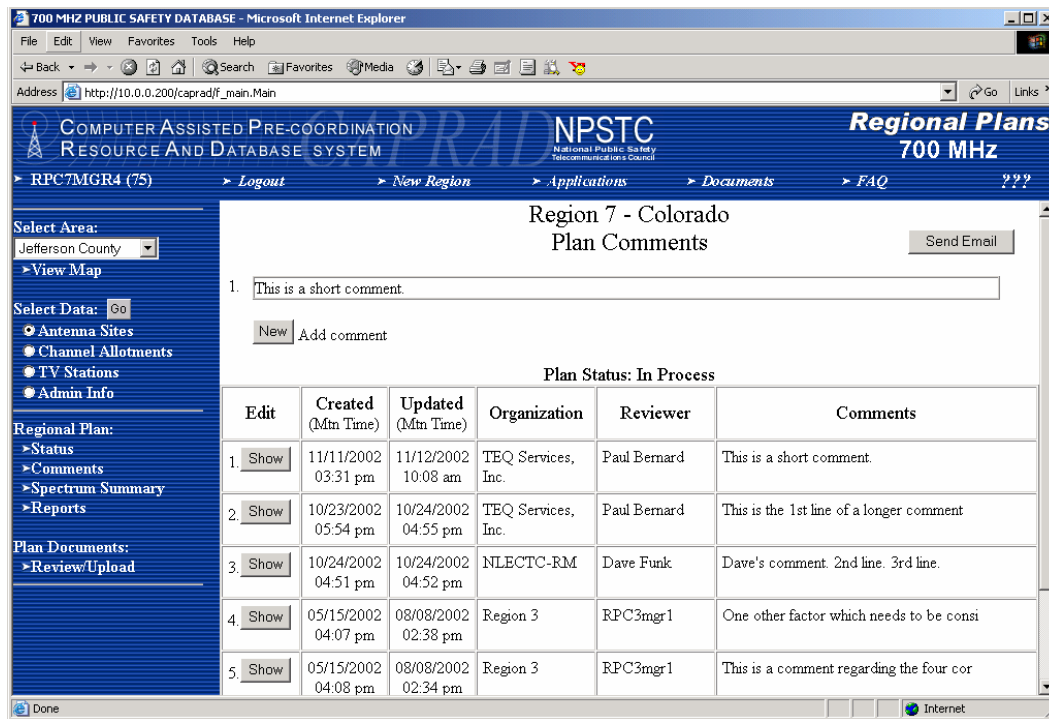
Figure 3-13: Originator's Display of Plan Comments

When editing a comment, you can simply change the text by placing the cursor in the text box and typing as in a normal document. To save the changes made, select the SAVE button. To remove the comment entirely, simply select the DELETE button. To add a new comment, select the NEW button. The RPC and adjacent RPCs can add new comments. Others can simply review existing comments.

3.4.3 Plan Spectrum

Although the FCC has determined the general contents of the spectrum to be allocated in each region, it is still the responsibility of the RPC to identify specifics with regard to how the spectrum is actually used. Table 3-4 defines the terminology used in the assignment of status to the various channels within the spectrum resource by region. Note that only the RPC manager can edit the spectrum. All other users are restricted to reviewing how the spectrum has been assigned.

Figure 3-14 shows how the RPC manager would see the spectrum definition options. Notice that the various bands (e.g., General Use Voice) can be viewed using a variety of channel assignments. For instance, General Use Voice can be reviewed using 6.25, 12.5 or 25 KHz channel assignments. The status of each incremental channel may vary according to the status options defined in Table 3-4.
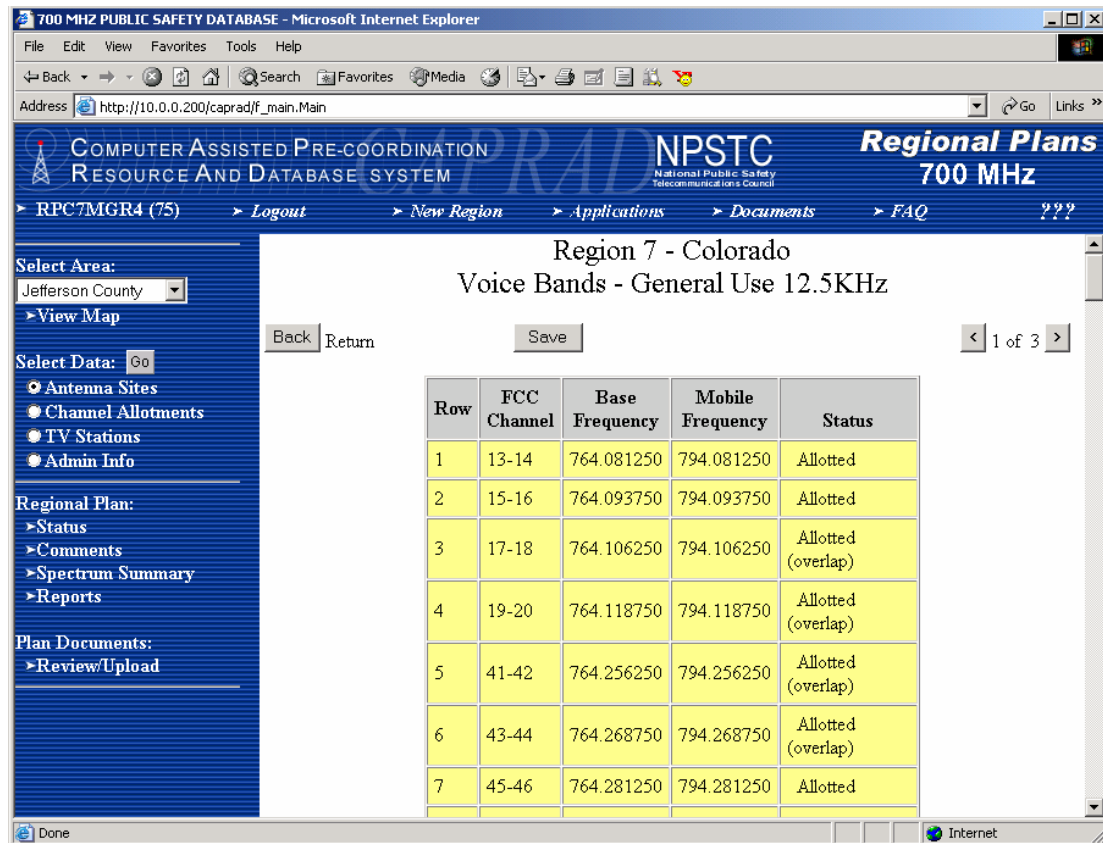
Status Term	Definition
Free	The channel has not been assigned in any way.
Blocked	The channel has been blocked by the RPC and is not available for any use. For example, reserved channels are automatically blocked. A dominant TV station in a region might require that certain segments of the spectrum be blocked temporarily.
Allotted	The channel has been allotted to one of more areas in the region.
Shared	One or more of the channels defined in a given range have been allotted at a different range. For example: channels 13-16 have been allotted at the 25KHz. When viewing channel 13 in the 6.25 KHz range it will be denoted as shared. When channels 13-14 or 15-16 in the 12.5 KHz range are viewed, they will display a status of allotted. When 13-16 in the 25 KHz range is viewed it will show a status of Allotted.

Table 3-4
Spectrum Status Definitions

Figure 3-15 shows the information displayed when the Edit button is selected in the general use 25 KHz voice band. Note that the table in Figure 3-14 identifies there being 154 channel pairs in this range. The display in Figure 3-15 will contain up to 154 different selection possibilities for channel assignment pairs. This is split into two pages that can be accessed by selecting the arrows (< >) in the top right corner of the display. If not yet allotted, channels can be assigned a new status that will affect how they are utilized during the planning phase.

Figure 3-14: Regional Plan Spectrum Definition

Figure 3-15: Spectrum status assignments

3.4.4   Regional Plan Reports

The RPC users have the ability to run reports for their region. This option is not available for general users, or for adjacent RPCs. These reports are useful to summarize the allotment progress for a given region. The following reports are currently available:

1. Antenna Sites
2. Allotments by FCC Channel
3. Summary of Channel Allotments by Area
4. Detailed Channel Allotments by Area
5. Channel Allotments by Class
6. Detailed Channel Allotments
7. Plan Comments
8. RPC Member Report
9. Adjacent RPCs Report
10. National Regional Plan Status

Each of the reports displays the requested data in different ways, and each is suitable to download using one of the methods described in this section. These reports when saved to the local computer can also be input into the regional plan.

Figure 3-16 provides a brief snapshot of some report examples.

1) FCC Channel Allotments, ordered by Channel Number, by Area.

```
                          Region 7 - Colorado
                        FCC Channel Allotments

      FCC                   Mobile            Base
   Channel    Bandwidth     Frequency         Frequency      County

      1-4     25.00 KHz     794.01250 MHz     764.01250 MHz  Alamosa County
                                                             Arapahoe County

     13-14    12.50 KHz     794.08125 MHz     764.08125 MHz  Archuleta County
                                                             Bent County
                                                             Eagle County

     15-16    12.50 KHz     794.09375 MHz     764.09375 MHz  Bent County
                                                             Eagle County

     13-16    25.00 KHz     794.08750 MHz     764.08750 MHz  Alamosa County
                                                             Eagle County
                                                             Arapahoe County

     17-20    25.00 KHz     794.11250 MHz     764.11250 MHz  Alamosa County
                                                             Baca County
```

2) Counties with allotted channels, ordered by area, by channel number.

```
                          Region 7 - Colorado
                   Summary of Channel Allotments by Area

Adams         93-96     241-244   297-300   373-376   481-484   533-536
              573-576   621-624   705-708   877-880
Alamosa       17-20     97-100    213-216   289-292   341-344   381-384
              457-460   521-524   621-624   661-664   713-716   821-824
              865-868   905-908
Arapahoe      13-14     45-46     53-56     105-108   109-112   121-124
              217-220   257-260   333-336   389-392   457-460   565-568
              629-632   673-676   865-868
Archuleta     57-60     97-100    245-248   297-300   357-360   421-424
              489-492   533-536   589-592   629-632   677-680   741-744
              789-792   837-840   917-920
Baca          41-44     81-84     165-168   209-212   249-252   353-356
```

3) All regional areas with allotments, order by area, by channel number.

```
                          Region 7 - Colorado
                    Detailed Channel Assignments

                                   FCC Channel  Base        Mobile      Co-Channel  Adjacent
County    Class           Band     Number       Frequency   Frequency   Usage       Channels

Adams     General Use     Voice 25KHz   41-44    764.26250   794.26250  Bent        45-48: Baca
                                                                        El Paso     45-48: El Paso
          General Use     Voice 25KHz   45-48    764.28750   794.28750  Baca
                                                                        El Paso
          General Use     Voice 12.5KHz 49-50    764.30625   794.30625
          General Use     Voice 12.5KHz 51-52    764.31875   794.31875  Baca
Alamosa   General Use     Voice 25KHz   13-16    764.08750   794.08750  Arapahoe    17-20: Baca
                                                                        Eagle
          General Use     Voice 25KHz   17-20    764.11250   794.11250  Baca        13-16: Arapahoe
                                                                                    13-16: Eagle
          Interoperability Voice 12.5KHz 103-104 764.64375   794.64375
          Low Power       Voice 25KHz   1-4      764.01250   794.01250  Arapahoe
          State License   Voice 25KHz   29-32    764.18750   794.18750
Arapahoe  General Use     Voice 25KHz   13-16    764.08750   794.08750  Alamosa     17-20: Alamosa
```

Figure 3-16: RPC Regional Planning Reports

Each of the reports displays the requested data in different ways, and each is suitable to download using one of the methods described in this section. It is very likely that RPCs who have allotted frequencies within the region will want to transfer the data based information in some of these reports to their own computers for incorporation into their regional plan.

The CAPRAD system allows for this transfer of information using the Regional Plans, Reports selection, followed by selection of the desired report. Once the information is displayed in the window, follow the instructions depending upon which browser you are using.

For Internet Explorer 5.0+

1. To position in the correct frame, place the mouse in the displayed information window and click the left mouse button (there is no visible result).
2. Select the Edit Option from the top row menu in Internet Explorer
3. Choose Select All from the drop down list. All text in the display information area should be highlighted.
4. Select the Edit button on the top row menu in Internet Explorer
5. Choose Copy from the Edit menu options. This places all of the information into the Windows clipboard.
6. Now open Notepad (or WordPad, Word) using your version of Windows.
7. Paste the information into a "new" document.
8. Save the information as a text (.txt) file (e.g., region7.txt).

For Netscape 4.5+

1. To position in the correct frame, place the mouse in the displayed information window and click the left mouse button (there is no visible result).
2. Select the File option from the top row menu in Netscape.
3. Select the option "Save Frame as" from the dropdown menu.
4. Choose the appropriate directory and file name. *Be sure to use ".txt" as the file suffix* (e.g., region7.txt).

Now that the information is saved on your system as a text file, you can use it with any number of other tools to manipulate as you see fit. These include Access and Excel. In this document we will show you how to import this information into Excel. From there it is easy to manipulate and then import information into a Word document.

Open Excel, then choose the File / Open option. Select the text file saved using the above steps (e.g., region7.txt). The text file created is a fixed-width field, which is the default selection for Excel. Select next from the popup window option displayed. Figure 3-17 displays your next option.
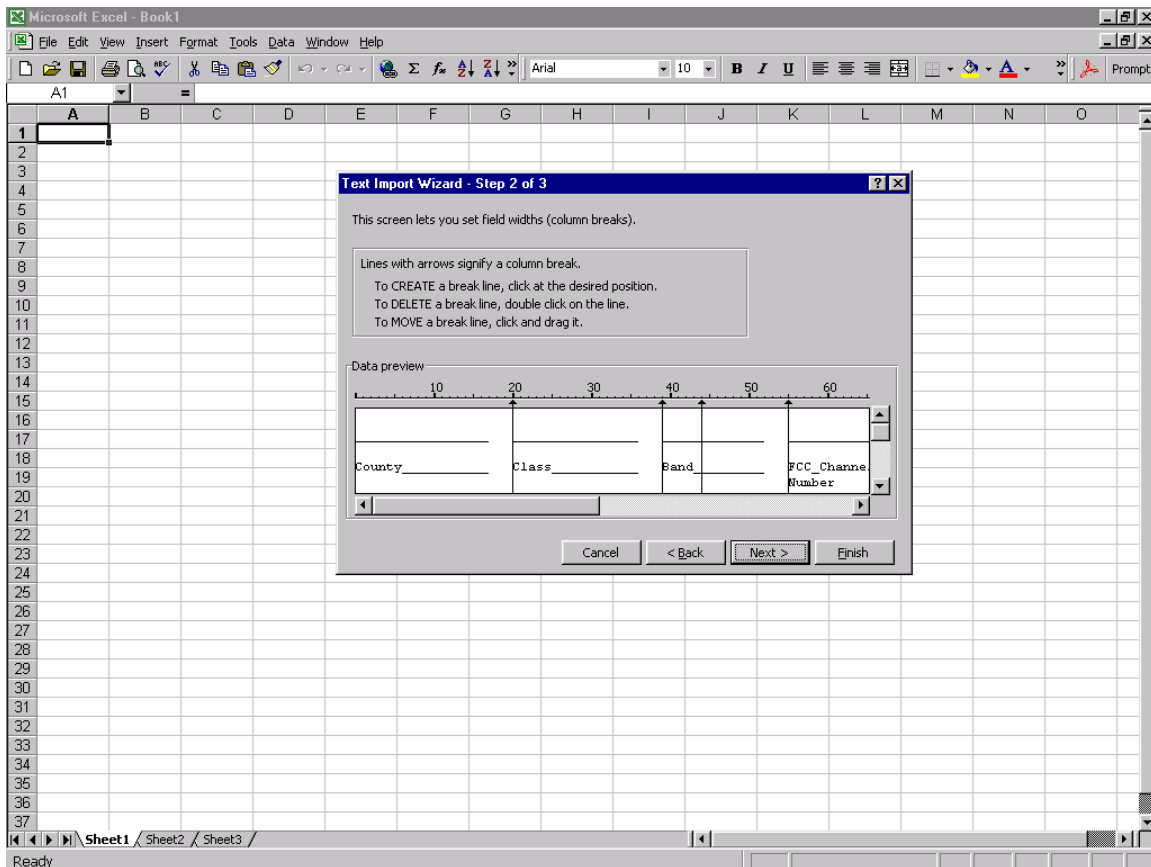
Figure 3-17: Using Excel to import Channel Allotment Data

The vertical lines with arrows at the top depict the various field breaks detected by Excel. Although you can use the default field breaks this will not align the fields with the start of text. It is more effective to use the mouse to move the field breaks to the beginning of the text of each column as was done for the screen shot in Figure 3-17. Note that leaving the field break at column 44 will create two columns in the Excel spreadsheet, the first will contain Voice or Data and the second will contain the KHz range of the bandwidth identified. Most often it is preferred to combine these two fields. To do that, simply select the vertical arrow with the mouse and move it left or right to coincide with either of the adjacent vertical arrows. Select Next and then assign a column type of text to all of the import fields except the base and mobile frequencies: leave them as "general". Note that you can leave them all type "general" to expedite the import process. The resultant imported data looks like that displayed in Figure 3-18.

Figure 3-18: Channel Allotment data imported into Excel

Once in Excel, the information can be sorted or otherwise manipulated as you want and then incorporated from there into your overall final plan.

## 3.5 Regional Planning Documents

The CAPRAD system allows a convenient way for users to access and review the planning document associated with each regional plan. The options at the bottom of the sidebar menu provide the means for doing this. Figure 3-19 displays how the planning document can be reviewed.
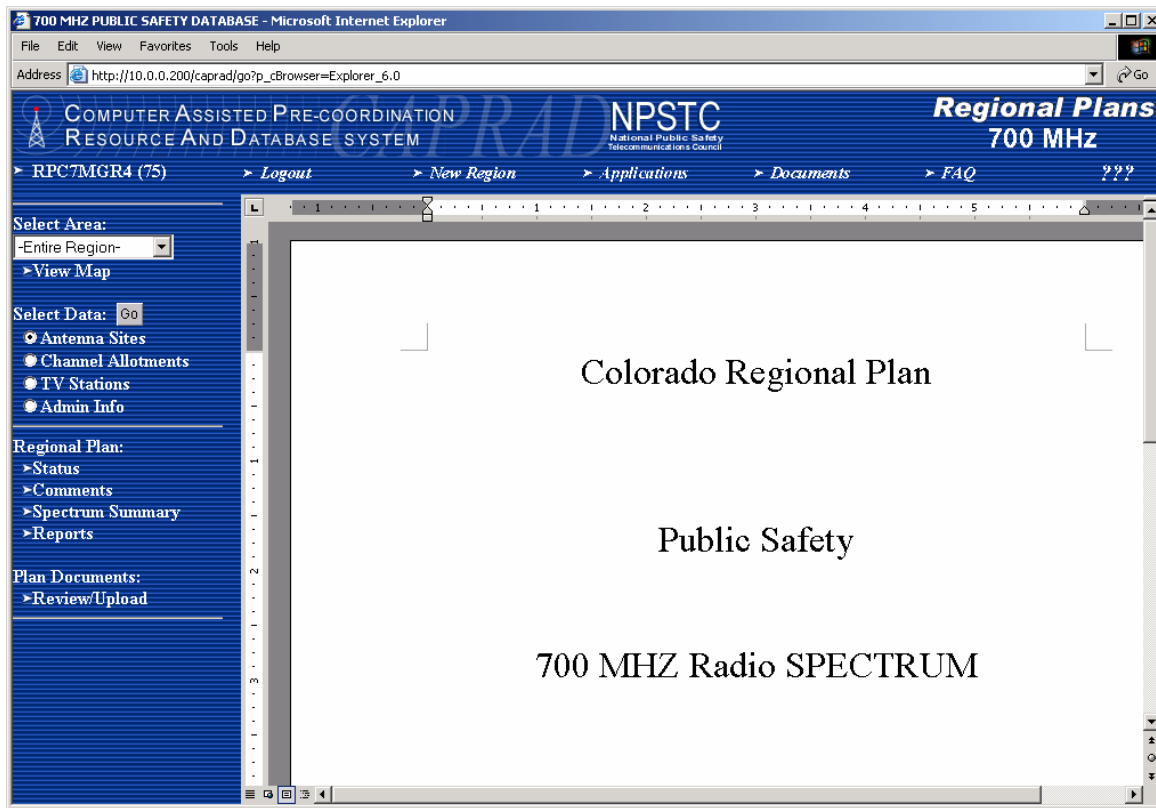
Figure 3-19: Review Regional Plan

CAPRAD expects that the planning document to be reviewed be in Adobe Acrobat PDF format. When reviewed, the user can display and print the document using the Acrobat commands that are associated with Acrobat icons shown in the plug-in window. Note that if your browser is not setup to run Acrobat as a browser plug-in, you will be prompted to download the file and Acrobat will run in an external window but with the same options and functionality. To run as a plug-in, simply re-install Acrobat after you have loaded and identified your default browser configuration. There are several utilities that convert Word documents to PDF files. Adobe Acrobat Exchange is a commercial product from Adobe that will easily convert these files. Other products that run as printer drivers that accomplish the same task are available as share ware products. The NLECTC office will have information for those needing assistance in preparing PDF versions of their planning documents.

To upload planning documents to CAPRAD, select the Upload selection on the side bar menu. The display shown in Figure 3-20 will be shown.
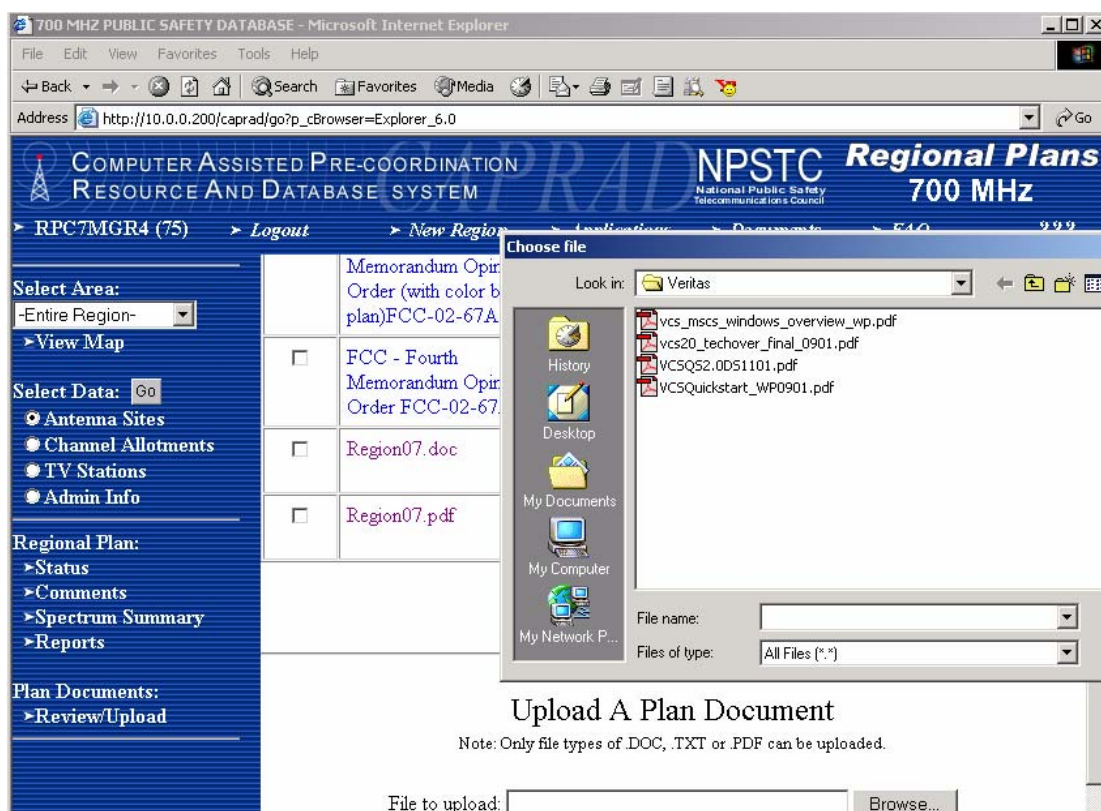
Figure 3-20: Uploading Planning Documents

Select the Browse button to display the file selection window shown in Figure 3-20. This selection window allows you to survey the local computer for the file needed. Any files can be located, but an attempt to upload a file with a suffix different than .PDF or .DOC will result in an error and no upload commencing. With each upload enter a description that accurately describes the file being transferred. Only one PDF file and one DOC file will be saved for each region. Uploading and saving subsequent files will overwrite prior ones. The description might refer to the version and date of the document for control purposes. *Note that only an RPC Manager can upload documents.* No other users have this option.

To view the MS Word document select the MS Word selection on the side bar menu. If no Word document has been associated with the plan, an alert will be issued indicating this. If one has been uploaded, then the browser will allow you download and / or display the document. Word documents normally should be the source from which the PDF file was created. The purpose of the Word document is to provide other users with an editable source that they can modify for their purposes.

The regional plan menu also has a "Documents" option in the main menu on the top bar. Selecting this option lists available resource planning documents that might be of general use to resource planning committees. The list will be updated periodically as new materials become available.