

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

RECEIVED

JAN 15 1999

FILED IN 98-201  
RM NO. 9345  
JAN 15 1999

In the Matter of )  
)  
Satellite Delivery of Network Signals )  
to Unserved Households for )  
Purposes of the Satellite Home )  
Viewer Act )  
)  
Part 73 Definition and Measurement )  
of Signals of Grade B Intensity )

CS Docket No. 98-201  
RM No. 9335  
RM No. 9345

To: The Commission

**MOTION FOR LEAVE TO MAKE SUPPLEMENTAL FILING**

The National Association of Broadcasters ("NAB") hereby moves for leave to file the following materials to provide additional information to the Commission about the so-called "confidence" factor in running the Longley-Rice propagation model. NAB respectfully submits that the enclosed information will assist the Commission in evaluating proposals made by other parties to run Longley-Rice with a "confidence" input far different from that recently used by the Commission in determining analog coverage areas in the digital television proceeding.

Respectfully submitted,

*Henry L. Baumann*

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Dated: January 15, 1999

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**SUPPLEMENTAL FILING CONCERNING  
"CONFIDENCE" INPUT TO LONGLEY-RICE PROPAGATION MODEL**

NAB respectfully submits the following supplemental filing concerning proposals to alter the standard 50% setting for "confidence" in running the Longley-Rice signal propagation model.

**It Would Be Improper to Set the "Confidence"  
Input to Longley-Rice At a Figure Higher Than 50%**

1. No predictive model is absolutely perfect. Every predictive model makes two types of errors:
  - *underprediction* of signal intensity
  - *overprediction* of signal intensity

2. One of the inputs needed to run Longley-Rice is a “confidence” figure. The standard confidence input for running Longley-Rice (per FCC Office of Engineering & Technology Bulletin No. 69) is 50%. In the digital TV allocation proceeding, the Commission used the standard 50% confidence input in running Longley-Rice to “ensure that *broadcasters have the ability to reach the audiences they now serve and that viewers have access to the stations that they can now receive over the air.*” Sixth Report & Order, In Re Advanced Television Stations and Their Impact Upon the Existing Television Broadcast Service, FCC 97-115, ¶ 29, 12 FCC Rcd. 14588, 14605 (1997) (emphasis added); see id. at 14630 (replication process “will preserve both *viewers' access to the existing stations in their market and stations' access to their existing populations of viewers*”) (emphasis added).

3. Running Longley-Rice with a higher confidence input (such as 90%) will always shrink the area (or the number of points) predicted to receive a signal of Grade B intensity from a particular transmitter. Doing so will necessarily create predictive errors because many locations that are actually served would now be classified as unserved.

4. If increasing the “confidence” input meant that Longley-Rice would have a lower rate of errors, it would always be run with the highest possible confidence input. But that is not how the “confidence” factor works.

5. There is no reason to expect that running Longley-Rice with a higher confidence input will make make Longley-Rice “more accurate” in the sense of having a higher percentage of correct predictions. Rather, increasing the confidence input has the effect of

**increasing** one type of errors and decreasing another type of errors. Shrinking predicted coverage areas by increasing the confidence input from 50% to 90% will have the following effects:

- increasing *underprediction* errors
- reducing *overprediction* errors

6. This is necessarily the case, because increasing the confidence factor results in reclassifying some “served” locations as “unserved,” while not making any reclassifications in the other direction. In effect, moving to a confidence input higher than 50% is simply a backdoor way of increasing the dBu levels that the Commission has defined as “Grade B.”

7. If one wanted to have higher confidence of avoiding underprediction, one would adjust the Longley-Rice program in the opposite direction, to expand the predicted coverage areas. Doing so would reduce underprediction errors, at the expense of increasing overprediction errors. The 50% confidence setting relied on by the FCC in OET Bulletin No. 69 represents a balance between avoiding overprediction and avoiding underprediction, without tilting in either direction.

8. The Satellite Home Viewer Act places the burden of proof on the satellite carriers to show that each household does not receive a signal of Grade B intensity. Even if the carriers could meet their burden of proof with a predictive model -- which they cannot -- a

“confidence” factor higher than 50% would be irrelevant in civil litigation, because it would not address whether it is “more likely than not” that a particular household is served.

9. The SBCA's engineering experts, Hatfield & Dawson, state in their "Reply" Engineering Statement (at 8-9) that “[w]ithin TIREM the percent confidence is set at 50%, indicating that median situations are always predicted--the user has no control over this statistical variable." The fact that the propagation model endorsed by the SBCA will not even permit the confidence factor to be altered from 50% is further proof that a 50% confidence factor in Longley-Rice is the only appropriate level for this input.

11. As the following chart prepared by Decisionmark (a computer mapping firm) shows, a shift from 50/50/50 inputs to 50/50/90 inputs would have a very large effect on the predicted coverage areas of many stations. For example, PrimeTime 24 would be allowed (in the first instance) to sign up more than 30% of the “served” local audiences for the CBS station in Alpena, Michigan (WBKB) for delivery of “60 Minutes” and NFL Football from distant cities, even though the Commission only a few months ago concluded that the same viewers are served by WBKB. Similarly, PrimeTime 24 and other satellite companies would be able (in the first instance) to move in on 42% of the viewers that the Commission's standard Longley-Rice model treats as served by WLOS, the ABC affiliate in Greenville-Spartanburg, South Carolina. Many other stations, including (by way of illustration) all of those on the enclosed chart, would face similarly large losses of local viewers from use of a 90% confidence test.

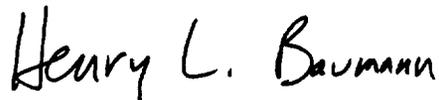
## IMPACT OF USING 90% CONFIDENCE FACTOR

		<u>LR 50/50/50 Grade B</u>	<u>LR 50/50/90 Grade B</u>	<u>Difference</u>	<u>Percent Loss</u>
<u>KAAL - ABC - Austin MN</u>	1997 Pop	698,435	457,618	240,817	34.5%
<u>KGAN - CBS - Cedar Rapids IA</u>	1997 Pop	1,012,907	748,905	264,002	26.1%
<u>KHQA - CBS - Hannibal MO</u>	1997 Pop	386,991	267,503	119,487	30.9%
<u>KTVO - ABC - Ottumwa IO</u>	1997 Pop	490,857	311,886	178,971	36.5%
<u>KXJB - CBS - Fargo ND</u>	1997 Pop	498,554	382,498	116,055	23.3%
<u>WBKB - CBS - Alpena MI</u>	1997 Pop	131,902	92,052	39,850	30.2%
<u>WCAX - CBS - Burlington VT</u>	1997 Pop	811,874	638,976	172,899	21.3%
<u>WCSH - NBC - Portland ME</u>	1997 Pop	1,688,683	1,130,616	558,066	33.0%
<u>WLOS - ABC - Greenville SC</u>	1997 Pop	4,074,195	2,364,540	1,709,655	42.0%
<u>WSAZ - NBC - Charleston WV</u>	1997 Pop	1,284,792	1,020,012	264,780	20.6%

SOURCE: Decisionmark Corporation

12. If deliberately skewed 50/50/90 maps were used in the PrimeTime 24 litigation, stations would be forced to use the "loser pays" testing provisions of the Final Judgment and Permanent Injunction in that case to regain viewers who were erroneously classified as unserved. Stations would be well aware that the predictive maps understate their actual propagation, and would use the testing mechanism to win back customers whose actual signal intensity was underpredicted by the biased predictive model. The net result will be more customers upset at having an illegal service turned on and then turned off -- an unfortunate situation that the Commission should seek to prevent, not to foster.

Respectfully submitted,



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