

by radio signals over land. The water formula does not factor in rolling terrain, presumes a quieter noise environment, and also takes into account the different characteristics of water-borne cellular receivers, which are typically mast-mounted and therefore able to receive a signal at a greater distance from the transmitter. Thus, the water formula assumes that the typical Gulf subscriber operating on a boat or drilling platform will have a receive unit with a mast-mounted antenna at a height of approximately 30 feet.

6. Indeed, using 28 dB μ V/m as the basis for defining reliable service over water was originally proposed by PetroCom itself, which contended that it more accurately approximated actual coverage in the Gulf. PetroCom previously argued that 28 dB μ V/m more accurately predicted reliable service in the Gulf due to the stronger propagation characteristics of over-water transmissions. In support of this argument, PetroCom submitted actual received power measurements from Gulf facilities to what it characterized as a typical mobile unit for a Gulf subscriber. The Commission concluded that PetroCom's technical exhibit provided a convincing demonstration of the service range of typical cellular facilities found in the Gulf, and therefore established the formula based on the data submitted by PetroCom.

7. The Commission also rejects PetroCom's argument that a single formula will "equalize" the signal strengths of land-based and Gulf carriers at the shoreline. If the Commission was to apply the land-based formula to establish the SABs of both land-based and Gulf carriers, as PetroCom proposes, the actual signal strength of the Gulf carrier's signal at the shoreline would very likely be higher than 32 dB μ V/m. Because the land formula assumes rolling terrain that is not encountered over water, it will tend to underestimate the actual strength of a signal transmitted over water at the SAB radial distance. Thus, while the land formula will indicate that the Gulf carrier's SAB does not encroach on land, the Gulf carrier's actual 32 dB μ V/m contour is likely to extend inland. Accordingly, use of the land formula over water could result in the Gulf carrier having an actual signal strength at the boundary that is greater than that of the adjacent land carrier, thereby leading to potential capture of the land carrier's customers. Alternatively, if the Commission were to apply the water formula to both land-based and Gulf carriers, the result would likely be dead spots and undesired carrier capture along the

coastline. The water formula does not take into account variations in terrain that are present in over-land transmissions; accordingly, although use of the formula may make it appear that the land carrier has an adequate signal at the shoreline, in fact the signal may well be substantially weaker. In contrast, the Gulf carrier would be operating at a signal strength sufficient to provide reliable service. The use of the water formula by all parties would therefore likely lead to capture of land traffic by the Gulf carrier because of the stronger Gulf signal.

8. PetroCom argues that using different formulas for land-based and Gulf carriers gives a signal strength advantage to land carriers and thereby will cause subscriber capture problems for Gulf carriers. The Commission agrees that the two-formula approach will not prevent subscriber capture in all situations, and that capture of Gulf traffic by land carriers may occur on occasion. The Commission has always acknowledged that these formulas are theoretical models that approximate but do not precisely predict the extent of actual coverage provided by carriers beyond their respective sides of the coastline. However, in situations where the majority of the signal path is over a single medium—land or water—the two-formula approach provides the most reasonable estimate of a given station's service area. The Commission concludes that the PetroCom's proposal does not provide a better solution to subscriber capture than the two-formula approach, and that it is more likely to exacerbate capture problems in comparison to the two-formula approach.

9. PetroCom further argues that the two-formula approach does not preserve the status quo, but actually gives land-based carriers a bargaining advantage in negotiating agreements with Gulf carriers. However, because the *Gulf Report and Order* prohibits land carriers from extending their SAB contours anywhere into the Western Gulf, a land carrier seeking to place a site close to the boundary has no choice but to negotiate with the applicable Gulf carrier, regardless of whether the Gulf carrier has a facility in the area.

10. PetroCom also notes that it has negotiated agreements with land-based carriers in which both parties agreed to use of the land formula. This is not an argument for adopting the land formula as an across-the-board rule. The Commission found that land and Gulf carriers had been using the existing formulas and had been successful in reaching negotiated agreements under the existing framework. The

Commission consequently found that changing the SAB definitions could lead to one side or the other unilaterally increasing their transmitter power under the revised definitions, which could upset existing agreements and create new conflicts. Parties remain free to negotiate alternative arrangements. PetroCom's current extension and co-location agreements with land carriers (where PetroCom has filed applications showing a 32 dB μ V/m contour) were the end result of negotiations, rather than the starting points.

11. PetroCom further argues that in *Petroleum Communications, Inc. v. FCC*, 22 F.3d 1164 (DC Cir. 1994) (*PetroCom*), the DC Circuit Court vacated the water formula, and reinstated the original cellular rule that defined reliable service, which was based on a 39 dB μ V/m contour. Accordingly, PetroCom argues, it is entitled under the "status quo" to a signal strength of 39 dB μ V/m at the coastline, a significantly stronger signal than either 28 or 32 dB μ V/m. The Commission disagrees with PetroCom's characterization of the effect of the remand on this issue. The issue that the Gulf carriers raised and which the DC Circuit Court remanded was whether the Gulf carriers should be limited to areas of actual service in light of their dependence on itinerant offshore platforms as sites for their transmitters. The Court held that the Commission had not addressed why it was treating land and Gulf carriers in the same manner (*i.e.*, limiting both land and Gulf carriers to areas of actual service) even though the Gulf carriers are dependent on oil and gas rigs as transmitter sites.

12. Accordingly, the Court remanded "this issue to the Commission with instructions to vacate § 22.903(a) [now § 22.911(a)] insofar as it applies to [Gulf of Mexico Service Area (GMSA)] licensees pending reconsideration." Pending resolution of the remand, the Commission adopted a note to paragraph (a) of the rule, in which it identified the status quo: "[U]ntil further notice, the authorized CGSAs of the cellular systems licensed to serve the GMSA are those which were authorized prior to January 11, 1993." The Commission believed then, and continues to believe now that the Court's intent was to direct the Commission to vacate only that portion of former § 22.903(a) that limited Gulf licensees' CGSAs to their existing areas of actual service—the only issue as to which the Court was remanding—and not to compel the Commission to also vacate the formula it had adopted for determining reliable service in the Gulf, as to which no objection had been made