# *Letter from the Editor: SA Discontinued*

*Alfred Leick, Editor-in-Chief*

The utility and wisdom of Selective Availability (SA) has been discussed among GPS experts since its inception. Briefly, the intentional degradation of the GPS signals by systems operators became known as selective availability. The degradation was implemented through manipulation of the broadcast ephemeris data and dithering of the satellite clock. President Clinton's recent decision has put an end to SA, finally. Because this action is so important the following excerpts from the May 1 press release, the White House Office of the Press Secretary, are given.

*Today, I am pleased to announce that the United States will stop the intentional degradation of the Global Positioning System (GPS) signals available to the public beginning at midnight tonight. We call this degradation feature Selective Availability (SA). This will mean that civilian users of GPS will be able to pinpoint locations up to ten times more accurately than they do now. GPS is a dual-use, satellite-based system that provides accurate location and timing data to users worldwide. . . .*

*. . . My March 1996 Presidential Decision Directive included in the goals for GPS to: "encourage acceptance and integration of GPS into peaceful civil, commercial and scientific applications worldwide; and to encourage private sector investment in and use of U.S. GPS technologies and services." To meet these goals, I committed the U.S. to discontinuing the use of SA by 2006 with an annual assessment of its continued use beginning this year.*

*. . . The decision to discontinue SA is the latest measure in an ongoing effort to make GPS more responsive to civil and commercial users worldwide. Last year, Vice President Gore announced our plans to modernize GPS by adding two new civilian signals to enhance the civil and commercial service. This initiative is on-track and the budget further advances modernization by incorporating some of the new features on up to 18 additional satellites that are already awaiting launch or are in production. We will continue to provide all of these capabilities to worldwide users free of charge. . . .*

*. . . My decision to discontinue SA was based upon a recommendation by the Secretary of Defense in coordination with the Departments of State, Transportation, Commerce, the Director of Central Intelligence, and other Executive Branch Departments and Agencies. They realized that worldwide transportation safety, scientific, and commercial interests could best be served by discontinuation of SA. Along with our commitment to enhance GPS for peaceful applications, my administration is committed to preserving fully the military utility of GPS. The decision to discontinue SA is coupled with our continuing efforts to upgrade the military utility of our systems that use GPS, and is supported by threat assessments which conclude that setting SA to zero at this time would have minimal impact on national security. Additionally, we have demonstrated the capability to selectively deny GPS signals on a regional basis when our national security is threatened. This regional approach to denying navigation services is consistent with the 1996 plan to discontinue the degradation of civil and commercial GPS service globally through the SA technique.*

All techniques for positioning with GPS will improve in the absence of SA. For example, the temporal variations of the differential correction should become a lot smoother, the production of the precise ephemeris that also contains the satellite clock corrections should become easier and thus help boosting the use of Precise Point Positioning (PPP) with single receivers. Civilian users will now be able to achieve about 20 m position accuracy in real-time using the broadcast ephemeris. The discontinuation of SA will certainly spawn a new phase in the refinement of GPS positioning techniques.

We are delighted that the measure was implemented.

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