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Citation: 3 Bernard D. Reams Jr. & William H. Manz Federal Law A Legislative History of the Telecommunications of 1996 Pub. L. No. 104-104 110 Stat. 56 1996 the Communications Decency Act S13309 1997

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making threats we cannot afford to carry out.

The effects of China's move to a free market economy can already be felt in Chinese social life. Shanghai television, for example, has had programs that include a show similar to America's "All in the Family," which ran for 180 episodes, with the Chinese version of Archie Bunker, a stodgy Communist Party official, something I never thought I would see.

Also, there is a "60 Minutes" type Shanghai program that exposes Government institutions to questioning—unique in the context of China's long and complicated history.

I believe we will witness even greater changes in the next decade, which can bring China even closer to the West.

China's legal system and concept of individual rights is still primitive by western standards. I believe that the most consequential influence on the human rights situation in China will be the evolution of an independent judiciary and the development of a new set of civil and criminal laws.

Today in China, judges are not independent, either from individual or party persuasion, and there is no real criminal statute on the books to make it a crime to interfere with a judge. So this needs change.

China has asked for help in the evolution of its legal system. The development of due process of law, which in this country guarantees that no one can be picked up by the Government in the middle of the night and simply disappear, is something that is going to make a huge difference in China, and a new civil and criminal code could go a long way toward meaningful human rights advances.

While I was in China, the China daily front page carried articles saying that China welcomed help in evolving a new system of civil and criminal codes. This could go much further in securing major human rights advances, constitutionally and legally, than any rhetoric in this country.

Those in the West who care should utilize this opportunity in a sensitive way to bring many of the virtues of a western legal system to Chinese attention. I believe it is the most significant thing we can do long term.

There are those in this country, I believe, who are unconsciously pushing Sino-American relations into an adversarial position, reminiscent of the days of the Soviet Union. The world was, in a sense, much simpler then: Two major conflicting powers, with smaller nations lining up in each camp. This was good for weapons sales, it repressed many smaller national and ethnic rivalries which are now emerging in the form of civil wars, and it provided a clear role for China as a major geopolitical buffer.

Those days, however, are gone. China has emerged from these changes as a booming economy with the highest rate of economic growth in the world, gradually reducing centralized control of its economy and opening its doors to western entrepreneurship and thought.

All one has to do is contrast Russia today and China to see how centralized control in China has been gradually reduced, keeping stability, opening up entrepreneurship, creating an economic democracy and doing it in a much more successful way. So I believe that how America develops its relationship with China is critical for world peace and stability.

Ever since President Nixon traveled to China in 1972, the United States has maintained a one-China policy. It has been the foundation of Sino-American relations. That policy essentially says that there is only one China and Taiwan is part of China, and it recognizes the People's Republic of China as the sole legal Government of China.

This policy was stated in the 1972 Shanghai communique, the 1979 joint communique on the establishment of diplomatic relations, and the 1982 United States-China joint communique. The one-China policy was and is essential to United States-China relations. It remains essential today.

If China has any doubts about our commitment to this policy, our ability to conduct normal relations with China will be severely curtailed. For China, the question of Taiwan is an issue of sovereignty, and we must understand it as such.

Taiwan has developed well, even within these constraints and, in fact, Taiwan interests have the largest dollar amount of investment on mainland China. Communication has been established and a special across-the-straits initiative has been developed under the leadership of another friend and former Shanghai mayor, Wang DaoHan and Tang Shu Bei, former consul general in San Francisco.

The one-China policy has been beneficial for all three parties: China and the United States have been able to pursue a normal diplomatic relationship, while Taiwan has become economically strong and prosperous. Meanwhile, Taiwan and China have both encouraged the development of extensive economic and cultural ties across the Taiwan Straits.

There are many issues still to resolve with China, as we develop our relationship in the post-cold-war era. Consistent and open dialog is key.

President Jiang told me of an old Chinese proverb: When water flows, there will be a channel.

I truly believe that President Clinton now has the unique opportunity to craft a new course which can result in a stable and secure Asia, free of nuclear proliferation, a serious commitment to arms control, and one that sees China takes its rightful place as a leading nation at the world table.

I thank the Chair. I yield the floor.

Mr. PRESSLER addressed the Chair.

The PRESIDING OFFICER (Mr. SANTORUM). The Senator from South Dakota.

FCC/SPECTRUM/PUBLIC BROADCASTING REFORM

Mr. PRESSLER. Mr. President, as my colleagues know, as chairman of the Committee on Commerce, Science, and Transportation, I have made telecommunications policy reform my top priority for the 104th Congress. I am quite proud of the swift progress made to date, including the sweeping Senate passage of S. 652, the Telecommunications Communications Competition and Deregulation Act of 1995.

As I indicated before we left for the August recess, as significant and necessary as S. 652 is for our country's economic and social well-being in the 21st century, it is only one item in my overall plan for telecommunications policy reform.

Today, I would like to take a few minutes to briefly discuss two additional areas of telecommunications reform I intend to pursue through the remainder of the 104th Congress: Spectrum reform and public broadcasting reform.

Regarding spectrum policy reform, there was a recent essay by William Safire in the New York Times entitled "The Greatest Auction Ever. Get Top Dollar for the Spectrum."

Mr. President, I ask unanimous consent that William Safire's article be printed in the RECORD.

There being no objection, the article was ordered to be printed in the RECORD, as follows:

[From the New York Times Mar. 16, 1995]

THE GREATEST AUCTION EVER

(By William Safire)

WASHINGTON.—They all laughed at the economist Milton Friedman when he suggested a generation ago that the Federal Government auction off broadcast licenses, instead of giving them away to political favorites.

The last laugh is his; last week, in the greatest auction in history, bidders for wireless places on a tiny fragment of the broadband spectrum committed nearly $8 billion to the U.S. Treasury.

And that's only the beginning of the taxpayer's bonanza in the sale of our valuable thin air.

Remember all the talk, eight years go, of high-definition television, the Japanese invention that was supposed to force us all to replace our 200 million TV sets? U.S. manufacturers, with antitrusters' blessing, formed a "Grand Alliance" to match the Japanese advance.

Along came an unexpected scientific breakthrough. We leapfrogged the analog (feh!) competition into the brave new digital world. This not only produces a knock-your-socks-off picture but expands each TV channel into five or six wireless channels for video, audio, computer data transmission, telephones and every form of communication short of mental telepathy.

Broadcasters smacked their lips at the bonanza. "Advanced television is not just about pretty pictures anymore," F.C.C. chairman Reed Hundt told Edmund Andrews of The Times, one of the few reporters on top of this story. "It's about the digitization of television and a huge range of new services."

It's as if one old oil well gave birth to six new gushers. Broadcasting lobbyists have descended on Congress and the F.C.C. to insure "flexibility"—that is, to exploit exclusively

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all the new technology, and to charge viewers for the "ancillary and supplementary" services.

Even if accompanied by payment of rent to the Government, the exclusive arrangement sought by broadcasters would be an outrageous taxpayer ripoff.

What is the digitized, divisible channel worth? Senate Commerce Committee Chairman Larry Pressler gave a hint in an op-ed piece last week, suggesting that noncommercial licensees had a huge hidden asset: "Public broadcasting stations could rent, sell or make use of the additional channels for other telecommunications and information services."

Based only on current uses, which are primitive, the market value of the VHF, UHF, cellular, broadband and narrowband spectrum ranges around $120 billion.

But in the near future, your television set will combine with your computers and telephone and fax machine into a single unit you can hang on the wall or fold up in your pocket. That's soon—possibly in the next Presidential term.

I've seen not-for-attribution estimates that the market value of the digitized spectrum in that onrushing era will be—hold your breath—a half-trillion dollars, give or take a hundred billion.

Before rushing into any giveaway, or any long-term exclusive rent-away, we need extended, wide-open, thoroughly debated hearings to make certain of three outcomes:

First, *we want a guarantee of spectrum competition.* The criterion to determine competition must be scrupulously economic, not jiggered by the Government to introduce sexual or racial or ethnic or ideological favoritism. An appeals court yesterday stayed the F.C.C. from holding auctions that favored minority fronts.

Next, *we want a holdback of certain rights.* For example, we can solve the campaign finance dilemma justlikethat by putting a right-of-way in the deed setting aside air time, online time and direct E-mail advertising for candidates, which could be used or traded or sold by them in election campaigns.

Finally, *we want top dollar for our public property.* That means a series of Friedman-style auctions. After the purchases, sophisticated risk-takers and their banking backers can enhance the value of their property at no cost to the taxpayer and with great benefit to the consumer.

Where should the spectrum-sale money go? Toward reduction of the crushing national debt. By recognizing our hidden asset of the spectrum, Americans can ride the wave of the future.

Mr. PRESSLER. Mr. President, a major priority for the 104th Congress involves giving American private enterprise a fuller and fairer chance. Right now, we just have too many rules and too many of them just do not make any sense. Remember, bad rules are not just expensive and foolish, they represent far more than a dead-weight loss for the economy; they are obstacles to progress.

One of the challenges we face today concerns channels that have been earmarked for advanced television. Not only has the FCC set aside a significant number of channels for the broadcast television industry, it has also placed severe restrictions on additional uses of those channels.

Mr. President, technologically speaking, these channels could be used to provide extensive new and competitive offerings, in addition to more TV. Due to advances in digital technology, they could be used for new mobile radio services, for wireless loops that could make the local telephone business more competitive, and for many other services as well.

Legally speaking, however, these channels currently are dedicated to one specific use: High-definition television, or HDTV. In effect, the Washington bureaucracy has defined and limited the future. The bureaucrats, not consumers of the marketplace, have decided what new technology will be offered, where it will be offered and how it will be offered. It is time to revisit these regulatory decisions. If broadcasting is the best and highest use of those channels, let the marketplace make that decision. Once the best use for these channels is determined, how should the licenses be allocated? Again, let the market decide. Consumer choice and preference will quickly choose who best deserves the licenses associated with the new channels.

I thus intend to work toward several changes in the FCC's advanced television broadcasting plan. All of these changes are geared toward unleashing creative powers, not smothering them with FCC rules. Therefore, our committee is considering allowing everyone—broadcasters including—to bid for the right to develop these channels. That bidding process can be carried out through spectrum auctions. At the same time, however, we want to guarantee the winning bidders have sufficient commercial and operational flexibility. In other words, they must be given the discretion to make what they think is the best use of those channels to meet consumer demand and increase consumer choice.

I will chair a Senate Commerce Committee hearing concerning this very topic tomorrow. Earlier this year several newspaper articles, including an excellent piece by William Safire, which I ask to be included in the RECORD following my remarks, characterized the FCC's HDTV plan as "a billion dollar giveaway."

At a July 27th Commerce Committee hearing, Henry Geller, former FCC General Counsel and NTIA Administrator, testified that giving broadcasters an additional six megahertz would be a "national scandal." A number of organizations across political lines recently have come out against giving free spectrum to the broadcast industry and support auctioning the advanced television spectrum. Not surprisingly, the television broadcast industry strongly opposes auctioning spectrum which the FCC proposes to give away to them for free.

But beyond the special interest arguments, let me tell you, Mr. President, why this proposal is especially important. It is important because it plays right into another major priority for the 104th Congress—stimulating economic growth.

The great thing about communications technology is that it is such a powerful catalyst for growth. Engineers and economists talk about communications as a leverage technology. Experts point out it is both demand-inducing and cost-reducing at the same time. That is, at the same time advances in communications technology make it possible to encourage consumption and investment, they also make it possible for businesses to keep costs in line. This keeps America competitive.

Mr. President, some of the best economists in the world work for the Japanese Government. They have actually quantified how communications fosters economic growth. Their calculations show that for every dollar we invest in communications, we get almost 3 dollars of growth. That is why telecommunications industries are so important.

You cannot improve and expand communications services, however, if the basic building blocks—like the radio spectrum—are locked up in some regulatory backwater. You cannot improve and expand communications services, if the people who develop innovative ideas are artificially denied the ability to move their product to market.

Getting more spectrum into the hands of more people with more and better ideas on how to use it is a critical objective. Beyond bringing new and exciting technologies to the consumer, it also is an excellent way in which to contribute toward the new jobs, new services, and new investment opportunities this country needs.

This leads to public broadcasting policy reform regarding spectrum.

Such a bold, forward looking approach on spectrum policy reform also creates an opportunity to reinvent and privatize public broadcasting. To borrow a phrase from my good friend, Vice President AL GORE, we need to reinvent the way we finance public broadcasting in this country.

Ever since President Johnson's administration and the heyday of the Great Society, we have relied on taxpayer funds, channeled through the Washington-based bureaucracy at the Corporation for Public Broadcasting. Over the past few decades, literally billions of dollars in appropriations have flowed through Washington back to the public broadcasting stations.

Federal funds successfully have built a nationwide public broadcasting system that enjoys wide support. Viewers such as myself help stations with annual membership dues and other contributions. Corporate underwriting contributes significant programming support. At the same time, Federal financing funneled through a Washington bureaucracy has created a public broadcasting system not necessarily in touch with most Americans. Today the public broadcasting system is mature. It now must be allowed to evolve.

Why? One very good reason is that with today's crushing national debt, all

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Federal spending must come under careful scrutiny. Unfortunately, when I first raised the issue of privatizing public broadcasting, no one in the public broadcasting establishment seemed to hear what I was saying. I was accused of trying to kill Big Bird and Barney.

Fortunately, public broadcasting is beginning to look at realistic options for survival in a budget deficit conscious world. I am encouraged by these efforts and look forward to working with my colleagues to ensure public broadcasting continues to serve public needs.

Should we reexamine the charter CPB was given in 1967? I think we should. As I mentioned earlier, today public broadcasting is a mature system. There are still some regions which are not served, but the vast majority of Americans receive one—if not several—public radio and television stations. Efforts to consolidate and increase efficiencies should be encouraged. At the same time, reaching under-served areas of our Nation must remain a primary objective of any reinvented public broadcasting system.

What about programming? Today's competitive marketplace has made the market failure rationale for public funding obsolete in some respects. Cable television network services including the Discovery Channel, the History Channel, Arts & Entertainment, the Disney Channel, Nickelodeon, and others provide quality, educational and artistic programming once thought only available on public television. At the same time, I believe most Americans want more quality children's and educational programming available over free TV. The great promise of broadcasting to educate and uplift our children and our citizens has not been realized. Too much violence and tawdry programming dominates the public's airwaves.

Children's and educational programming should be the primary, if not sole, focus of taxpayer support for public television programming. Public radio also should be helped to flourish.

At the same time, American taxpayers cannot afford to continue the inefficiencies in the current system. Because of historical accident, PBS and National Public Radio, for example, have separate distribution networks. I understand PBS actually has more audio capacity on its system than NPR. However, CPB has no power to make PBS and NPR consolidate and realize these efficiencies. Congress does. We should accept that responsibility and reinvent public broadcasting to provide a meaningful and quality legacy for our children.

We also need to provide public broadcasting with a baseline of support. An excellent model already exists for how a baseline of support can be continued in an industry while providing the flexibility necessary to allow the industry to evolve, improve its product, and expand its services. We have accomplished the kind of privatization of Federal functions I am talking about in other areas—with, for instance, the Federal Home Loan Mortgage Association, the Student Loan Marketing Association—Fannie Mae and Sallie Mae. We can and should do the same for public broadcasting.

We can accomplish the goals I have laid out by establishing a new privatized entity to provide public broadcasting baseline support. We can get the seed money necessary to carry out this initiative through the spectrum auction process. The fundamental goal should be to privatize the financing process and to empower broadcasters and public broadcasting organizations besides just those that exist in Washington—inside the Beltway.

This approach would pay a number of public policy dividends. It would provide public broadcasting with a financial baseline of support. That is, this year's, or next year's, financing would not be subject to the vagaries of the Washington appropriations process. That, in turn, would help stations plan. Among other things, public broadcasters would not have to continuously lobby Washington to get the support they need. They could bank on continued support. Not all the money for the initial capitalization, moreover, would have to come from Washington. The business community, foundations, and others would be encouraged to participate.

Financial experts currently are working out how much seed capital would be required. Indeed, I will chair a second Commerce Committee hearing this week in which we will take testimony from an investment banker at First Boston on how to move forward with this capitalization idea.

At the same time, and as a way of ensuring the continued success of public broadcasting, we need to change some of the restrictions on public broadcast stations. This can be controversial. Nobody wants to sanction unfair competition between tax-exempt public broadcasters and the private sector's commercial broadcasters. But there are safeguards that can be established.

One of the concepts that has been around for years is that of limited advertising. Numerous public broadcasting organizations in Europe already have commercials, clustered at natural program breaks. Limited advertising represents a significant source of revenue for public broadcast stations. It also represents a source of funds that may be preferable to the current situation in which companies basically produce and underwrite the programs run on public broadcasting. Advertising revenue tends to come without the content strings that program underwriting inevitably entails.

Privatization means relying more on private, individual effort, less on a Washington handout. It also ensures decisionmaking can take place at a level much closer to the particular consumer in the particular market. In any country as big and diverse as the United States, that is especially important. A one-size-fits-all approach virtually never works well in our society.

My thinking regarding public broadcasting is consistent with the approach this new Congress has taken in other areas. One of the cornerstones of most of the sound welfare reform proposals, for instance, is the concept of block grants and State and local decisionmaking. The thinking there is that local authorities are in the best position to manage these issues wisely, and Washington can assist them in addressing their State and local needs.

Privatizing public broadcast financing would accomplish much the same objective. It would cut the Washington umbilical cord—or should I say straitjacket—and vest decisionmaking—plus the money and resources needed—with the stations and people at the local level. It is they, after all, who provide the service to the American public.

Mr. President, the simple theme running through each of the reform ideas I have spoken of today is the fundamental principle that we do not want the Washington bureaucracy determining what is possible and what is going to be allowed.

Let me conclude with an excellent example of what telecommunications policy reform means at a practical level for my home State of South Dakota and other areas of the often forgotten West. I am referring to an article in Investor's Business Daily last August 31st. That is the new Wall Street Journal competitor, incidentally, which makes an effort to provide news, especially financial news, that is important to people out West.

The newspaper reported on a new communications technique that could revolutionize farming—a vitally important part of South Dakota's economy. It is called "site-specific" or "precision" farming.

Having grown up on a family farm, I find the technology fascinating. First, soil moisture and crop yield sensors are spotted in fields. These sensors can narrow acres and acres of land down to as little as 20 foot squares. These censors then interact with the new Global Positioning Satellite network. The system feeds information back to computers on the farm. This information give farmers the kind of precise information they need to target fertilizer, irrigation, and other services.

The approach radically reduces operating costs. It helps the environment by reducing leaching and stream runoff. It is the kind of smart farming we need in this country to maintain our global competitiveness. Mr. President, it is possible only because of the marriage of computers and communications.

Now, Mr. President, do you honestly believe the inside-the-Beltway crowd would ever have thought of this? I doubt it. It took innovative entrepreneurs to identify and fill a market need. What if the Washington bureaucracy had set up a system of rules that

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kept communications channels from being used for "site-specific" farming? Its promise and all that means to the farming sector and the American economy as a whole would never have been realized. I ask consent the "Investor's Business Daily" article be printed in the RECORD immediately following my remarks.

The PRESIDING OFFICER. Without objection, it is so ordered. (See exhibit No. 1.)

Mr. PRESSLER. Americans are great and diverse thinkers. Unfortunately, not enough of that original thought and invention takes place in the big gray stone government buildings that sit around Washington. What we need to do is to try to unleash American ingenuity. At a minimum, we need to make sure we do not block it. I will continue to fight to make sure we do not—whether it is thought the comprehensive telecommunications reform bill, spectrum policy reform or public broadcasting reform.

In conclusion, Mr. President, let me say I think it is time that we fundamentally think about spectrum policy reform in this country. I think we must think about the taxpayers.

The Commerce Committee has been charged to raise $17 billion, give or take a few half billion. Indeed, we are told that we are supposed to round everything off to a half-billion dollars. So, having grown up on a farm in South Dakota and being told to round things off, in my response to a half-billion dollars, that is quite a change from the kind of money that I usually think about in my life.

In any event, the new potential uses of the spectrum of the property of the American people—as William Safire says, they should be auctioned off. How else will we do it? The auction system has been used successfully for some of the earlier spectrum that we have auctioned off.

We now have this complicated matter where the broadcasters propose to migrate from the spectrum they are on, the analog, to the UHF and digital, and they say that at some point they will give back the original spectrum, although some say that when the time comes that will not happen.

What we are proposing here is not to take anything away from them, not to take anything that they feel they may have paid for in terms of licenses to stations. What we are proposing is merely to auction the new uses of the spectrum, and the American taxpayers have a great interest in this. It is billions of dollars.

I propose that we use a small portion of that to capitalize public broadcasting and to set up a privatized base, and they would then be cut free from annual appropriations. We could eliminate the headquarters, the Corporation for Public Broadcasting, and many of the stations will testify this week that they would like that approach. We could do that without spending any appropriated taxpayers' money.

So we need to have some innovative thinking. We also need to think about reinventing many areas. As Mr. Safire quotes in his article, he quotes me as saying in the public broadcast area there is much spectrum and many overlapping jurisdictions where the taxpayers could be saved a great deal of money.

I know that anyone who makes proposals along these lines will be criticized by both the broadcasters and some in the public broadcasting area. In fact, I am sure the broadcasters will strongly oppose—I know they are strongly opposed to what I am trying to do.

The people inside the beltway here in public broadcasting are strongly opposed. They are strongly opposed to changing anything.

The stations have formed a coalition, that they want to change, and they would like to see this. The people out in the country in public broadcasting would like to see the change.

So, Mr. President, we stand at a crossroads with this spectrum reform. It is something that sounds like Greek to the average citizen, but the average taxpayer has a great interest in it. We have a responsibility to stand up to special interests and to auction off those portions of the spectrum that will provide new uses and will provide billions of dollars for the taxpayers of this country.

It will provide the basis for the Commerce Committee's reconciliation responsibilities, and it will provide our country with a more innovative and a better future. I yield the floor.

EXHIBIT 1

PLOWS, PC'S, SATELLITE DISHES

(By Ira Breskin)

As computer power drops in price, a new way to farm called site-specific or precision farming is taking off.

Precision farming lets growers take into account the unique features of each field, without boosting cost much. Paycheck usually takes about a year.

"Farmers used to farm fields," said David Pranzen, a soil expert at North Dakota State University in Fargo. "Now they farm locations in fields."

Within five years, about half the 150,000 major grain farmers in the Midwest will use the approach, says Harold Reetz, Midwest director of the Potash and Phosphate Institute.

About 10% to 15% do now, he says. Most started this year or last. Sugar beet growers also are strong proponents.

"Interest among farmers is stronger than we anticipated," Reetz said. "It helps us deal with the variability that is out there." Among these are big differences in soil found across a large farm.

The goal is to make the land more productive by using just the right amount of costly fertilizer and pesticide for each field or even part of a field down to a 20-foot section. These inputs now are blended to meet average regional conditions.

Fully outfitted farmers need high-tech yield monitors, crop moisture sensors and a satellite receiver, all mounted on a tractor. Personal computers and special analytical software usually is bought separately or provided by a consultant. Farmers also can buy special gear for applying field nutrients.

"The one thing that makes site-specific farming work is the computer processing power that is available today," said Steve Koep, marketing manager at privately held Ag Chem Equipment Co. in Minnesota, Minn. The company makes a 20-ton-capacity precision fertilizer applicator that costs about $250,000.

Site-specific farming "minimizes cost and maximizes production," said Ron Phillips, a spokesman for the Fertilizer Institute in Washington.

The environment also gains. By making better use of nutrients, farmers reduce leaching, runoff into streams and soil erosion. Pesticide use often is cut.

Most farm chemical suppliers back site-specific farming because it helps them provide value-added service, says Jim Egenreider, regulatory affairs director at the Agricultural Retailers Association in Washington.

"For (farm) cooperatives, it's a wash," said Cheryl Kohls, an agronomy equipment specialist with Conex-Land O'Lakes Services, a co-op in St. Paul, Minn.

Farmers may use less fertilizer in one area but more in another. And even if co-ops do sell fewer chemicals, many also supply soil testing and other services needed for precision farming.

About half the time, farmers get exacting field maps so they can receive the most precise results. Farmers use a plow-mounted device to record signals from an orbiting satellite, part of the Global Positioning System.

New "differential correction" signals have boosted precision farming. They unscramble and orient the GPS satellite signal to a known, fixed point, ensuring accuracy.

The receiver is used to map the field on a grid. Separately, crop yield and moisture data are taken from sensors on the tractor when farmers harvest crops. The field maps and crop data later are correlated on a PC.

Demand for GPS hardware is strong, says Colin Stewart, a sales rep for Satloc Inc. of Tempe, Ariz., a major supplier. The company's backlog now is four to six weeks.

Other data also may be matched up to the maps. In Britain, for instance, farmers can quickly assess weather conditions by retrieving recent photos of cloud formations taken by a weather satellite. The British Metrological Office offers these photos for a $750-a-year license fee and $7.50 a frame. Photos are shipped to PC's via phone lines.

Even without weather photos, farmers gain. By overlaying and analyzing crop and soil data from their fields, they can pinpoint where yields are falling short.

"Yield monitoring is like a report card," said Koep. "It tells you how you did."

Farmers can buy the receiver-yield monitor and analytical software for less than $8,500. The satellite signal runs about $500 a year.

Using the data to improve yields usually means hiring an expert who relies on still more high-tech equipment to correlate data and figure out why the yields are low. The experts analyze soil samples and field features, again using the satellite to get precision positions. They then offer prescription. Topography and location of drainage systems are taken into account.

Treatments are straightforward. Farmers vary the use of additives over a large field, seeking maximum efficiency.

They may rely on precision applicators with tracking equipment. But some, armed with the new data on their fields, will fall back on institution and their old application gear when putting this information to use.

RECESS UNTIL 9 A.M. TOMORROW

The PRESIDING OFFICER. Under the previous order, the Senate stands

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