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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, D.C. 20554**

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| In the Matter of | ) | |
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| Petition of | ) | |
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| PRONET INC. | ) | |
| | ) | |
| For Amendment of the Commission's Rules to Allocate Spectrum for Permanent Provision of Electronic Tracking Services ("ETS") and to Amend the Commission's Rules to Authorize ETS Permanently Under the Business Radio Service | ) | RM- _____ |

To: The Commission

PETITION FOR RULE MAKING

PRONET INC.

ROBERT J. MILLER
GARDERE & WYNNE
1601 Elm Street
Suite 3000
Dallas, Texas 75201
(214) 999-3000

Its Attorney

July 30, 1991

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To: The Commission

## PETITION FOR RULE MAKING

Pursuant to Section 1.401 of the Commission's Rules,[1] ProNet Inc. ("ProNet"), by its attorney, hereby petitions the Commission to institute a formal rule making proceeding for the establishment of an Electronic Tracking Service ("ETS"). This proceeding would amend the Commission's Rules to allocate spectrum permanently in the 216-220 MHz band for provision of ETS on a nationwide basis. This proceeding also would amend Subpart D, Part 90, of the Commission's Rules to authorize ETS permanently under the Business Radio Service ("BRS").

[1] 47 C.F.R. Section 1.401 (1991)

## SUMMARY

ProNet Inc.'s ("ProNet") wholly-owned subsidiary, Electronic Tracking Systems, Inc. ("Tracking Systems"), operates state-of-the-art Electronic Tracking Systems ("ETS") under experimental authority in 12 metropolitan areas, including Los Angeles, San Francisco and Dallas. ETS assists local, state and federal law enforcement agencies with criminal tracking operations.

A mini "tag" transmitter is secretly attached to bundles of currency, jewelry or other valuables. When a "tagged" valuable is stolen, the transmitter is activated. Equipped with various receiving devices, law enforcement authorities are able to track the criminal.

During its 18 years of experimental operation, ProNet's ETS has been an unqualified success. Law enforcement authorities are able to apprehend perpetrators quickly and recover the stolen goods. Capture and corresponding conviction rates have increased. Incidence of robbery in markets where ETS is deployed has decreased significantly. Such reduction in crime results in a much lower risk to human safety.

For example, as recently as July 26, 1991, two men robbed $20,000.00 from a Dallas bank. Some of the stolen currency was "tagged" with an ETS transmitter. Within seven minutes after the robbery, the two perpetrators were caught. All the stolen currency was recovered. In this age of heightened worldwide concern for safety to person and property, there is an increasing need for sophisticated security technologies. Establishment of ETS as a

permanent service would contribute to satisfying this need. Making ETS a permanent service would stimulate its expansion domestically. With that opportunity to develop the ETS system and its technology assured, expansion into overseas markets would be facilitated, thereby enhancing the competitiveness of the U.S. telecommunications industry worldwide.

Continued development and expanded implementation of this clearly beneficial service nevertheless are threatened. There is no permanent spectrum allocated for ETS. Without such certainty, despite ETS' unparalleled success at decreasing and deterring crime, law enforcement authorities, financial institutions and other merchants are reluctant to invest their resources to support its availability.

ProNet's Petition for Rule Making seeks to remedy this situation. ProNet hereby proposes amendment of Part 90 of the Commission's Rules to establish ETS as a permanent service under the Business Radio Service. ProNet also proposes allocation of three (3) channels in the 216-220 MHz band for ETS. With minor exceptions, these are the only rule changes needed to establish ETS as a permanent service.

These proposed changes are a small price to pay for promoting a radio service proven to promote safety of life and property. Indeed, the Commission is mandated under the Communications Act of 1934, as amended, and is required by Congress to take action appropriate to effectuate such promotion of safety. Accordingly, the Commission must adopt the rules proposed herein.

## I. INTRODUCTION

### A. ETS is a highly specialized, state-of-the-art security tracking system

ETS is provided, under Experimental Licenses held by ProNet's wholly-owned subsidiary, Electronic Tracking Systems, Inc. ("Tracking Systems"),[2] to several local police departments, the Federal Bureau of Investigation ("FBI"), financial institutions (e.g., banks), and merchants (e.g., jewelers, retail stores). Tracking Systems' ETS assists these law enforcement agencies with criminal tracking operations in numerous metropolitan areas throughout the country.

Tracking Systems utilizes sub-miniature transmitter "tags," an area-wide monitoring ("AWM") system, and an array of direction-finding tracking receivers to provide its ETS. The sub-miniature "tag" transmitters are easily hidden in a stack of currency or on other valuable merchandise. These transmitters broadcast a silent signal when moved, alerting the local law enforcement authorities of a robbery. To detect this signal and locate stolen goods, the ETS monitoring system consists of several receivers distributed throughout the service area.

One set of receivers (i.e., "Remote Detectors") are located on tops of buildings or on other high structures. These receivers are connected by phone lines to a central dispatch computer system, which notifies the local police of criminal activity. The police

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[2] See Exhibit 1. Currently, ETS is provided by Tracking Systems in Anchorage, Austin, Dallas, Houston, Las Vegas, Los Angeles, Reno, Portland, Phoenix, Sacramento, San Francisco and Shreveport.

dispatcher tracks the movement of the stolen property on a computer map and communicates such information directly to the police patrol officers.

In addition, police patrol officers independently are capable of tracking the stolen goods. Another set of receivers are located in police cars or helicopters (i.e., "Vehicle Trackers"). Other tracking receivers (i.e., "Hand Held Trackers" and "Pocket Detectors") are capable of being hand-carried. Police officers are able to commence pursuit promptly with the aid of patrol-car dash-mounted trackers which "read" the signal of the tag attached to the stolen property. These mobile trackers display distance and direction for ground and air pursuit. Tag signals locate the perpetrators in a vehicle, on foot, or inside a building.

ETS clearly serves the public interest. In those cities where ETS has been operated under Experimental License, the results have been dramatic.[3] Crime rates have been reduced significantly. Conviction rates and the amount of stolen property recovered have increased significantly.

In San Francisco, the incidence of bank robberies was increasing at an annual rate of 65% before implementation of ETS. Since the introduction of ETS in San Francisco, bank robberies have been reduced by 80%. Similarly, in Las Vegas, the bank robbery

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[3] See Exhibit 2 for a detailed presentation of the documented impact from implementation of ETS in all the markets where it is operated pursuant to Experimental License. Certain of the testimonials included therein were filed in the proceeding to allocate the 220-222 MHz band (PR Dkt. No. 89-552).

rate was lowered by 67% in the first nine months after implementation of ETS.

In addition to the obvious benefit of locating suspects, the ETS system enables arrests to be turned into convictions. Because the ETS system allows authorities to track down suspected criminals within minutes after a crime has been committed, perpetrators are often apprehended with the stolen property, weapons, disguises, and other contraband still in hand. A conviction has resulted in 100% of the cases involving the ETS system in which a criminal was apprehended by the FBI or local law enforcement authorities. Nationwide conviction rates without the ETS system are significantly lower.[4]

The following testimonials about ETS are the best evidence that adoption of the rules proposed herein is in the public interest:[5]

> The City of Dallas Chief of Police
>
> We became involved with ETS and Electronic Tracking System in August 1987 and found it to be a valuable tool in law enforcement. Specifically, our organization has had experience with ETS in the area of financial institution robberies, where the Electronic Tracking System has resulted in the apprehension and subsequent conviction of the felony

---

[4] Apprehension and conviction rates for bank robberies with and without the ETS system highlight its remarkable success. The capture rate for bank robberies in which an ETS system is employed is 85%, resulting in a 100% conviction rate of those who are apprehended. This compares to a capture rate of only 25% and a resultant conviction rate of only 50% for bank robberies where ETS was not used. Thus, authorities using the ETS system have been able to obtain a conviction for 85% of the bank robberies in their area without the use of plea bargaining. Law enforcement officials without ETS tracking recorded convictions in only 12% of the cases.

[5] See Exhibit 2 for the full text of these testimonials.

robbery suspect, under circumstances that typically would result in the robber getting away. The Electronic Tracking System also allows the user police departments the advantage of making the arrest away from the location of the offense. This has led to increased personal safety for financial institution customers and employees, police officers, and the citizens of our community.

The City of Houston Chief of Police

ProNet Tracking Systems has proved its effectiveness several times (most recently this month). The system is clearly a sound and effective application of communications technology supporting public safety, law enforcement and private sector interests. Through this correspondence, the Houston Police Department solicits [the Commission's] favorable consideration in licensing electronic tracking systems frequencies for public safety/law enforcement applications.

City of Reno Chief of Police

The Reno Police Department entered into a contract with ProNet Tracking Systems in 1988 to provide equipment and support for a[n] electronic tracking system. Since that time, our agency has enjoyed a substantial increase in clearance rates for bank robberies, primarily based on the success of the system. We find the equipment has been reliable and of consistent use to uniformed police officers in tracking and capturing bank robbers and criminals involved in other types of robbery crimes.

Vice President and Senior Deputy Director, Bank of America

We wish to express our support of ... Tracking Systems [ETS].... Bank of America began using the [ETS] robbery deterrent devices in San Francisco in 1983, and has expanded use of the devices in Northern and Southern California communities where it has become available. We have found the [ETS] devices to be a highly effective robbery deterrent. The number of our Bank robberies and robbery losses have been significantly reduced in those areas where the [ETS] devices are in use. Use of the [ETS] devices has also resulted in an increase in the number of robbers that have been arrested and convicted, that typically would not have been apprehended. We feel the [ETS] devices are the most effective loss prevention tool currently available to safeguard the Bank's assets, customers and employees.

Director of Loss Prevention, Best Products

We became involved with ETS and the Electronic System in 1989 and have found it to be a valuable tool in critical law

> enforcement areas. Specifically, our organization has had experience with ETS in the area of armed robberies of our jewelry departments where the Electronic Tracking System has resulted in the apprehension of the suspects and the recovery of our merchandise under circumstances that typically would have resulted in the robbers getting away. Over time, we have experienced an overall decline in our robbery rate where we employ the system which has led to increased personal safety for our employees and customers.

Unfortunately, Tracking Systems is limited to providing its ETS only on an experimental basis. Currently, Tracking Systems operates this service on the 219.960 MHz band, but no spectrum has been allocated for ETS on a permanent basis. The Commission decided against any set-aside of narrowband channels for ETS as part of its 220 MHz allocation despite overwhelming support for such action by countless local police departments, the FBI, financial institutions, and merchants.[6]

Under its Experimental Licenses, Tracking Systems' ETS has a proven track record in assisting police and federal authorities in the fight against serious crime. The potential law enforcement applications of this system in a wide range of criminal operations is virtually limitless. Based upon the 18-year ETS record, it is clear that permanent spectrum for expanded use of this sophisticated tracking technology will allow crime rates to be significantly reduced while dangerous criminals are imprisoned.

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[6] See Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, 6 FCC Rcd 2356, 2360 (1991) (the "220 MHz Order").

Consequently, pursuant to Sections 151, 157 and 303(g) of the Communications Act of 1934, as amended (the "Act"),[7] and in order to ensure the continued availability and growth of this publicly beneficial crime-fighting service, herein ProNet petitions the Commission to institute a formal rule making proceeding that would:

1. Allocate three (3) channels at 218.0 MHz, 218.5 MHz and 219.0 MHz in the 216-220 MHz band for ETS; and

2. Amend Subpart D, Part 90, of the Commission's Rules to authorize ETS permanently under the BRS.[8]

B. Summary of Rule Proposals

Permanent implementation of ETS requires few rule changes. In general, ETS would be provided as part of the BRS. The BRS permits entities primarily engaged in commercial activities to operate stations for transmission necessary to such activities.[9] An entity engaged in provision of ETS would be eligible under the BRS.

ProNet proposes allocation of three (3) 8 KHz channels for permanent establishment of ETS. These three channels are: (1) 218.0 MHz for felony tracking; (2) 218.5 MHz for law enforcement undercover and training operations; and (3) 219.0 MHz for tracking of misdemeanors and other less serious crimes. Pronet selected these channels: (1) because they permit use of transmitters

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[7] 47 U.S.C. Sections 151, 157 and 303(g) (1991).

[8] See Exhibit 3 for Tracking Systems' proposed rules to accommodate ETS. See also Tracking Systems' Request for Grant of a Pioneer's Preference for its ETS, filed concurrently with this Petition.

[9] 47 C.F.R. Section 90.75(a)(1)(1990).

capable of operating in confined spaces where stolen goods often are secreted and use of receivers capable of being installed on law enforcement vehicles; (2) because of optimum propagation attributes; and (3) because of the relative lack of congestion. Those channels would operate at a low power level not to exceed 120 milliwatts.

No re-allocation of spectrum would be necessary to accommodate ETS in the BRS. Pursuant to Section 90.75(b) of the Commission's Rules, the 216-220 MHz band is allocated to the BRS under certain conditions.[10] The 216-220 MHz band is allocated for the maritime mobile service on a primary basis, and for telemetering operations in the aeronautical mobile, fixed and land mobile services on a secondary basis.[11] ProNet's proposed ETS complies with all these conditions.

A limited number of amendments to other applicable Part 90 rules would be required to establish ETS. Provision of ETS could

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[10] 47 C.F.R. Sections 90.75(b) and 90.75(c)(21) (1991).

[11] 47 C.F.R. Sections 90.75(c) (1991) and 90.259 (1983). As discussed infra in Section IV, there are two pending proceedings which could affect availability of these channels in the 216-220 MHz band. First, the Commission issued a Notice of Proposed Rule Making to establish an Interactive Video Data Service ("IVDS") and to allocate the 218-219 MHz band to IVDS on a primary basis. Amendment of Parts 0, 1, 2 and 95 of the Commission's Rules to Provide for Interactive Video Data Services, 6 FCC Rcd 1368 (1991) ("IVDS Rule Making"). Second, the American Radio Relay League Incorporated ("ARRL"), on June 4, 1991, filed a Petition for Rule Making seeking allocation of the 216-220 MHz band for secondary use in the Amateur Radio Service ("ARRL Petition"). This proposed allocation is for wideband data intercity links and other point-to-point fixed amateur stations. Allocation of spectrum in the 216-220 MHz band on a primary basis for IVDS and on a secondary basis for the Amateur Radio Service would not affect the integrity of ETS as proposed herein. See Section IV, infra.

be governed by existing rules for filing and processing applications,[12] assignment of frequencies,[13] technical standards,[14] system operation,[15] and transmitter control.[16]

However, ProNet herein proposes specific rule changes needed to permit provision of ETS:

* A definition of ETS must be adopted.

* If mutually exclusive applications are filed, expedited comparative summary proceedings should be used to select the ETS licensee. Preferences should be awarded for those applicants with demonstrated experience providing safety-related private radio services and with superior technical and operational proposals to effectuate ETS.

* To optimize coordination among local law enforcement authorities, ETS customers, and the ETS licensee, and to optimize signal quality, the number of licensees should be limited to one per SMSA.

* The rule limiting a BRS licensee to one (1) frequency in each market must be amended to permit the proposed assignment of three (3) channels for different tracking operations.

* Provision for a blanket license to cover all mobiles must be adopted since these units only will operate when the valuables are stolen.

## II. HISTORY OF ETS

### A. Origin of ETS

In 1972, the problem of bank robberies in communities throughout the U.S. was steadily increasing. Of the eight major

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[12] 47 C.F.R. Part 90, Subpart G (1991).

[13] 47 C.F.R. Part 90, Subpart H (1991).

[14] 47 C.F.R. Part 90, Subpart I (1991).

[15] 47 C.F.R. Part 90, Subpart N (1991).

[16] 47 C.F.R. Part 90, Subpart O (1991).

crimes categorized by the Uniform Crime Report, robbery, and, specifically bank robbery, was increasing significantly.[17] Consequently, law enforcement authorities contacted Tracking Systems' predecessor-in-interest, Texas Instruments ("TI"), to develop a technological solution to this problem.[18]

TI undertook the financial burden of developing the system and equipment to provide a solution. In concert with the National Telecommunications and Information Administration and the Frequency Assignment Subcommittee, a frequency was assigned from the Governmental category and the Commission granted TI an Experimental License to perform the vital equipment and community experiments needed to determine the correct elements, equipment, and techniques required in a system capable of combating this radical national crime increase.

TI initially undertook this experiment in Shreveport, Louisiana, a small community with a population of approximately 100,000, to ensure that adequate controls would be in place to measure the results without the burdens of big city bureaucracy. During this initial period, TI's ETS was a resounding success. In Shreveport, before implementation of ETS, bank robberies totalled

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[17] The FBI collects and reports annually on eight (8) major crime categories in the U.S.: murder, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor vehicle theft, and arson. This report is known as the Uniform Crime Report and details all relevant statistics regarding each crime category.

[18] In 1988, Tracking Systems was spun-off as a separate entity from TI. In the same year, the Commission authorized the transfer of the TI experimental authority to Tracking Systems. Results of the experiments referred to herein cover the entire period of experimental operation.

approximately 12 per year. In the ensuing three years, after introduction of ETS in Shreveport, bank robberies were reduced to one or none a year. This reduction has lasted over the ensuing 17 years. The occasional bank robber in Shreveport has been promptly caught, tried, and convicted with no plea bargaining.[19]

B. ETS' current operations

ProNet and its subsidiary, Tracking Systems, have forged an effective, unique partnership for its ETS among their own electronic security experts, local and national law enforcement authorities, and various private sector customers, including numerous financial institutions and jewelry stores. The following recent examples highlight ETS' dramatic success:

> * On July 26, 1991, two men robbed $20,000.00 from a Dallas bank. Some of the stolen currency was "tagged" with a ETS transmitter. Within seven minutes after the robbery, the two perpetrators were captured. All the stolen currency was recovered.
>
> * In 1990, four (4) banks in Texas equipped with ETS were robbed of approximately $30,000.00. All the robbers were captured. All the stolen monies were recovered.
>
> * In a Dallas bank, on the same day the ETS installation had been completed, a robbery occurred. The perpetrator took the money, which was "tagged" with the ETS transmitter,

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[19] ETS' effectiveness is amply demonstrated by the following anecdotal example. In February 1980, the Louisiana Bank and Trust in downtown Shreveport was robbed at 2:45 pm. The ETS AWM alerted the patrol force. By 3:00 pm, ETS Vehicle Trackers located the robber in a local hotel. By 3:15 pm, the police, having isolated the hotel room with the Hand Held Trackers, entered with a search warrant. Donald R. Moribito was taken into custody with the money. Moribito had robbed 54 banks in 10 states in the prior 2.5 years without capture despite clear video and 35 mm security camera pictures of him in each robbery. Moribito was caught on his first attempt in an ETS city.

and met with an accomplice. A police officer, with an ETS tracking device, was nearby. This officer followed the perpetrators for one minute and then apprehended both criminals with the stolen money.

* In Las Vegas, a bank robber hired a chauffeured limousine to carry him to the bank and, according to his plans, to a mountain ski resort outside town. When ETS-equipped chase patrol vehicles were delayed by a traffic incident, the ETS-equipped police helicopter landed in front of the limousine, forcing it from the road. The robber then was arrested by the helicopter co-pilot police officer.

* Recently, in Austin, Texas, a bank robber was foiled by the local ETS force seven minutes into his get-away with over $120,000. The bank that was robbed had just opened for business that day. Without the ETS recovery, it likely would have folded that same day.

* In Anchorage, Alaska, robbers are much more violent. Their guns have larger bores and they act much more like the early days of the "Wild West." A recent bank robber shot three times into the ceiling to get the tellers' attention at the start of the robbery. An ETS capture several minutes later assured that no further shots would be fired by that robber for the next 25 years.

* In June of this year, in Southern California, three masked men entered a jewelry store. The first displayed a shotgun and ordered the customers and clerks to stand still or hit the floor. The other two, armed with baseball bats and garbage bags, walked down either side of the store smashing the tops of the display counters. Meeting in the rear, they turned and took most all the jewelry from the cases. In less than two minutes, the robbers had cleaned out the store display stock of expensive jewelry, worth approximately $500,000. However, seven minutes later, police officers, tracking ETS signals, were able to apprehend the criminals and recover all the stolen goods.

1. The ETS Network

Tracking Systems operates under Experimental License in each of its 12 markets. It enters into agreements with the local government to work with and lease tracking equipment to law enforcement authorities. Tracking Systems also enters into agreements with local businesses for security protection services.

Mini radio frequency beacons ("tags") are attached clandestinely to currency, narcotics, jewelry or other commonly stolen goods.[20] For example, an undetectable hole is cut out in the middle of a bundle of currency.[21] The tag is inserted into this hole in the bundle and then is covered with more currency. The "tagged" bundle is placed among other benign bundles of currency. These bundles are earmarked for use in robbery attempts. The robber unknowingly is handed several bundles of currency, including the "tagged" bundle. Movement of the transmitter triggers the radio signal.

Tracking Systems deploys an AWM system to control tracking of the stolen goods. This system uses a PC computer display system at the dispatch headquarters of the local law enforcement agency. A wide-area mapping system displays the processed areas of tag activity in a dynamic fashion indicating the tag location and its direction of travel.

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[20] See Exhibit 4 for graphic depictions of the ETS system.

[21] Tracking Systems has been authorized to make this hole by the U.S. Treasury Department.

This display system uses radio receiver Remote Detectors located on various structures throughout the area to detect the location of the moving tags. These receivers are placed in coverage patterns carefully selected to monitor the areas of the city in topographically overlapping patterns that will best indicate the effects of the movement. Typically, these data are relayed from the Remote Detectors to the AWM via local leased phone lines.

Simultaneous overlapping coverage of the entire area is provided by actual tag tracking receivers located in police patrol vehicles in each patrol beat. These single site location tracking units have a range of approximately one mile. Individually, they are able to track a tag to its location independent of other receivers through use of a homing capability indicating both range and azimuthal direction to the target tag.

Police aircraft and helicopter mounted Vehicle Trackers enable monitoring and pursuit from the air over even longer ranges and ensure the continuous coverage, speed, and maneuverability required to assure the felon is not lost. Further, these airborne devices allow police to stand-off and maneuver the felon into an area where his capture is less dangerous to the public.

Two sets of hand carried trackers complement the AWM and Vehicle Trackers. The Pocket Detector carried with each of the Vehicle Trackers allows close-in tracking of tags once they have been taken into constrictive avenues inaccessible to Vehicle Trackers. In simpler cases, the Pocket Detector can be used to

find the tag and identify the felon directly. In more complex cases, when the tag is taken into a shopping mall, into a high-rise building, under ground, or into an apartment complex, the Hand Held Tracker is used to direct the available array of Pocket Detector equipped officers to within their range.

2. Installation, Training, Maintenance and Inspections

As the licensee, Tracking Systems is directly responsible for the proper installation, operation and maintenance of each transmitter for which it is licensed and for all associated equipment. Pursuant to its agreements with the city and with its customers, Tracking Systems exercises such direction and control as is necessary to assure that all authorized facilities are employed only for permissible purposes, in a permissible manner, by persons with authority to use and operate such equipment, and in compliance with all applicable provisions of the Act and with all applicable Commission rules. Tracking Systems provides the following services to the city law enforcement agencies and to its customers (e.g., financial institutions):

* Equipment Selection - Conducts security surveys and analysis to determine specific equipment needs, based upon size and topography of city, areas with high crime probability, etc.

* Installation - Initial installation of all equipment provided.

* Training - Training on how to schedule and use the equipment effectively and efficiently, on how to strategically and tactically deploy the equipment provided (including development of specific procedural and policy issues), on how to reduce and eliminate accidental alarms, and on how to interface between law enforcement agencies and the private sector customers.

* Maintenance - Maintenance of all equipment and resources supplied, including setting up periodic checks and balances of equipment counts, deployment, and performance. Maintenance of all performance-related issues (e.g., patrolman or teller retraining, etc.). Establishing a police liaison network that tracks equipment, deployment, and maintenance issues including availability, turn-around, etc. Supplying police on-site equipment monitoring/maintenance equipment to evaluate whether equipment is in working order and within nominal performance limits or is in need of maintenance or replacement. Establishing a law enforcement group and a financial institution and merchant group to work with the ETS licensee and with each other to ensure continued proper performance.

* Inspections - Three levels of inspection are involved on a continuing basis: (1) annual (law enforcement and private sector) - inspection of all equipment performance (AWM, transmitters, receivers); and evaluation of personnel and policy issues with ensuing recommendations for improvement. This annual inspection of customer premises is made on a rotating basis for large institutions with many branches. (2) Quarterly (law enforcement only) - random check of resources, with ensuing maintenance issues addressed. (3) Ongoing - inspection of all equipment; follow-up with all involved after each time the beacon is activated, with any maintenance issues addressed.

3. Uses for ETS

Currently, ETS is used for three primary tracking functions: (1) felony monitoring; (2) undercover monitoring and training; and (3) misdemeanor, commercial, and low-priority felony monitoring.

Felony monitoring -- Felony monitoring principally involves tracking bank robberies. Financial institutions are supplied currency bundles equipped with ETS tags.

Undercover and training applications -- Undercover and training applications include individual group, intra-jurisdictional, trans-jurisdictional and inter-jurisdictional training of officers. This includes training and follow-up on how

to operate the ETS equipment and on tactics for effective tracking procedures.

Undercover applications include everything from police Internal Affairs Division ("IAD") uses to narcotics and other legal undercover operations. These operations might vary from court ordered tracking of organized crime members, suspects in a legal encounter, or repeat offenders.

It should be noted that undercover tracking does not mix with the felony monitoring described above. Accordingly, separate frequencies are needed for felony monitoring and for undercover operations. For example, IAD tracking of a patrol officer suspected of narcotics trafficking would not be effective, much less prudent, if the suspect officer and the IAD officer were using the same frequency.[22]

Misdemeanors -- Within the purview of the police monitored AWM system, other crimes of a lesser nature are included. Such crimes usually do not include the imminent possibility of violent action that could overflow into the public. This is a wide ranging set of crimes that includes everything from a misdemeanor, like shoplifting, to high-value cargo theft, to vehicle theft, to limited area emergency medical response, to key personnel protection. This category of usage for ETS would require both type

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[22] Digital tone or digital coding would not avoid this problem as one would de-sense the other. It is also possible that one officer's use of this channel would alert the other and disclose the undercover agent.

and unique ID coding to assure control of false alarms and other pertinent control issues.

Potential applications for ETS are virtually unlimited. Tags can be secreted on almost any valuable, property or person. Vehicles, illegal drugs, museum articles, personal clothing and individuals are some examples of what can be protected. High risk robbery targets, such as homes, jewelers, pharmacies, grocery stores, fast-food restaurants, and other businesses that carry large amounts of cash or valuables, are prime candidates for using ETS.

## III. CREATION OF A PERMANENT ETS IS IN THE PUBLIC INTEREST

### A. A permanent spectrum allocation is needed for ETS

Tracking Systems has been operating its ETS pursuant to Experimental Licenses.[23] Tracking Systems is obligated to seek permanent spectrum allocation for ETS as these licenses are expressly conditioned on the licensee "mak[ing] all efforts to change appropriate FCC Rules to allow for this operation on an operational basis." Tracking Systems sought to comply with this condition in the Commission proceeding involving allocation of spectrum at 220-222 MHz for narrowband service.

In this proceeding, Tracking Systems supported the Commission's proposal to create 200 5 KHz channels in the 220-222 MHz band for utilization by narrowband technologies. However, the Commission's proposed service rules failed to accommodate vital law enforcement monitoring and tracking needs at the local, state and

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[23] See Exhibit 1.

federal levels. To meet these critical public safety and national security requirements, Tracking Systems requested that the Commission specifically designate spectrum in the 220-222 MHz band for law enforcement tracking operations (i.e., ten adjacent narrowband simplex channels for local and state public safety tracking needs and ten adjacent narrowband simplex channels for joint federal/state use). Tracking Systems demonstrated that the availability of these channels would allow authorities to combat and reduce violent crime, including drug trafficking, burglary, robbery, and kidnapping throughout the United States.

Despite overwhelming public support from law enforcement agencies and merchants,[24] the Commission adopted a public safety set-aside of ten channels, but it limited eligibles for this set-aside to entities currently authorized in the Part 90 Public Safety Radio Services ("PSRS").[25] Pursuant to Section 90.17(a) of the Commission's Rules, police authorities are eligible to be licensed under the PSRS, but private entities, like Tracking Systems, are not eligible.[26] As discussed in Section IV, supra, it is impractical to operate ETS under licenses granted to law enforcement agencies because there are numerous such local, state and federal agencies serving each area. Consequently, since the

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[24] Supporting comments were filed by 41 parties, including the FBI, the Associated Public-Safety Communications Officers, Inc., 15 local police departments, 15 financial institutions, and seven (7) merchants. See 220 MHz Order, 6 FCC Rcd at 2360 n.57.

[25] Id. at 2360.

[26] 47 C.F.R. Section 90.17(a) (1988).

Commission rejected Tracking Systems' request for a set-aside that could be licensed to private entities, ProNet now must seek the rules proposed herein to ensure the permanent effective operation of ETS.

B. The Act requires the Commission to adopt ProNet's Petition

Under the Act, the Commission is mandated to consider ProNet's proposed rules to establish ETS on a permanent basis. Pursuant to Section 157(a) of the Act, "[i]t shall be the policy of the United States to encourage the provision of new technologies and services to the public."[27] The Commission is obligated to "[s]tudy new uses for radio ... and generally encourage the larger and more effective use of radio in the public interest."[28] Moreover, the Commission must "make available, so far as possible, to all the people of the United States, a rapid, efficient, Nation-wide ... wire and radio communication service with adequate facilities ... for the purpose of promoting safety of life and property through the use of wire and radio communication ...."[29] Adoption of this Petition and amendment of the rules proposed herein to accommodate ETS will satisfy these clear statutory demands.

Congress has long encouraged the Commission, under its Section 157 mandate, to foster the delivery of new services and new

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[27] 47 U.S.C. Section 157(a) (1991).

[28] 47 U.S.C. Section 303(g) (1991).

[29] 47 U.S.C. Section 151 (1991) (emphasis added).

technologies to the public.[30] The Commission has recognized its obligations to encourage development of new technologies as part of an overall affirmative mandate to promote the larger and more effective use of radio under Section 303(g) of the Act.[31] Congress also has made it a priority that the needs of the State and local public safety agencies be taken into account when the Commission makes decisions regarding spectrum allocation.[32]

Indeed, the courts consistently have held that the Commission has a statutory imperative to establish a service, like ETS, that demonstrably promotes the safety of property and life:

> The plain language of the [Act] ... makes clear that Congress placed an affirmative duty on the Commission to ... develop the most desirable deployment and utilization of the nation's communication's facilities.[33]

Moreover, the statutory obligations under Sections 151 and 303(g) of the Act "to facilitate expansion of this country's

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[30] See, e.g., Federal Communications Commission Authorization Act of 1983, Pub. L. No. 98-214, §9(a), 97 Stat. 1467 (1983) ("Authorization Act").

[31] See, e.g., Advanced Television Systems, 65 Rad. Reg. (P&F) 2d 295, 326 (1988); AM Stereophonic Broadcasting, 64 Rad. Reg. (P&F) 2d 516, 519 (1988).

[32] See Authorization Act, where Congress directed the Commission to establish a plan that ensures that public safety needs are taken into account in making allocations of the electromagnetic spectrum. In addition, the Conference Report on the Communications Amendments Act of 1982 expressed particular concern about "radio services which are necessary for the safety of life and property and [urged] the Commission to carefully consider the legitimate needs of public safety agencies in managing the private and mobile spectrum." H.R. Rep. No. 97-765, 97th Cong., 2d Sess. 52-53 (1982).

[33] Connecticut Committee Against Pay TV v. F.C.C., 301 F.2d 835, 837 (D.C. Cir. 1962).

communications network," compel the Commission to "authoriz[e] an innovative system of technology capable of conferring substantial benefits on all Americans."[34] Having been charged by Congress with executing and enforcing provisions of the Act, the Commission "may not abdicate its responsibility to perform those duties and insure that the Act's standards are met."[35] In particular, the Commission is required to take prompt action with respect to proposals that would provide new technologies and services to the public.[36] Failure by the Commission to initiate ProNet's requested rule making thus would be arbitrary and capricious and would be an abrogation of its statutory mandate.

C. Protection of property is in the public interest

The Commission is obligated to "promot[e] safety of life and property through the use of wire and radio communications."[37] The Commission recently has acted to fulfill this obligation when it: (a) adopted a Public Safety National Plan to ensure that newly

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[34] National Ass'n of Broadcasters v. F.C.C., 740 F.2d 1190, 1198 (D.C. Cir. 1984) (citation omitted).

[35] Wold Communications, Inc. v. F.C.C., 735 F.2d 1465, 1475 (D.C. Cir. 1984).

[36] 47 U.S.C. Section 157(b) (1991). See also Direct Broadcast Satellite Services, 86 F.C.C.2d 719, 741 (1981), where the Commission stated:

> An important aspect of our statutory mandate to "encourage the larger and more effective use of radio" is to ensure that the benefits of new communications services are made available to the American people in the most timely manner possible.

[37] 47 U.S.C. Section 151 (1991).

allocated spectrum would be used effectively and efficiently for important public safety functions, such as crime control;[38] (b) proposed amending its rules to establish the Personal Emergency Location Transmitter Service ("PELTS");[39] and (c) set-aside channels in the 220-222 MHz band for PSRS.[40] The bases for these decisions by the Commission involving the National Safety Plan, PELTS and the PSRS public safety set-aside apply directly to ETS.

1. National Safety Plan

In the National Safety Plan Order, the Commission made it quite clear that providing adequate radio facilities to promote safety of property and life unequivocally was a high priority:

> Adequate mobile communication for agencies charged with protecting the public welfare is of critical importance to the overall well-being of this nation. Every person in the country is dependent directly or indirectly on the myriad services provided by public safety ... entities. These services include such things as crime control and prevention .... [R]adio provides a vital component in this nation's public safety ... infrastructure. Agencies involved in the protection of life and property are able to do their jobs effectively and efficiently only by making extensive use of a wide array of mobile communications options available to them. Full use of these options requires that

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[38] Development and Implementation of a Public Safety National Plan and Amendment of Part 90 to Establish Service Rules and Technical Standards for Use of the 821-824/866-869 MHz Bands by the Public Safety Services, 3 FCC Rcd 905 (1987) ("National Safety Plan Order"), modified, 3 FCC Rcd 2113 (1988).

[39] Amendment of Parts 0, 1, 2, and 95 of the Commission's Rules regarding the establishment of a Personal Emergency Locator Transmitter Service, Notice of Proposed Rule Making, 4 FCC Rcd 8657 (1989) ("PELTS Rule Making").

[40] 220 MHz Order, 6 FCC Rcd at 2360.

> adequate spectrum be made available and that its use be well planned and coordinated to assure that the diverse needs of public safety entities can be satisfied.[41]

To achieve this goal, the Commission declared that "the highest priority must be given to those organizations most fundamentally involved in protection of life and property."[42] This is exactly the public interest that would be served by the demonstrated capability of ETS to assist law enforcement agencies in reducing major crime to property and thus reducing the attendant risk of personal injury.

2. PELTS

In the PELTS Rule Making, the Commission acknowledged an increasing yet unmet need for communications capabilities to handle emergencies involving public safety.[43] Specifically, the Commission wanted to ensure radio service existed that could promptly "provid[e] effective emergency assistance."[44] Consequently, the Commission has proposed establishing PELTS as one of the Personal Radio Services under Part 95 of its rules and reserving channels in the newly allocated 220-222 MHz band.[45]

As set forth in Section I, supra, one of the substantial benefits from deploying ETS is that it enables the appropriate law

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[41] National Safety Plan Order, 3 FCC Rcd at 905 (emphasis added).

[42] Id. at 906.

[43] 4 FCC Rcd at 8657-58.

[44] Id. at 8658.

[45] Id. at 8659-60.

enforcement agencies to respond promptly to the robbery, thereby increasing the odds of apprehension with the stolen goods and the odds of conviction. Such effective capture and conviction reduces significantly the incidence of crime, which, in turn, reduces risk of personal injury or fatality. Thus, the same concerns prompting the Commission to propose PELTS apply to ETS.

3. 220 MHz public safety set-aside

The Commission did not propose a public safety set-aside of narrowband 220-222 MHz channels. However, based upon strong public support for such a set-aside, the Commission concluded that it would allocate ten (10) channels for PSRS eligibles.[46] The primary reason for this allocation was to "facilitate interoperability between public safety entities" which will "prove useful in providing public safety eligibles with the means to more effectively coordinate their responses" to public emergencies.[47] Similarly, establishment of a nationwide ETS would facilitate coordination among law enforcement agencies. These agencies in adjacent communities (and indeed across the country) will want access to the same channels for cooperative tracking efforts.

D. Allocation of spectrum and adoption of rules for ETS would promote its availability and future development

ETS currently is in regulatory limbo. Tracking Systems is able to provide its useful service only to a limited number of

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[46] 220 MHZ Order, 6 FCC Rcd at 2360.

[47] Id.

financial institutions and merchants because ETS still is authorized on an experimental, non-permanent basis.

This uncertain status is severely hampering acceptance and development of ETS. Expansion of the ETS technology into domestic, as well as international markets, is being stifled. It is impractical for equipment manufacturers to invest in producing the necessary radio equipment until spectrum is allocated and ETS is established as a service on a permanent basis. Notwithstanding the remarkable success of ETS, potential customers and law enforcement agencies are reluctant to invest their time and resources in a service that is not permanent. For these reasons, ProNet herein petitions the Commission to institute promptly a Notice of Proposed Rule Making inviting public comment on the rules proposed in Section IV, infra.

## IV. SPECIFIC RULE PROPOSALS

### A. Definition of ETS

ProNet proposes that ETS be authorized permanently under the BRS. Given the fact that ProNet herein seeks that three (3) 8 KHz channels be allocated for ETS and given the fact that the BRS is available to a wide range of eligibles (i.e., use for the "operation of a commercial activity"),[48] it is appropriate to adopt a definition for ETS. Accordingly, ProNet proposes that Section 90.7 of the Commission's Rules be amended to include the following definition:

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[48] 47 C.F.R. Section 90.75(a)(1) (1990).

Electronic Tracking Service ("ETS"). A telemetry radiolocation Business Radio Service assisting law enforcement agencies and commercial entities in tracking the location of property and individuals.

B. Allocation of channels in the 216-220 MHz band

1. Bases for selecting the 216-220 MHz band

ProNet proposes allocation of three (3) 8 KHz channels for ETS:

* 218.0 MHz - Tracking operations for robberies involving banks, jewelers, etc.

* 218.5 MHz - Undercover and training applications.

* 219.0 MHz - Tracking operations for misdemeanor, low-risk felony (e.g., vehicle tracking, personnel), etc.

ProNet proposes assignment of these channels from the 216-220 MHz band for several reasons.

Based upon its 18 years operational experience providing ETS in the 216-220 MHz band (i.e., at 219.96 MHz), Tracking Systems has determined that it is optimum for this service. At lower frequencies, beginning at about 200 MHz, the spacing needs of the tracking antennas in the ETS system cannot be accommodated with existing patrol vehicles.[49] Likewise, at lower frequencies, the increased size of components and antennas do not allow for their

[49] To be effective in the 216-220 MHz band, the receiving antenna must be surrounded by a quarter wave length of continuous ground plane. In this band, a minimum antenna array of three antennas with spacing of approximately one foot apart is necessary for successful direction finding operations (i.e., approximately three feet of total ground plane). However, at lower frequencies, the amount of necessary ground plane increases. In light of the relatively small roof size of many patrol vehicles, tracking operations become impossible.

clandestine placement, and, when compressed, the small emitting devices do not operate as efficiently as is needed for critical life and death situations. At or below 200 MHz, it becomes increasingly difficult to transmit radio signals from these small transmitters out of confined spaces, such as the trunk of an automobile, where illegal narcotics or stolen property may be located.

Similar technical problems exist at higher range frequencies. For example, at above 400 MHz, the path loss and efficiency of the available components results in the quality of transmission from the small transmitter deteriorating rapidly, making these frequencies unsuitable for tracking operations.

The excellent spectrum propagation of frequencies near the 220 MHz band for land mobile-type operations has been recognized by the Association of Public Safety Communications Officers, Inc. ("APCO") in the recent proceeding involving allocation of the 216-225 MHz band for narrowband use.[50] APCO pointed out that the quality of land mobile use in this band is enhanced by low noise, absence of skip, minimal foliage absorption and ease of effective antenna construction.[51]

Similarly, in the PELTS Rule Making, the Commission recognized the "good propagation characteristics" of spectrum in the range of

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[50] Amendment of Part 2 of the Commission's Rules Regarding the Allocation of the 216-225 MHz band, 3 FCC Rcd 5287 (1988) ("Allocation Order"), aff'd, 4 FCC Rcd 2333 (1989).

[51] Id. at 5289.

the 220-222 MHz band specifically for tracking operations.[52] In that proceeding, the Commission is proposing to make 10 frequencies in the 220-222 MHz band available for a PELTS that would allow authorities to monitor and locate individuals in emergency situations. In proposing PELTS, the Commission acknowledged that "[w]ith the increased demand for spectrum over the last ten years, finding spectrum for a new radio service is difficult."[53] However, in light of the excellent propagation characteristics of the band and the lack of existing congestion and land mobile users in the spectrum, the Commission concluded that the 220 MHz frequencies are ideal for PELTS emergency electronic tracking operations.[54] These same considerations apply to law enforcement monitoring and tracking in the 216-220 MHz band.

2. Operation of ETS in the 216-220 MHz band will not interfere with other radio services.

Location of the three ETS channels in the 216-220 MHz band poses no threat to existing uses of this band by the Automated Maritime Telecommunications System ("AMTS") or the Federal Government. Nor does this proposed allocation threaten adjacent users -- television channel 13 licensees at the low end of the band or the future 220-222 MHz licensees at the high end of the band.

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[52] PELTS Rule Making, 4 FCC Rcd at 8660.

[53] Id.

[54] Id.

(a) ETS must operate on a secondary basis

Pursuant to Section 90.75(b) of the Commission's Rules, the 216-220 MHz band is allocated for the BRS.[55] However, the availability of this band is limited because it currently is allocated to the maritime mobile service on a primary basis and to telemetry operations for the aeronautical mobile, fixed and land mobile services on a secondary basis:

> Frequencies in the bands 216-220 MHz ... may be assigned to applicants under [Part 90] provided the band is listed in the individual radio service under which they establish eligibility. Use of these bands is limited to telemetering purposes only and all operation is secondary to Federal Government operations. Operation in the band 216-220 MHz is also secondary to the maritime mobile service .... Airborne use will not be authorized. Each application will be coordinated with the Federal Government by the Federal Communications Commission and is subject to such technical and operational limitations as may be imposed by the government. Each application should include precise information concerning emission characteristics, transmitter frequency deviation, output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.[56]

(b) ETS satisfies the conditions of Section 90.75(b)

ETS is a telemetering service -- The basic "tag" beacon signal is limited to a telemetering function.[57] It is a presence/absence signal only. Modulation effects enable this determination. Any

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[55] 47 C.F.R. Section 90.75(b) (1990).

[56] 47 C.F.R. Sections 90.75(c)(21) (1991) and 90.259 (1991).

[57] The Commission defines "telemetering" or "telemetry" as the "transmission of nonvoice signals for the purpose of automatically indicating or recording measurements at a distance from the measuring instrument." 47 C.F.R. Section 90.7 (1990). ETS fits this definition.

and all other modulation effects are for unique beacon identification.

ETS will operate on a secondary basis with the Federal Government -- ETS will operate on a secondary basis to Federal Government operations and all applications therefore will be coordinated with the Federal Government. Indeed, based upon past experience, ETS will be utilized substantially by the FBI and other federal law enforcement authorities.

ETS will not interfere with AMTS operations and will operate on a secondary basis thereto -- There is little, if any, potential that the low power ETS (i.e., it will not operate in excess of 120 milliwatts) would interfere with AMTS, which is the only known channelized service currently using this 216-220 MHz frequency band on a primary basis.[58] Moreover, the three frequencies proposed are

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[58] The principle package (or host) for the priority law enforcement "tag" beacons have extremely limited battery source space. This in turn limits the battery source powered lifetime of the beacon to less than 2 hours under ideal environmental and shelf life conditions. Actually, in Tracking Systems' 18 years experience in experimental-developmental ETS with currently over 15,000 active beacons, the average "on" time of a beacon is only 15 minutes. The probability of occurrence and use of such a beacon is extremely low. When factored with the interference potential in time alone, it is reduced even more significantly. Again, with over 15,000 beacons fielded, an average of only approximately 300 activations are being experienced annually spread over some 12 U.S. metropolitan areas. Taking into account the time and range factors only, this indicates an interference potential of less than 500 feet. Beyond this, the interference potential is further reduced by the ratio of time use of the source that would receive such interference.

at AMTS band ship transmit channel separation points.[59] In any event, ETS would be operated on a secondary basis to AMTS.[60]

ETS will not interfere with operation of TV Channel 13 or operation of 220-222 MHz Systems -- ETS, as proposed herein, would not cause harmful interference to TV channel 13 licensees or to

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[59] The 218.0 MHz frequency is at the juncture of maritime channels 100 and 101 (there is no channel 100; it is designated for information purposes only). The 218.5 MHz frequency is at the juncture of maritime channels 120 and 121. The 219.0 MHz frequency is at the juncture of maritime channels 140 and 141. Although AMTS allows 25 KHz bandwidths(+/- 12.5 KHz), the ETS service will only require 8 KHz bandwidths (+/-4 KHz). Accordingly, overlap into the adjacent AMTS channels (101, 120, 121, 140 and 141) will be limited to merely 4 KHz of interference in each 25 KHz band, further reducing the interference potential by an additional factor of more than 6:1.

[60] There currently are two pending proceedings that could impact operation in the 216-220 MHz band -- the IVDS Rule Making and the ARRL Petition. Neither proposal has any merit. Nor would either proposal, if adopted, compromise provision of ETS as proposed herein. If IVDS operations are allowed at 218-218.5 MHz, then ETS operations must be shifted into the 219 MHz area. Conversely, should IVDS be allowed at 219-219.5 MHz, ETS operations would have to be shifted to the 217.5 MHz area. In either case the proximity of either the upper ETS channel (misdemeanor and low risk felony applications) or the lower ETS channel (undercover and training applications) might risk minimal desensitization by either 220 MHz or Channel 13 operations, respectively. IVDS is a speculative commercial venture at best and already available to cable users in other forms and the remainder of the general TV viewing public via telephone linkages. Other service features mentioned in the IVDS Rule Making (programming, etc.) also are readily available to the public. The need for such an entertainment service pales in comparison to the need for a service such as ETS. The ARRL petition asserts secondary usage while quoting necessary stand-off ranges for AMTS licenses of up to 161 km. This assertion is highly inconsistent with ARRL's professed concession to secondary status. There is plenty of ham radio spectrum available for those that seriously wish to participate in the Amateur Radio Service. The advent of cellular telephony now takes care of intra- and inter-city emergency service needs. Police, fire and other services complain that multiple service requests are now received almost to the detriment of the service supplied. The addition of one more to that set is not in the public interest.

licensees in the 220-222 MHz band. Such protection results from ETS' low power level.[61]

Under absolutely ideal conditions, an ETS emission level of 10 milliwatts (+10 dbm) in the middle of the 216-218 MHz band produces a signal in the 210-216 MHz (TV channel 13) band reduced by 85 db to a level of 30 picowatts (-75 dbm). The typical sensitivity of commercial TV receivers is -90 dbm. One wavelength removed the loss is 22 db, and the interfering signal is reduced to -97 dbm. Accordingly, at 4.5 feet displacement from the receiver, the ETS signal is non-interfering. For an ETS emission of 120 milliwatts (which would be its highest ERP), this displacement would be less than 2 wavelengths or 9 feet (the second wavelength reducing the signal by an additional 6 dm). In other words, for an ETS emission to interfere with a TV receiver, the ETS device would have to be within 9 feet of the TV set, which is a

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[61] In the Allocation Order, the Commission rejected a proposal to allow mobile dispatch type operations in the 216-220 MHz band by removing the telemetry only restrictions. 4 FCC Rcd at 5290. This rejection was based upon the Commission's conclusion that

> it would be premature to permit additional services in the 216-220 MHz band before AMTS systems in this band have a chance to develop as planned. Further, we believe that the geographic limitations on land mobile operations in the 216-220 MHz band necessary to protect broadcast TV channel 13 operations would be so restrictive that this spectrum would provide little opportunity for land mobile operations in most major metropolitan areas.

Id. (footnotes omitted). These concerns are inapplicable to ETS as proposed herein. ETS' low power level would not cause harmful interference to AMTS or TV channel 13 operation. Moreover, ETS would, pursuant to Section 90.259 of the Commission's Rules, be required to operate secondary to AMTS. 47 C.F.R. Section 90.259 (1991).

highly unlikely event. Moreover, when activated, the ETS transmitter typically is moving at a rapid rate, so the time that such interference might occur would not result in any perceptible interference to TV reception.

An ETS emission level of 10 milliwatts (+10 dbm) in the middle of the 216-218 MHz band produces a signal in the 220-222 MHz band reduced by 85 db to a level of 30 picowatts (-75 dbm). The typical sensitivity of narrowband receivers in this band should be -124 dbm. Approximately 30 wavelengths (135 feet) displacement is required to assure non-interference. For an ETS emission of 120 milliwatts, the distance required would be 540 feet or 0.1 mile. The only use of 120 milliwatt emissions would be undercover street operations that would be fleeting in duration at average street speeds of 30 mph, lasting only 12 seconds, at most, at a distance of less than 540 feet. Thus, the odds of interference are infinitesimal at best.

ETS does not involve use of airborne transmitters -- No airborne use of beacon transmitters is anticipated.[62] However, the airborne use of beacon tracking equipment by law enforcement aircraft and helicopters in a limited fashion within the jurisdictional confines of the metropolitan areas concerned is required to effect timely pursuit and capture of felons.

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[62] It is possible, but highly unlikely, that a fleeing felon would take the stolen goods, with the hidden transmitter, aboard an aircraft. If this improbable event should occur, the transmitter power limitation of 120 milliwatts and the battery operating limitation of two hours should protect the public and appropriate adjacent licensees from harmful interference.

ETS will be protected against interference from TV channel 13 and 220-222 MHz licensees -- The frequencies proposed herein for allocation to ETS have been selected to provide protection from emanations by TV channel 13 (210-216 MHZ frequency band) and from narrowband Private Land Mobile Radio licensees (220-222 MHz frequency band). The operation of a low power service (not to exceed 120 milliwatts), such as ETS, requires maximum separation from interfering and desensitizing emanations by nearby high power services.

C. Provision of ETS under current Part 90 rules

As proposed, ETS would require only limited changes to Part 90 of the Commission's Rules. These changes would involve limiting the number of ETS licensees in each SMSA to one; establishing summary procedures for selecting from among multiple applicants for an ETS license in any given market; establishing procedures for granting a blanket license to cover all mobile transmitters operated under the ETS license; and permitting assignment of more than one frequency for each ETS licensee per SMSA.

1. There should be only one ETS licensee for each SMSA.

There is no provision in Part 90 limiting the number of BRS licenses for any SMSA. Such a limitation is necessary for ETS.

First, and most importantly, coordination with the myriad law enforcement agencies serving a particular SMSA would be too complicated if more than one ETS licensee existed. Such

coordination requirements among police entities within any given area would, at best, be daunting.[63]

A second licensee would be required to conform in all details with the installed and operating ETS system. This would be necessary for that licensee's system to be compatible with confidential police requirements and any applicable proprietary procedures employed by the initial licensee.

Given the fact that law enforcement agencies only will lease the tracking equipment from one source, a single licensee will be responsible for all the capital investment needed to equip and train the police force. It would be unfair to license a second party, even if that party can overcome the compatibility constraints discussed above, without requiring a similar investment. Yet, such an investment is redundant since the police force already would be equipped and trained.

Fourth, since ETS would be provided over the proposed three channels on a secondary basis, sharing those channels with other ETS licensees would be impractical. Such multiple licensing also would adversely affect the integrity of the signal, especially with respect to possibly making it vulnerable to interference from adjacent or co-channel licensees.

Accordingly, ProNet hereby proposes that Section 90.173 be amended to add a new section 90.173(k):

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[63] For example, in Orange County, California, an area served by Tracking Systems' ETS, in excess of 22 local jurisdictions are involved. These authorities also must be coordinated with the adjacent Los Angeles county and its numerous police authorities.

> Section 90.173(k). Only one license shall be granted for provision of Electronic Tracking Service in each SMSA.[64]

2. Expedited comparative summary proceedings to select ETS licensees must be conducted.

Pursuant to Section 90.143(b) of the Commission's Rules:

> [I]f there are more applicants than can be accommodated on available frequencies, the Commission may grant the applications pursuant to the system of random selection prescribed in Section 1.972 of this chapter.[65]

Under this Section 1.972(d), random selection of licensees under Part 90 does not utilize any selection percentages, preferences and probability calculations to weight the applicants.[66]

ProNet proposes that expedited comparative summary proceedings, rather than lotteries, should be used to select ETS licensees. Selection of ETS licensees should not be left to the vicissitudes of random selection procedures. Lotteries are speculative, cause delays, and are vulnerable to serious abuses. ETS involves cooperating with local law enforcement authorities to protect effectively the safety of individuals and property. The stakes are too high to entrust this responsibility to neophytes.

Consequently, ProNet proposes that Section 1.972 be amended to add a new Section 1.972(e):[67]

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[64] Provisions for adjacent system coordination also should be considered.

[65] 47 C.F.R. Section 90.143(b)(1989).

[66] 47 C.F.R. Section 1.972(d) (1991).

[67] To deter speculative applications, ProNet proposes that the Commission impose application and hearing fees.

Section 1.972(e). Notwithstanding the provisions of Section 1.972(d), mutually exclusive applicants for a license to provide Electronic Tracking Service under the Business Radio Service that are acceptable for filing shall be subject to a summary proceeding to be conducted as follows:

(i) Within 30 days after the Private Radio Bureau issues a Public Notice identifying which applications are acceptable for filing, concise and factual arguments on the competing proposals from the competing applicants, potential customers, and other knowledgeable parties in interest shall be filed.

(ii) Within fifteen (15) days following the due date for the filing of comments prescribed under Section 1.972(e)(i), the Commission will accept concise and factual replies from the rival applicants.

(iii) From time to time during the course of this procedure, the Commission may request additional information from the applicants and hold informal conferences at which all competing applicants shall have the right to be represented.

(iv) The competing applicants shall be evaluated on the basis of: (a) technical and operational proposals; (b) experience in operating a private radio service to meet the safety needs of the public; and (c) whatever other issues the Commission deems appropriate with respect to the particular SMSA involved. A preference also will be granted to an applicant which is an ETS licensee in the adjacent SMSA.

(v) Upon evaluation of the applications, the information submitted and such other matters as may be officially noticed, the Commission will issue a decision granting one of the proposals which it concludes would best serve the public interest, convenience and necessity. The decision will report briefly and concisely the reasons for the Commission's selection and will deny the other application(s). This decision shall be issued within 90 days after completion of the filings

prescribed under Section 1.972(e)(ii) and shall be considered final.

3. A blanket license for all mobile transmitter "tags" must be granted the ETS licensee.

Operation of ETS transmitters presents a unique situation. Until a crime occurs, the transmitter is inactive. Once the tagged property is moved by the criminal, the transmitter is activated. During this period of activation, the transmitter is under the control of the criminal, not the ETS licensee, the local law enforcement authority, or the ETS consumer.

The circumstances involved with provision of ETS mandate unique treatment under the Commission's Rules. Successful operation of ETS requires that the transmitters will be in operation only when in the possession of the criminal. No alternative exists.

Nevertheless, the provisions of Part 90, Subpart N (Operating Requirements) and Part 90, Subpart O (Transmitter Control) will be met by the ETS licensee. First, since the transmitters will not operate at a power level in excess of 120 milliwatts, there is minimal risk of harmful interference to other radio services. Second, based upon Tracking Systems' operating experience, the average length of any transmission is 15 minutes and the average occurrence of such a transmission is less than three times per month in any given market. Third, Tracking Systems, the law enforcement authorities and users involved, all are trained carefully on how to ensure that the transmitters do <u>not</u> operate

unless a robbery occurs and that they do operate properly regardless of the fact that they are controlled by the felon.

To accommodate the multiple transmitter "tags" that might be deployed by an ETS licensee, ProNet proposes that a blanket license be granted. This is not unprecedented as blanket licensing is found in the Domestic Public Land Mobile Service;[68] in the cellular radio service;[69] and in certain private and mobile radio services.

Typically, blanket licenses for mobiles are included under the base station license. For ETS, however, there would be no base station license. Moreover, the actual users of the transmitters, the felons, obviously could not submit applications for individual licenses.

Accordingly, ProNet proposes that Section 90.403 of the Commission's Rules be amended to add new Section 90.403(h):

> Section 90.403(h). The Business Radio Service licensee providing an Electronic Tracking Service shall be responsible for exercising effective operational control over all mobile stations which transmit under authority of such license. The proper installation, maintenance and repair of such mobile stations shall be the responsibility of the ETS licensee.

4. ETS requires the assignment of more than the one frequency currently permitted for BRS licensees.

A BRS licensee generally is limited to the number of frequencies assigned as "[n]ormally only one frequency or pair of

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[68] See Individual Radio Licensing Procedures, 77 F.C.C.2d 84 (1980).

[69] 47 C.F.R. Section 22.912 (1990).

frequencies in the paired frequency mode of operation will be assigned for mobile service operations by a single applicant in a given area."[70] Existing exceptions to this limit do not address operation in the 216-220 MHz band.

Accordingly, ProNet proposes that Section 90.75(e) be amended to add a new Section 90.75(e)(5):

> Section 90.75(e)(5). Frequencies in the 216-220 MHz band may be assigned for the operation of an Electronic Tracking Service notwithstanding this limitation.

D. Technical operation of ETS

ETS transmitters do not exceed 120 milliwatts. Pursuant to Section 90.217, such transmitters are thus exempt from the technical requirements generally imposed upon a BRS licensee.[71] Even though it would be exempt from compliance with such technical standards, ProNet's proposed ETS still would meet general Part 90 operating parameters.[72]

E. Miscellaneous provisions

1. System testing

Each SMSA presents unique topographical and propagation characteristics. ETS licensees need the opportunity to test transmitters in an SMSA or other area that has no ETS licensees in order to determine practical equipment needs and to determine system area requirements. To accommodate this critical need,

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[70] 47 C.F.R. Section 90.75(e) (1991).

[71] 47 C.F.R. Section 90.217 (1987). ETS transmitters will be type accepted once these rules are adopted.

[72] See Exhibit 5 for ETS system specifications.

ProNet proposes that the Commission permit ETS operation pursuant to Special Temporary Authority (Section 90.145)[73] or under the provisions of Part 90, Subpart Q (Developmental Operations).[74]

2. Grandfathered Tracking Systems' ETS licenses

Tracking Systems has operated an ETS system under Experimental Authority over the past 18 years. These ETS systems operate at 219.960 MHz. In order to facilitate a transition to the new frequencies, the Commission must grandfather these licenses and permit Tracking Systems to provide ETS for these markets at 219.960 MHZ for ten (10) years from the effective date of the new rules or until operations on the 220-222 MHz band cause harmful interference to ETS, whichever occurs first.

## CONCLUSION

Statistics do not lie. Crime is increasing nationwide at an alarming pace. Absent Commission action to ensure that law enforcement agencies and merchants can avail themselves of ETS permanently, the public will be deprived of this beneficial service.

ETS is a proven remedy for this problem. There is uncontrovertible proof that ETS works.

The Commission is required under the Act to promptly proceed with any proposals for provision of new technologies and services that will serve the public interest. This Petition sets forth such a proposal. Safety to life and property can not be compromised.

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[73] 47 C.F.R. Section 90.145 (1989).

[74] 47 C.F.R. Part 90, Subpart Q (1991).

ETS must be made available, across the country, on a permanent basis.

WHEREFORE, for the foregoing reasons, ProNet Inc. respectfully requests that this Petition for Rule Making be adopted promptly.

Respectfully submitted,

PRONET INC.

Robert J. Miller
Gardere & Wynne
1601 Elm Street, Suite 3000
Dallas, Texas 75201
(214) 999-3000

ITS ATTORNEY

DATE: July 30, 1991

GW03:69667

2400 Lakeside Boulevard, Suite 450, Richardson, Texas 75082
United States of America

# FEDERAL COMMUNICATIONS COMMISSION
## EXPERIMENTAL
## RADIO STATION CONSTRUCTION PERMIT AND LICENSE

EXPERIMENTAL
(Nature of Service)

K K 2 X J V
(Call Sign)

XD MO
(Class of station)

0923-EX-AL-88
(File number)

NAME ELECTRONIC TRACKING SYSTEMS, INC

Various locations within the United States
(Location of station)

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications.

| Frequency MHz | Authorized Power (watts) | Emission Designator |
|---|---|---|
| 219.96 | 1 | 80K0P0N |

Frequency Tolerance: ± 0.005%

Operations in accordance with Section 5.202(h)

Special Condition:

1. Locations shall be notified and approved by the FCC prior to start of operations. Licensee shall make all efforts to change appropriate FCC Rules to allow for this operation on an operational basis.

This authorization effective October 1, 1988 and will expire 3:00 A.M. EST October 1, 1990

FEDERAL COMMUNICATIONS COMMISSION

2

## EXHIBIT 2

MARKET PROFILE CITY DATA

DETERRENCE:
One of the most important factors in determining the performance of the Electronic Tracking Service ("ETS") are data derived over Tracking Systems' 18 year experimentation period. One measure of deterrence is the actual number of robberies in a year (per police records) in categories of interest. If the ETS system is effective, then the number of robberies will decrease. In each of the markets where ETS operates, this has occurred at substantial levels.

However, as is usually the case in statistical data, this does not tell the whole story. Robberies actually decreased even more than indicated in the raw data. The reasoning is clear. If only a few robbers were committing most of the crime (and they are, each robber robbed banks approximately 10 times a year in San Francisco), then the robberies would fall off proportional to the number of robbers captured and incarcerated. Indeed, this did happen and could be shown on close inspection of the actual data base on a month to month basis, but it is too cumbersome to show here.

FBI statistics over the 18 year period show a 16% average growth rate in crime across the nation. (In the San Francisco Bay area, over a 5 year period, exempting San Francisco proper because of its ETS, the growth rate in bank robberies was 65%.) Thus, the data showing deterrence are understated by at least the 16% growth rate.

IMPACT:
A second and indirect measure of ETS' performance in the markets experimentally tested over the last 18 years is the impact of the system in terms of overall crime reduction. Closely associated with deterrence, this measure is the effect of the multiplication factor of how many robberies a single robber commits in a single year.

As mentioned previously, in San Francisco, a robber typically hits one bank or another on the average of 10 times a year. In Las Vegas, on the other extreme, robbers tend to hit a bank only twice a year. There are many causes for this differing rate, but two are paramount. First, in San Francisco, the money till is kept lean. Not much money is taken in each robbery causing the robber to have to return again next month to supplement his need. In Las Vegas, cash is available everywhere to feed the money machines in Las Vegas. Secondly, in Las Vegas the robbers are transient and they rob to fulfill a gambling need. In San Francisco the robbers are residents.

CITY PROFILES

Both the deterrent and impact effects of ETS are clearly evidenced in the data presented for the cities selected. Although the impact data are subjective, they are based on the average rate of recurrence of robberies for individuals captured.

Tracking Systems currently is active in 12 market areas in the U.S. Not all the data available are presented because some are so recent as to be statistically meaningless. Other data on smaller cities cannot show any trend because of the city's proximity to another larger city or area. The current markets and active cities are detailed with the date in which ETS was installed and made operational. In all cases, data are included for five years previous to ETS installation so that trends can be seen.

The 12 experimental markets are listed below:

SHREVEPORT, LA -- including Bossier City

Although this city is small, it is included because it is the location of the initial and longest experiment.

SAN FRANCISCO, CA -- including the cities of Oakland and Berkeley

This city is included because adequate data are available over an extended period.

LAS VEGAS, NV -- including North Las Vegas

This city is included as reliable data are available.

ANCHORAGE, AK -- including Eagle River

Comments on this city are included although reliable data are not available.

AUSTIN, TX --

This city is included as reliable data are available.

SACRAMENTO, CA -- including the entirety of Sacramento County

This city is included as reliable data are available.

LOS ANGELES, CA -- including only the Los Angeles County jurisdictions known as Lakewood, Norwalk, the independent cities of Long Beach, Signal Hill, Glendale, Burbank, and Pasadena. Orange County is covered in its entirety, including the cities of Anaheim, Fullerton, Santa Ana, Huntington Beach, Buena Park, La Habra, Brea, Placentia, La Palma, Los Alamitos, Seal Beach, Garden Grove, Fountain Valley, Costa Mesa, Westminster, Tustin, Orange, Newport Beach, Cypress, Irvine, and San Clemente.

These areas are not included because no single increment is indicative in Orange County. There are insufficient data available because ETS has only been on line for just under a year.

DALLAS, TX -- including the cities of Highland Park, University Park, Richardson, Addison, Farmers Branch, and Carrollton.

This city is included as reliable data are available.

RENO, NV -- including the cities of Sparks, Carson, Minden, and the nearby populated area of Washoe County.

This city is not included as reliable data are not available.

PORTLAND, OR

This city is not included because ETS has been installed for less than a year.

HOUSTON, TX -- including Hedwig Village, The Villages, and Spring Valley.

This city is not included because ETS has been installed for less than a year.

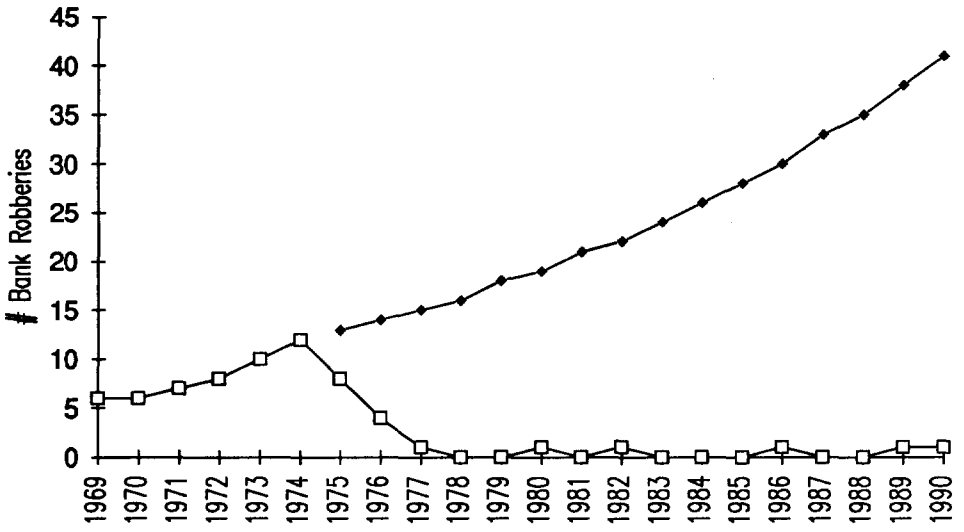
PHOENIX, AZ

This city is not included because ETS has been installed for less than a year.

GW03:69865

ProNet Tracking Systems

# SHREVEPORT, LA
## ETS Introduced 1974




## Shreveport

Shreveport, Louisiana was selected in 1973 as the original FCC Experimental-Research test bed. This test bed also includes Bossier City. Even though Shreveport had a population of approximately 100,000, it was selected to ensure that adequate controls would be in place to measure the results without the burdens of big city bureaucracy. Additionally, Shreveport exhibited the normal 16% growth rate in financial institution robberies.

The equipment, police, and bank tellers worked well in the real world environment. The deterrent effect is clear from the above data. Shreveport area bank robbers were promptly caught by ETS and incarcerated. The impact effect (indicating the robberies that would have occurred had the growth in robberies continued at a modest 8% rate) is equally obvious.

Two effects were observed outside the domain of our original inquiry

1. The capture of the robber during the get-a-way phase produce court's "best evidence", which has resulted in a 100% conviction rate in all ETS operations nationwide since that date.

2. The availability of court's "best evidence," provide District Attorneys confidence to go to trial without plea bargaining.

JOHN HUSSEY
MAYOR

# Shreveport Police Department

P. O. DRAWER P.
Shreveport, Louisiana 71161

CHARLES A. GRUBER
CHIEF OF POLICE

April 25, 1990

Federal Communication Commission
1919 M Street N.W., Room 222
Washington, D.C. 20036

Attention: Office of the Secretary - Donna Searcy

Dear Ms. Searcy:

Reference: In the matter of Part 90 of the Commission's Rules to provide for the use of the 220-222 MHz Band by the Private Land Mobile Radio Service

PR DK No. 89-552

The Shreveport Police Department wishes to voice support of the comments of Electronic Tracking System, Inc., with regards to rule-making described in the reference above.

We became involved with Electronic Tracking System (ETS), in 1972 and have found it to be a valuable tool in critical law enforcement areas. Specifically, our department had experience with ETS in the area of financial institutions robbery, where Electronic Tracking System has resulted in robbery felon apprehension and subsequent conviction under circumstances that typically would have resulted in the escape of the suspect. Over a period of time, we have experienced an overall decline in our robbery rate, and this has led to increased personal safety for financial instituting customers and employees, as well as the citizens of our community.

A specific case where the Electronic Tracking System was particularly useful to us occurred recently. A Pioneer Bank was robbed, and having no description of the suspects or suspects' vehicle, we were able to track the suspects using vehicle units to an apartment complex and handheld units to a closet in a specific apartment. Four suspects were arrested and all stolen money was recovered.

If you need additional information, please call me at 318-226-6279.

Sincerely,

CHARLES A. GRUBER
CHIEF OF POLICE

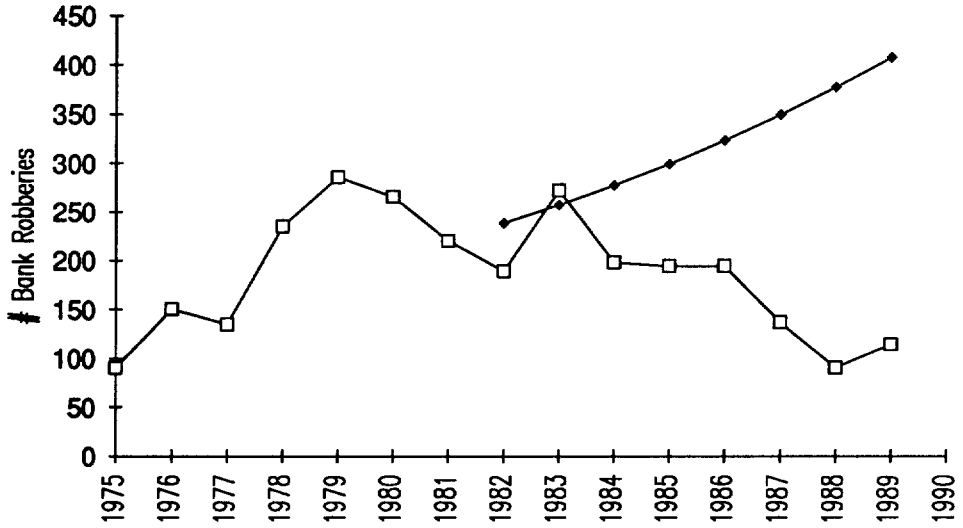
Sgt W. C. Hunter

Sergeant W. C. Hunter
Associate Account Service Representative

WCH/cp

ProNet Tracking Systems

# SAN FRANCISCO, CA
## ETS Introduced 1981




## San Francisco

San Francisco, California was selected as the second test bed for ETS. This test bed includes Oakland and Berkeley across the Bay.

This area represented the problems and complexities of a big city with all the attendant problems and crime therein. Operation in the rolling terrain of Shreveport under straightforward conditions was one thing. Operation in the hilly and mountainous terrain of San Francisco provided significantly different testing parameters.

All elements in San Francisco came together much as they had in Shreveport, with one specific exception. Two major banks in the area decided to take a "wait and see" approach (where in Shreveport there was 100% participation) resulting in a less than 50% initial coverage to effect bank robbery deterrence.

Immediate effects of deterrence in this much more complicated situation do not show in the deterrence curve presented above during the initial few years. However, ETS' impact is easily seen in the impact curve (where bank robbery growth is shown as increasing at a modest 8%, 1/2 the national average). Nevertheless, in 1986, the two large hold-out banks saw the effects, joined in ETS and from that time forward dramatic improvement is seen in both the deterrent and impact curves.

**San Francisco Continued:**

Senior San Francisco Police Department Bank Robbery Squad detective Tim Casey (the man who caught/ recovered Patty Hearst) said "Until we got ETS we hardly ever caught a bank robber unless he tripped over a fire plug and fell in front of a police car."

ETS determined that robbers in San Francisco, were predominantly local, that they tended to rob 10 banks a year, and that they were often involved in "apprentice" programs. With the aid of ETS, police even caught and incarcerated a few bank tellers. Finally, Tracking Systems identified others involved in the crime that were not recognized as such at the scene.

POLICE DEPARTMENT

CITY AND COUNTY OF SAN FRANCISCO

HALL OF JUSTICE
850 BRYANT STREET
SAN FRANCISCO, CALIFORNIA 94103

ADDRESS ALL COMMUNICATIONS:
FRANK M. JORDAN
CHIEF OF POLICE

April 20, 1990

IN REPLY, PLEASE REFER TO
OUR FILE: IR/820

Federal Communications Commission
1919 M Street N.W.
Office of the Secretary
Donna Searcy
Room 222
Washington D.C. 20036

Dear Ms. Searcy:

I have been involved with the ETS system since March 27, 1981 when Texas Instruments brought the system to San Francisco. The San Francisco Police Department has made a very effective use of the Electronic Tracking System in the banking institutions of San Francisco since that time. Our bank robbery rate has dropped since ETS has been installed in our City. We look forward to the time that we are able to utilize additional radio frequencies for such items as tracking suspects involved in incidents other than bank robberies.

At this time we have only one frequency that is used City wide, for bank incidents. The addition of extra radio frequencies would allow us the option of property tags of high value items such as placing an ETS unit on a motorcycle and placing it in an area of high theft, then following the stolen item to the location that it is taken to.

I fully support the application of ETS Inc. for additional frequencies that is now before you for consideration.

Respectfully,

John E. Brunner
Lieutenant #820
Robbery Section

POLICE DEPARTMENT

CITY AND COUNTY OF SAN FRANCISCO

HALL OF JUSTICE
850 BRYANT STREET
SAN FRANCISCO, CALIFORNIA 94103

April 20, 1990

ADDRESS ALL COMMUNICATIONS:
FRANK M. JORDAN
CHIEF OF POLICE

IN REPLY, PLEASE REFER TO
OUR FILE: IR/820

APR 23 1990

Mr. Bob Tall
Executive Director
APCO

Dear Bob:

Please excuse me for sending you a FAX rather than a mail letter on the matter of ETS Inc. application for additional radio frequencies with the F.C.C.

The San Francisco Police Department has been involved with the ETS system since March 27, 1981. Our City has utilized the ETS system successfully since that time, with a major drop in Bank Robbery incidents due to the ETS System. I have personally been involved in the capture of 82 bank robbery suspects since the program began and I feel that the ETS System is a great boom to Law Enforcement.

I have taken the liberty of sending a letter to the F.C.C. and a copy of that letter is being faxed with this letter.

I have been informed by ETS that their application reference is as follows:

> In the matter of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, PR DK. No. 89-552

Your consideration and support in this matter will be a great aid to Law Enforcement within the United States.

Sincerely,

John E. Brunner
Lieutenant #820
Robbery Section

JOHN E. BRUNNER
LIEUTENANT

ROBBERY DETAIL
850 Bryant Street
San Francisco, CA 94103

(415) 553-1201

**Bank of America**

Corporate Security Services #3259
1455 Market Street, 10th Floor
San Francisco, CA 94103

RECEIVED
APR 30 1990

April 24, 1990

Federal Communications Commission
1919 M Street N.W., Room 222
Washington, D.C. 20036

Attn: Office of the Secretary: Donna Searcy

REFERENCE: In the matter of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services

PR DK. NO. 89-552

Dear Commission Members:

We wish to express our support of the comments of ProNet Tracking Systems (PTS), formerly Electronic Tracking Systems, with regards to the above referenced matter.

Bank of America began using the PTS robbery deterrent devices in San Francisco in 1983, and has expanded use of the devices in Northern and Southern California communities where it has become available. We have found the PTS devices to be a highly effective robbery deterrent. The number of our Bank robberies and robbery losses have been significantly reduced in those areas where the PTS devices are in use. Use of the PTS devices has also resulted in an increase in the number of robbers that have been arrested and convicted, that typically would not have been apprehended. We feel the PTS devices are the most effective loss prevention tool currently available to safeguard the Bank's assets, customers and employees.

If you would like specific case information or details regarding the number of devices and locations used, please call me at (415) 622-3757.

Sincerely,

Walter R. Heilner
Vice President and
Senior Deputy Director

WRH:fn

bcc: J. H. Bailey
Harry A. Currie

WELLS FARGO BANK

Security Administration
525 Market Street, 25th floor
San Francisco, California 94105

RECEIVED
MAY 03 1990

April 24, 1990

Federal Communications Commission
1919 M. Street NW Rm. 222
Washington, D.C. 20036

Attention: Donna Searcy

Reference: In the matter of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services

PK DK NO. 89-552

Dear Sirs:

We wish to voice our support of the comments of Electronic Tracking Systems Inc. with regards to rule-making described in the reference above.

We became involved with ETS and the Electronic Tracking System in 1984 and have found it to be a valuable tool in critical law enforcement areas. Specifically, our organization has had experience with ETS in the area of financial institution robbery, where the Electronic Tracking System has resulted in robbery felon apprehension and subsequent conviction under circumstances that typically would have resulted in the robber getting away.

During this time, we have experienced an overall decline in our robbery rate, in the locations it has been used. This has lead to increased personal safety for financial institution customers and employees, as well as for citizens of our community.

The Electronic Tracking System has been particularly useful to our bank on many occasions resulting not only in the apprehensions, but in the full recovery of the stolen money.

During the past two years over sixty thousand dollars per year has been recovered through the use of the ETS product.

If you need additional informational please call (415) 396-3857.

Sincerely,

Ronald L. Renfro
AVP/Security Manager

mw

cc: Harry A. Currie