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April 4, 2003

Via Email (chui@fcc.gov) and Courier Service

Experimental Licensing Branch Office of Engineering and Technology Federal Communications Commission 445 12th Street, SW Washington, DC 20554

Attention:

Mr. Carl Huie (Room 7-A361)

1355T03

Re: <u>Supplement to Request for Special Temporary Authorization</u>; Telex Communications, Inc.; Use of Certificated Wireless Intercom Equipment at Nuclear Facilities for Security Operations near Reactors

Mr. Huie:

This supplement follows the March 13, 2003, request for STA made on behalf of our client, Telex Communications, Inc., a manufacturer and provider of high quality wireless intercom and telecommunications equipment for Part 74 Broadcast Auxiliary and Part 90 Land Mobile use. The purpose of this supplement is to submit additional technical information in order to facilitate consideration of Telex Communications' request for Special Temporary Authority on behalf of users of certain of its equipment. The March 13, 2003 STA, filed pursuant to Section 5.55(g) of the Commission Rules, was an informal application to obtain special temporary authority to permit immediate, temporary use of certain Telex wireless headsets and intercom products within operating nuclear power facilities in the continental United States.

As stated in the initial request, the circumstances justifying this STA, for a period of 180 days, are:

- Heightened security measures at United States nuclear facilities;
- Telex's supply to all existing nuclear facilities in the United States of encrypted audio wireless intercom devices;
- Devices' <u>inside</u> the facilities' shielded containment vessel or in the cooling containment area for ensuring employees' secure operations and communications

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at the nuclear facilities; and

• All current nuclear facilities seeking immediate deployment of secure wireless intercom systems.

The type and purpose of operation are the same for all nuclear facilities: employees' use of belt pack transmitters with headset microphones for operational and security purposes inside contained, enclosed environments, which do not as a practical matter allow the escape of Radio Frequency energy. The devices are to be deployed inside the shielded containment vessel of the nuclear plant or in the cooling containment area, and have virtually no interference potential to licensed Part 74 or Part 90 services outside the facility, or otherwise.

Although signal attenuation outside reactor areas would vary, in the case of each facility, it would be extremely high. No significant Radio Frequency energy is expected outside the grounds of the nuclear facilities, because external walls would shield transmissions thus creating substantial attenuation. Furthermore, no employee will use these devices outdoors on the grounds of any facility.

As requested in the first STA letter, we have taken additional time on behalf of Telex Communications to research the nuclear power plant locations in order to provide this information to the Commission. Please find attached as **Exhibit A**, a list of the locations of nuclear power plants that will be using the encrypted audio wireless intercom devices for which Telex Communications submitted the STA letter request and this supplement. Any such operation of wireless intercom systems would be coordinated in advance with the applicable local Part 74 Broadcast Auxiliary frequency coordinators in the market Counsel for Telex also serves as General Counsel for the Society of Broadcast Engineers, and this request is fully coordinated with SBE.

While the specifications of the devices were set forth in the specification sheet attached to the initial STA letter request (please see attachment, RadioCom Specifications), we have summarized them in the chart below. All nuclear facilities will employ the devices listed. However, not every facility will be using each of the devices. Some nuclear facilities will be using all of the devices, however.

Equipment to be used			Desired frequency(ies)	Emission type	Transmitte r power output	ERP	Ant. gain	
Name of manufactur er	Model	Number of units	FCC Id					

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Telex	BTR-	The	B5DM514/	470 – 608 MHz,	190kF1E	The TPO	The	The
RadioCom	800/BTR-	number	B5DM516	614 – 740 MHz		will range	ERP	antenna
	700	of units		in 18 MHz TX		from 50 mW	will be	s are
\ \nu		will		and RX bands		to 250 mW	equal to	zero dB
TA		vary				peak.	or less	or less
901		accordin					than 50	gain.
1 . + 79		g to the					mW	
 		nuclear					and 250	
		facility.		·			mW	
							peak.	

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CONTINUED

	Equipment to be used				Emissio n type	Transmitt er power output	Effectiv e radiate	Antenn a gain
			T T T T T T T T T T T T T T T T T T T				d power	
Name of manufactur er	Model	Number of units	FCC Id					
Telex RadioCom	BTR600/5 00	The number of units will vary according to the nuclear facility.	B5DM503/B5DM5 05	520 – 608 MHz, 614 – 760 MHz	190kF1 E	The TPO will range from 50 mW to 250 mW peak.	The ERP will be equal to or less than 50 mW and 250 mW peak.	The antenna s are zero dB or less gain.
Pt 90 24	BTR-300		B5DM510	150 – 216 MHz	VI		(1	
ptrd	TR825/TR 800/TR700		B5DM517/ B5DM515/ B5DM515	470 – 608 MHz, 614 – 740 MHz in 18 MHz TX and RX bands				
pg 74	TR600/TR 500		B5DM504/ B5DM506	520 – 608 MHz, 614 – 760 MHz				
8790,74	TR300		B5DM513	150 – 216 MHz	U		~1	
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Inquiries or notifications during the STA period can be directed to this office, or to Mr. Mark Gubser at Telex, who can be reached at (402) 465-7036 (telephone), (402) 467-3279 (facsimile), or mark.gubser@telex.com (email). The mailing address for Telex Communications, Inc. is 8601 East Cornhusker Highway, Lincoln, NE 68505.

The original of this STA request was filed March 13, 2003, in Pittsburgh with the requisite fee of \$50.00, payable by check of this office

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to the Commission. Should any question arise concerning this supplement to the previously-filed request, kindly notify the undersigned counsel. Your prompt review of the STA request is greatly appreciated. Action on this request is urgent, because it is necessary to Homeland Security planning and increasing the security of operations and communications at nuclear power generating facilities in the United States.

Yours very truly,

Christopher D. Imlay

Attachments

cc: Mr. Mark Gubser



	BTR-800/BTR-700	BTR600/500	BTR-300	TR825/TR800/TR700	TR600/TR500	TR300
Overall						
RF Frequency Range:	470 - 608 MHz, 614 - 740 MHz	520 - 608 MHz,	150 – 216 MHz	470 - 608 MHz, 614 - 740 MHz	520 - 608 MHz,	150 - 216 MHz
Power Requirement:	in 18 MHz TX and RX bands 100-240 VAC, 50 - 60 Hz, EC receptacle	614 - 760 MHz 115 VAC, 60 Hz, 8W (230 Vac, 50Hz, Model Avail.) or 12 to 15 V AC/DC	12 to 15 AC/DC (power supply included)	in 18 MHz TX and RX bands 6 "AA" Cells Alkaline (MIMH optional)	614 - 760 MHz 6 "AA" Cets Alkaline (NiMH optionel)	6 "AA" Cells Alkaline (NIMH optional)
Typical Battery Life Alkaline:	N/A	(external) N/A	N/A	11 Hours (Continuous duty)/ 14 Hours (Continuous duty)/	12 Hours (Continuous duty)	24 Hours (Continuous duty)
Typical Battery Life Nickel Metal Hydride (1500 mAh):	WA COLOR		NA.	14 Hours (Continuous duty) 9 Hours (Continuous duty)/ 11 Hours (Continuous duty)/	10 Hours (Continuous duty)	17 Hours (Continuous duty)
Current Draw:	N/A	N/A	N/A	11 Hours (Continuous duty 190 mA (Push-to-Talk, A and B Talk On)	120mA	Typical 82 mA
Temp flange: Dimensions:	-4°F to 130°F (-20°C to 55°C) 19.0° W × 1.72" H × 14.0° D (48.3 cm × 4.4 cm × 35.6 cm)	-4°F to 130°F (-20°C to 55°C) 8.25°W × 1.75°H × 11.25°D (21 cm × 4.5 cm × 28.6 cm)	-4°F to 130°F (-20°C to 55°C) 15.75°W × 1.75°H × 10.5°D (40 cm × 4.5 cm × 27 cm)	140 nA (Push-to-Talk, Talk On) 4"F to 130"F (-20"C to 55"C) 3.75" W × 5.35" H × 2.02" D (9.5 cm × 13.5 cm × 5.1 cm)/ 3.75" W × 5.05" H × 1.65" D (9.5 cm × 12.8 cm × 4.2 cm)/	4°F to 130°F (-20°C to 55°C) 4.00° W × 5.875° H × 1.625° D (102 mm × 149 mm × 41 mm)	4°F to 130°F (9-20°C to 55°C) 4.25°W × 4.125°H × 2.0°D (108 mm × 105 mm × 51 mm)
Weight:	7 lbs. 2 az. (3.24 kg) / 6 lbs. 15 az. (3.15 kg)	4 lbs. (1.8 kg)	6 lbs. 2 az. (2.8 kg)	21 oz. (595 g) with alkaline batteries/ 15 oz. (425 g) with alkaline batteries/	22 oz. (625 g) with betteries	13.5 oz. with betteries (384 g)
Transmit Antenna:	1/2 Wave (supplied) TNC Male Connector	1/2 Wave (supplied) TNC connector on chassis	5/8 Wave (supplied) S0239 connector on chassis	16 oz. (454 g) with alkaline batteries 1/4 Wave (supplied), Screw type	1/4 Wave Wire (attached)	1/4 Wave (attached)
Receive Antenna:	1/2 Wave (supplied) TNC Male Connector	1/2 Wave (supplied) TNC connector on chassis	5/8 Wave (supplied) S0239 connector on chassis	1/4 Wave (supplied), Screw type	1/4 Wave Wire (attached)	1/4 Wave (attached)
FCC ID:	B5DM514/ B5DM516	B5DM503/ B5DM505	B5DM510	B5DM517/ B5DM515/ B5DM515	B5DM504/ B5DM506	B5DM513
Frequency Response:	300 Hz - 8 KHz	300 Hz - 4.5 KHz / 300 Hz - 8 KHz	300 Hz - 5 KHz	300 Hz+ 8 KHz	300 Hz - 4.5 KHz / 300 Hz - 8 KHz	300 Hz - 5 KHz
Four Wire Input: Four Wire Output:	Level Adjustable (2 Vrms typical) Level Adjustable (2 Vrms typical)	N/A N/A	N/A N/A	N/A N/A	N/A	N/A N/A
Telex* Intercom:	Input/Output Level Adjustable (1 Vrms typical), Line impedance 300 Ω	Input/Output Level Adjustable (1 Vrms typical), Line impedance 300 Ω	Input/Output Level Adjustable (1 Vrms typical), Line impedance 300 Ω	NA	NA	NA
ATS® Intercom:	input/Output Level Adjustable (0.775 Virns typical),	input/Output Level Adjustable (0.775 Vrms typical),	Input/Output Level Adjustable (0.775 Vrms typical),	N/A	N/A	W A
ClearCom* Intercom:	Line Impedance 200 Ω input/Output Level Adjustable (1 Vrms typical),	Line Impedance 200 Ω Interface required	Line Impedance 200 Ω input/Output Level Adjustable (1 Vrms typical),	N/A	N/A	N/A
Auxiliary Input: Auxiliary Output:		Adjustable (2 Vrms typical) Adjustable (2 Vrms typical into 600 Ω)		N/A N/A	N/A N/A	N/A N/A
Stage Announce Output:	(at rated deviation) Internally Adjustable (1 Vrms typical at rated deviation into 100 KΩ) / N/A.	(at rated deviation) N/A	(at rated deviation) N/A	N/A	IVA	NVA
Stage Announce Relay:	Dry contact, rated at 1Amp, 24 V Max. / N/A	N/A	N/A	NA	N/A	N/A
Transmitter						
Type: Transmit Power;	Synthesized, 720 channels 100 mW Max. (High), 10 mW (Normal) / 50 mW Max. (High), 5 mW (Normal)	Crystal Controlled, Switchable 40 mW	Crystal Controlled 50 mW	Synthesized, 720 channels 50 mW Max. (Auto-power reduction when close to base)	Crystal Controlled, Switchable 40 mW	Crystal Controlled 50 mW
RF Frequency Stability: Modulation:	0.005% FM, 40 KHz Deviation	Crystal Controlled, 0.005% F-1-E ±32 KHz deviation 62.5-K baud	Crystal Controlled, 0.005% FM, 3000 Hz Deviation, 115 micro-seconds Pre-emphasis	0.005% FM, 40 KH2 Deviation	Crystal Controlled, 0.005% F-1-E ±32 KHz deviation 62.5 K baud / F3 40 KHz deviation	Crystal Controlled, 0.005% PM, 3000 Hz Deviation, 115 micro-seconds Pre-emphasis
Modulation Limiter: Modulation Fraquency Range:	Peak-Responding Compressor 300 - 8000 Hz ±2 dB	Internal Compressor 300 – 4500 Hz ±2 dB 300 – 8000 Hz ±2 dB	Internal Compressor 300 + 5000 Hz ±2 dB	Peak-Responding Compressor 300 - 8000 Hz ±2 dB	100 micro-seconds Pre-emphasis Internat Compressor 300 - 4500 Hz ±2 dB	Internal Compressor 300 – 5000 Hz ±2 dB 300 – 8000 Hz ±2 dB
Microphone Audio Input: Microphone Input Sensitivity: Radiated Harmonics	30 ohms – 3500 ohms 9 mV	30 ohms – 3500 ohms 2 mV	30 ohms – 3000 ohms 2 mV Dynamic, 4 mV Electret	30 ohms – 3500 ohms 7 mV	30 ohms – 3500 ohms 2 mV	30 ohms - 3500 ohms 2 mV Dynamic, 4 mV Electret
& Spurious: FCC Acceptance:	Exceeds FCC specifications Type accepted under FCC Part 74	-45 dBC Type accepted under FCC Part 74	-45 dBC, Exceeds FCC Specifications Under Parts 90 and 74	Exceeds FCC specifications Type accepted under FCC Part 74	-45 dBC Type accepted under FCC Part 74	-45 dBC, Exceeds FCC Specifications Under Parts 90 and 74
Receiver Type:	Dual Conversion Superheterodyne, Synthesized, FM, 720 channels	Single Conversion Superheterodyne, FM	Dual Conversion Superheterodyne, FM	Two, Dual Conversion Superheterodyne, Synthesized, FM, 712 channels/ Dual Conversion Superheterodyne, Synthesized, FM, 720 channels/ Dual Conversion Superheterodyne.	Single Conversion Superheterodyne, FM	Dual Conversion Superheterodyne, FM
RF Sensitivity:	<0.8 µV for 12 dB SINAD	<0.7 µV for 12 d8 SINAD	Less than 0.5 µV for 12 dB SINAD	Synthesized, FM, 720 channels <0.8 µV for 12 dB SINAD/ <0.7 µV for 12 dB SINAD/	<0.7 µV for 12 dB SINAD	Less than 0.5 pV for 12 oB SINAD
Squeich Threshold:	20 dB SiNAD (About 1.0uV)	3.0 μV / 1.5 μV	20 dB Quieting	<0.7 µV for 12 dB SINAD 20 dB SINAD (About 1.0 µV)	3.0 μV / 1.5 μV	20 dB Quieting
Signal-to-Noise Ratio: IF Selectivity:	95 0B 3 dB at 230 KHz	55 dB / 63 dB 3 dB at 230 KHz / 3 dB at 150 KHz (Ceramic Filter)	90 dB 3 dB at 30 KHz (4 pole Monolythic Filters	95 dB) 3 dB at 230 KHz	55 (BA63 dB 3 dB at 230 KHz / 3 dB at 150 KHz (Ceramic Filter)	90 dB 3 dB at 30 kHz (Ceramic Filters)
Image Rejection:	70 dB or better	70 dB or better	65 dB or better	70 dB or better	70 d8 or better	70 dB or better
Squeich Quieting:	95 dB	67 dB / 65 dB	90 dB	95 dB 0.005%	67 dB / 65 dB	90 dB Crystal Controlled, 0.005%
RF Frequency Stability: Distortion:	0.005% <1% at full deviation	Crystal Controlled, 0.005% <3.5% / <1.5% at Rated Output	Crystal Controlled, 0.005% Less than 1% at Rated Output	<1% at full deviation	Crystal Controlled, 0.005% <3.5% / <1% at Rated Output	Less than 1% at Rated Output
Local Headset Output:	40 mW autput into 600 Ω (1% Distortion)	32 mW into 600 chms	NA Natification under ECC Part 15	40 mW autput into 600 Ω (1% Distortion)	32 mW into 600 ohms	32 mW Into 600 ahms
FCC Acceptance:	Notification under FCC Part 15	Notification under FCC Part 15	Notification under FCC Part 15	Notification under FCC Part 15	Notification under FCC Part 15	Notification under FCC Part 15

Distributed by:

Telex Communications, Inc. 12000 Portland Avenue South Burnsville, MN 55337 1-800-392-3497 www.telex.com

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SUPPLEMENT TO

STA REQUEST

EXHIBIT A

Nuclear Power Plants Operating in the United States

Name	L	Number of Units	
	County	State	
Browns Ferry		Alabama	3 (2 operating)
Joseph M. Farley	Houston	Dothan, Alabama	2
Palo Verde	Maricopa	Wintersburg, Arizona	3
Arkansas Nuclear One	Pope	Arkansas	2
Diablo Canyon	San Luis Obispo	California	2
San Onofre	San Diego	San Clemente, California	3 (2 operating)
Millstone		Waterford, Connecticut	3 (2 operating)
Crystal River	Citrus	Florida	1
St. Lucie		Ft. Pierce, Florida	1
Turkey Point	Dade	Miami, Florida	2
Edwin I. Hatch		Baxley, Georgia	1
Vogtle	Burke	Augusta, Georgia	1
Braidwood	Will	Illinois	2
Byron	Ogle	Illinois	2
Clinton		Clinton, Illinois	1

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Dresden	Grundy	Morris, Illinois	2
Name	Loca	ation	Number of Units
	County	State	
			_
LaSalle County	LaSalle	Illinois	2
0104		Dovernment Book	2
Quad Cities		Davenport, Rock Island, Moline, East	2
		Moline, Illinois	·
		Wionne, minors	
Duane Arnold		Palo, Iowa	1
Wolf Creek		Burlington, Kansas	1
River Bend		West Feliciana Parish,	1
		Baton Rouge,	
		Louisiana	
Waterford		St. Charles Parish,	1
waterford		Taft, Louisiana	
		Tart, Louisiana	
Calvert Cliffs		Lusby, Maryland	2
Carvert Chiris		Eusey; Waryiana	
Pilgrim	Plymouth	Plymouth,	1
		Massachusetts	
Donald C. Cook	Berrion	Michigan	2
Enrico Fermi		Detroit, Michigan	1
		C 41 II	1
Palisades		South Haven,	1
		Michigan	
Monticello	Sherburne and Wright	Monticello,	1
MONUCCIO	Sherburne and Wright	Minnesota	1
		1411111CSOLA	
Prairie Island		Red Wing, Minnesota	2

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Grand Gulf	Claiborne	Vicksburg,	1
		Mississippi	
Name		Location	Number of Units
	County	State	
Callaway	Callaway	Missouri	1
Cooper Station		Brownville, Nebraska	1
Fort Calhoun		Omaha, Nebraska	1
Seabrook		Portsmouth, New Hampshire	1
Hope Creek		Lower Alloways Creek Township, New Jersey	1
Oyster Creek		Forked River, New Jersey	1
Salem		Salem, New Jersey	2
Fitzpatrick		Oswego, New York	1
Indian Point	Westchester	Buchanan, New York	2
Nine Mile Point		Oswego, New York	2
Robert E. Ginna		Rochester, New York	1
Brunswick	Brunswick	North Carolina	2
McGuire		near Charlotte, North Carolina	2

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Shearon-Harris	Wake	near Raleigh, North Carolina	1
Davis-Besse		Oak Harbor, Ohio	1
Perry Name	Lake	near Cleveland, Ohio	1 Number of Units
Name	County	State	14dHiber of Cines
Beaver Valley Power Station		western Pennsylvania	2
Limerick	Montgomery	near Philadelphia, Pennsylvania	2
Peach Bottom		Pennsylvania	2
Susquehanna	Luzerne	near Allentown, Pennsylvania	2
Three Mile Island		near Harrisburg, Pennsylvania	1
Catawba		north-central South Carolina	1
Oconee		near Greenville, South Carolina	3
H.B. Robinson		near Hartsville, South Carolina	1
Virgil C. Summer	Fairfield	near Jenkinsville, South Carolina	1
Sequoyah		near Chattanooga, Tennessee	2

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Watts Bar		between Chattanooga and Knoxville, Tennessee	1
Comanche Peak	Somervell	Texas	2
South Texas Project		near Houston, Texas	2
Name	I		Number of Units
	County	State	
Vermont Yankee	Windham	Vernon, Vermont	1
North Anna	Louisa	Virginia	2
Surry	Surry	near Williamsburg, Virginia	2
Columbia	Benton	Washington	1
Kewaunee		Carlton, Wisconsin	1
Point Beach		near Two Rivers and Manitowoc, Wisconsin	2