

RADIO SERVICE BULLETIN

ISSUED MONTHLY BY BUREAU OF NAVIGATION, DEPARTMENT OF COMMERCE

Washington, September 1, 1916—No. 21

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WASHINGTON, *January 14, 1915.*

To collectors of customs, radio inspectors, and others concerned:

This publication is issued monthly by the Bureau of Navigation, Department of Commerce, and distributed to the United States officers engaged in or concerned with the enforcement of the radio laws for their guidance and instruction, and to those concerned with the operation of Government and commercial radio stations for their information.

The Radio Service Bulletin supersedes the quarterly supplements to the List of Radio Stations of the United States and contains information concerning Government, commercial, and special stations only. Information regarding amateur stations appears only in the annual edition of the List of Radio Stations of the United States.

The bulletin contains tables of new stations, alterations, and corrections under headings, so that the List of Radio Stations of the United States and the List of Radiotelegraph Stations, published by the international bureau at Berne, may be brought up to date. Additions, alterations, and corrections should be entered in these two publications promptly on receipt of the bulletin.

Amendments to or changes in the Radio Laws and Regulations of the United States (edition of July 27, 1914) are printed in this bulletin in such a manner that they may be clipped and pasted in their proper places in that publication.

Items of general interest concerning the enforcement of the radio laws are printed in the bulletin from time to time, as occasion warrants.

E. T. CHAMBERLAIN,
Commissioner of Navigation.

Approved:
E. F. SWEET,
Acting Secretary

NEW STATIONS.

LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Additions to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

Station.	Call signal.	Range.	Wave lengths.	Service.	Hours.	Station controlled by—
Latouche, Alaska ¹	KIM	150	300, 450, 600, 1650	PG	Kennecott Copper Corporation. National Guard, State of Maine.
Portland, Me. ²	WXV	30		O	X	

¹ System, Kilbourne & Clark, 1,000; rates, North and South American service, 6 c. per word, 60 c. minimum per radiogram.

² System, U. S. Army, 1,000.

SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS.

[Additions to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

Vessel.	Call signal.	System.	Wave lengths.	Service.	Hours.
Adams ¹	NTI	U. S. Navy.....	300, 600	PG	N
Allen ¹	NJD	do.....	300, 600	PG	N
Arizona ¹	NBW	do.....	300, 600	PG	N
Balboa ²	WHU	Marconi.....	300, 600		
Barry ¹	NIC	U. S. Navy.....	300, 600	PG	N
Blakely ¹	NVX	do.....	300, 600	PG	N
Bushnell ¹	NZC	do.....	300, 600	PG	N
Callao ²	WHF	Halcun, 450.....	300, 600	PG	X
Chauncey ¹	NIF	U. S. Navy.....	300, 600	PG	N
Conyngham ¹	NJE	do.....	300, 600	PG	N
D-1 ¹	NXP	do.....	300, 600	PG	N
D-2 ¹	NXQ	do.....	300, 600	PG	N
D-3 ¹	NXR	do.....	300, 600	PG	N
Dale ¹	NIG	do.....	300, 600	PG	N
Davis ¹	NJF	do.....	300, 600	PG	N
D. G. Scofield ⁴	WRD	Marconi.....	300, 600		
Don Juan de Austria ¹	NQI	U. S. Navy.....	300, 600	PG	N
Dorothea ¹	NTS	do.....	300, 600	PG	N
Dupont ¹	NWC	do.....	300, 600	PG	N
Ericsson ¹	NIS	do.....	300, 600	PG	N
Essex ¹	NMY	do.....	300, 600	PG	N
Fort Bragg ⁶	WLH	Halcun.....	300, 600		
Fortune ¹	NVL	U. S. Navy.....	300, 600	PG	N
Fulton ¹	NZD	do.....	300, 600	PG	N
General Miffin ⁶	WZX	U. S. Army, 1,000.....	400	O	X
Gopher ¹	NNY	U. S. Navy.....	300, 600	PG	N
H. C. Folger ⁷	KHS	Marconi.....	300, 600		
J. W. Van Dyke ⁷	KHR	do.....	300, 600		
Kanawha ¹	NND	U. S. Navy.....	300, 600	PG	N
L-1 ¹	NYN	do.....	300, 600	PG	N
L-2 ¹	NYO	do.....	300, 600	PG	N
L-3 ¹	NYP	do.....	300, 600	PG	N
L-4 ¹	NYQ	do.....	300, 600	PG	N
L-9 ¹	NYV	do.....	300, 600	PG	N
L-10 ¹	NYW	do.....	300, 600	PG	N
L-11 ¹	NYX	do.....	300, 600	PG	N
M-1 ¹	NYZ	do.....	300, 600	PG	N

¹ Rates, 4 c. per word 40 c. minimum per radiogram. Radio station operated and controlled by the United States Naval Communication Service, Radio, Va. Government, owner of vessel.

² Columbian Maritime Co., owner of vessel.

³ Range, 150. Rates, North and South American service, 4 c. per word 40 c. minimum per radiogram; transoceanic service, 8 c. per word 80 c. minimum per radiogram. Radio station operated and controlled by George M. McNear (Inc.), owner of vessel.

⁴ Radio station operated and controlled by Standard Oil Co. of California, owner of vessel.

⁵ Radio station operated and controlled by Charles H. Higgins, owner of vessel.

⁶ Range, 30. Radio station operated and controlled by United States Signal Corps, War Department. Government, owner of vessel.

⁷ Atlantic Refining Co. (Philadelphia), owner of vessel.

SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS—continued.

Vessel.	Call signal.	System.	Wave lengths.	Serv-ice.	Hours.
Major Guy Howard ¹	WZY	U. S. Army, 1,000.....	400	O	X
Manga Reva ²	KIP	Marconi, 400.....	300, 600	PG	X
Marina Quezada ³	KHP				
Maumee ⁴	NNE	U. S. Navy.....	300, 600	PG	N
Melville ⁴	NKA	do.....	300, 600	PG	N
Memphis ⁴	NUG	do.....	300, 600	PG	N
Morris ⁴	NWS	do.....	300, 600	PG	N
Nevada ⁴	NCA	do.....	300, 600	PG	N
Oklahoma ⁴	NCB	do.....	300, 600	PG	N
Olympia ⁴	NGG	do.....	300, 600	PG	N
Pennsylvania ⁴	NCE	do.....	300, 600	PG	N
Patrol ⁵	WIP	Composite, 500.....	300, 325	(⁶)	X
Porter ⁴	NOO	U. S. Navy.....	300, 600	PG	N
Quiros ⁴	NQZ	do.....	300, 600	PG	N
Ransom B. Fuller ⁷	KRF	Marconi, 480.....	300, 600	PG	X
Resolute ⁸	KRM				
Rowan ⁴	NKR	U. S. Navy.....	300, 600	PG	N
Sampson ⁴	NKS	do.....	300, 600	PG	N
San Diego ⁴	NCZ	do.....	300, 600	PG	N
San Francisco ⁴	NTQ	do.....	300, 600	PG	N
San Pedro ⁹	WZZ	U. S. Army, 1,000.....	400	O	X
Savern ⁴	NZB	U. S. Navy.....	300, 600	PG	N
Sterling ⁴	NNL	do.....	300, 600	PG	N
Tampa ¹⁰	NRQ	U. S. C. G., 1,000.....	300, 600, 750, 1,000	PG	N
Tucker ⁴	NKV	do.....	300, 600	PG	N
Vixen ⁴	NSU	do.....	300, 600	PG	N
Wadsworth ⁴	NKW	do.....	300, 600	PG	N
Wainwright ⁴	NKX	do.....	300, 600	PG	N
Wilkes ⁴	NKQ	do.....	300, 600	PG	N
Wolverine ⁴	NGW	do.....	300, 600	PG	N
Yantic ⁴	NHX	do.....	300, 600	PG	N

¹ Range, 30. Radio station operated and controlled by United States Signal Corps, War Department. Government, owner of vessel.

² Range, 200. Rates, North and South American service 4 c. per word 40 c. minimum per radiogram, transoceanic service, 8 c. per word 80 c. minimum per radiogram. Radio station operated and controlled by Marconi Co. Brynhilda Shipping Corporation, owner of vessel.

³ Edwin C. Gregory, owner of vessel.

⁴ Rates, 4 c. per word 40 c. minimum per radiogram. Radio station operated and controlled by the United States Naval Communication Service, Radio, Va. Government, owner of vessel.

⁵ Range, 5. Radio station operated and controlled by city of Seattle, harbor department. City of Seattle, owner of vessel.

⁶ Service, limited commercial.

⁷ Range, 200. Rates, North and South American service 4 c. per word 40 c. minimum per radiogram, transoceanic service, 8 c. per word 80 c. minimum per radiogram. Radio station operated and controlled by Marconi Co. Eastern Steamship Corporation, owner of vessel.

⁸ Merritt & Chapman Derrick & Wrecking Co., owner of vessel.

⁹ Range, 30. Radio station operated and controlled by United States Signal Corps, War Department. Government, owner of vessel.

¹⁰ Range, 300. Rates, 4 c. per word 40 c. minimum per radiogram. Radio station operated and controlled by United States Coast Guard. Government, owner of vessel.

LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS.

[b=ship stations; c=land stations.]

Call signal.	Name.	Call signal.	Name.
KHP	Marina Quezada.....b	NQI	Don Juan de Austria.....b
KHR	J. W. Van Dyke.....b	NQZ	Quiros.....b
KHS	H. C. Folger.....b	N Q	Tampa.....b
KIM	Latouche, Alaska.....c	NSU	Vixen.....b
KIP	Manga Reva.....b	NTI	Adams.....b
KRF	Ransom B. Fuller.....b	NTQ	San Francisco (NTQ).....b
KRM	Resolute.....b	NTS	Dorothea.....b
NBW	Arizona.....b	NUG	Memphis.....b
NCA	Nevada.....b	NVI	Fortune.....b
NCB	Oklahoma.....b	NVX	Blakely.....b
NCE	Pennsylvania (NCE).....b	NWC	Dupont.....b
NCZ	San Diego.....b	NWS	Morris.....b
NGG	Olympia.....b	NXP	D-1.....b
NGW	Wolverine.....b	NXQ	D-2.....b
NHX	Yantic.....b	NXR	D-3.....b
NIC	Barry.....b	NYN	L-1.....b
NIF	Chauncey.....b	NYO	L-2.....b
NIG	Dale.....b	NYP	L-3.....b
NIS	Ericsson.....b	NYQ	L-4.....b
NJD	Allen.....b	NYV	L-9.....b
NJE	Conyngham.....b	NYW	L-10.....b
NJP	Davis.....b	NYX	L-11.....b
NKA	Melville.....b	NYZ	M-1.....b
NKQ	Wilkes.....b	NZB	Severn.....b
NKR	Rowan.....b	NZC	Bushnell.....b
NKS	Sampson.....b	NZD	Fulton.....b
NKV	Tucker.....b	WHF	Callao.....b
NKW	Wadsworth.....b	WHU	Balboa.....b
NKX	Wainright.....b	WIP	Patrol.....b
NMY	Essex (NMY).....b	WLH	Fort Bragg.....b
NND	Kanawha.....b	W:D	D. G. Scofield.....b
NNE	Maumee.....b	WXV	Portland, Me.....c
NNL	Sterling.....b	WZX	General Miffin.....b
NOO	Porter.....b	WZY	Major Guy Howard.....b
NNY	Gopher.....b	WZZ	San Pedro.....b

SPECIAL LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Additions to the List of Radio Stations of the United States, edition of July 1, 1916, only.]

Station.	Call signal.	Wave length.	Service.	Hours.	Station controlled by—
New York, N. Y. (2 YT).....	2YT	300, 300, 600	P	X	Marconi Co.
San Francisco, Cal. (6XW).....	6XW	300, 450, 600	P	X	Eldridge Buckingham.

ABBREVIATIONS.

The necessary corrections to the List of Radio Stations of the United States and to the International List of Radiotelegraph Stations, appearing in this Bulletin under the heading "Alterations and corrections," are published after the stations affected in the following order:

Name = Name of station.

G. loc = Geographical location: O = west longitude, N = north latitude.

Call = Call letters assigned.

System = Radio system used and sparks per second.

Range = Normal range in nautical miles.

W. L. = Wave lengths assigned: Normal wave lengths in italics.

Service = Nature of service maintained:

PG = General public.

PR = Limited public.

P = private.

O = Government business exclusively.

Hours =Hours of operation:

N=Continuous service.

X=No regular hours.

m=a. m. (12m=midday).

s =p. m. (12s=midnight).

Rates =Ship or coast charges, in cents: c=cents. (The rates in the international list are given in francs and centimes. For approximate purposes, 1 franc equals 20 cents and 5 centimes equal 1 cent.)

Notes =Refer to notes in the Berne list.

NOTICE.

It will be noted that the additions, alterations, and corrections contained in this Bulletin apply to the List of Radio Stations of the United States, edition of July 1, 1916, which is now in the hands of the printer, although it is not possible at this time to anticipate its delivery. All additions, alterations, and corrections appearing in this and later editions of the Bulletin should be saved and inserted in the new annual list as soon as it is received.

A sufficient number of blank pages will be inserted in the back of the new list in order that these particulars may be clipped and pasted therein, enabling radio operators and others concerned to keep their annual list up to date with very little trouble.

ALTERATIONS AND CORRECTIONS.

LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

BALTIMORE, MD.—System, Marconi-United, 240; W. L., 300, 450, 600.

BOSTON, MASS. (WCH).—Strike out all particulars.

CAPE St. ELIAS, ALASKA.—Service, 0.

CLEVELAND, OHIO.—Hours, 8m-12m, 12.30s-7s, 8s-11s, 12s-7m.

EUREKA, CAL. (KPM).—W. L., 300, 530, 600.

ISLE ROYAL, MICH.—Strike out all particulars.

KOGGIUNG, ALASKA (KVV).—Service, PG.

LOS ANGELES, CAL. (KEX).—Strike out all particulars.

NAVASSA ISLAND.—System, Bureau of Standards, 1,000; W. L., 600, 750; service, limited commercial; hours, X. Notes: Radio station operated and controlled by Snare & Triest Co. United States Government (Bureau of Lighthouses), owner. The station is restricted to communication with Guantanamo, Cuba, and Bowden, Jamaica.

NEW LONDON, CONN. (NRZ).—G. loc., 72° 05' 40"—N. 41° 22' 40"; range, 100; system, U. S. Coast Guard, 120.

NEWPORT, R. I. (WCI).—Range, 100; system, National Electric Signaling Co., 1,000; hours, 7s-6m.

PROVIDENCE, R. I.—System, Marconi, 120; W. L., 300, 450, 600.

RIVER ROUGE, MICH. (WDR).—Note: This station is open during season of navigation only.

ROCHE HARBOR, WASH.—Strike out all particulars.

SAULT STE. MARIE, MICH.—Strike out all particulars.

SEATTLE, WASH. (KPE).—Range, 100; system, composite, 120; W. L., 300, 575, 600.

SHIP STATIONS, ALPHABETICALLY BY NAMES OF VESSELS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of July 1, 1916, and to the International List of Radiotelegraph Stations published by the Berne bureau.]

ADMIRAL FARRAGUT.—System, Kilbourne & Clark, 240; W. L., 300, 450, 515, 600.

ALASKAN.—Hours, X.

ARDMORE.—W. L., 300, 450, 600.

BUNKER HILL.—W. L., 300, 450, 600.

- CALVIN AUSTIN.—System, Marconi, 400.
 CITY OF BANGOR.—System, Marconi, 480.
 CLINCHER.—Range, 250, system, Marconi, 1,000; hours, X.
 CORDOVA.—Hours, X.
 CORWIN.—Strike out all particulars.
 DOROTHY BRADFORD.—Note: Apparatus for emergency use only; not open to public service. Cape Cod Steamship Co., owner of vessel.
 ECUADOR.—Range, 200; system, Marconi, 240; hours, N.
 HALCYON.—System, Marconi; W. L., 300, 450, 600.
 HERBERT G. WYLIE.—W. L., 300, 450, 600; rates, North and South American service, 4 c. per word 40 c. minimum per radiogram, transoceanic service, 8 c. per word 80 c. minimum per radiogram.
 J. M. DANZIGER.—Range, 250; system, Marconi, 1,000; hours, X.
 MIAMI (NRQ).—Strike out all particulars.
 NANN SMITH.—Strike out all particulars.
 OLD COLONY.—Strike out all particulars.
 RESTORER.—Hours, X. Note: Radio station operated and controlled by Marconi Co.
 SIALIA.—System, Telefunken, 1,000; W. L., 300, 600; service, PG; hours, X; rates, North and South American service, 4 c. per word 40 c. minimum per radiogram, transoceanic service 8 c. per word 80 c. minimum per radiogram. Notes: Radio station operated and controlled by estate of J. K. Stewart, owner of vessel.
 STANDARD ARROW.—Range, 250; system, Marconi, 1,000; hours, X.
 TOPILA.—System, Marconi, 1,000; W. L., 300, 450, 600; rates, North and South American service, 4 c. per word 40 c. minimum per radiogram, transoceanic service, 8 c. per word 80 c. minimum per radiogram.
 ULYSSES.—Range, 300; system, Kilbourne & Clark, 1,000; service, PG; hours, N; rates, North and South American service, 4 c. per word 40 c. minimum per radiogram. Note: Radio station operated and controlled by Panama Railroad Co.
 VACUUM.—Range, 250; system, Marconi, 1,000; W. L., 300, 450, 600; hours, X.
 W. S. PORTER.—W. L., 300, 600; 1,800.

LAND AND SHIP STATIONS, ALPHABETICALLY BY CALL SIGNALS.

Strike out all the particulars following the call signals: KEX, KJO, KRW, NRQ, WBO, WOH, WNN, WRO, and WSI.

SPECIAL LAND STATIONS, ALPHABETICALLY BY NAMES OF STATIONS.

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of July 1, 1916, only.]

- ANN ARBOR, MICH.—450, 600, 1,100, 2,000.
 FARMINGTON, CONN.—Strike out all particulars.
 ITHACA, N. Y. (8XU).—Call, 8XU; W. L., variable.
 MEMPHIS, TENN. (5XC).—Strike out all particulars.
 NEW YORK, N. Y. (2XH).—Strike out all particulars.
 NEW YORK, N. Y. (2XR).—Strike out all particulars.
 NEW YORK, N. Y. (2YS).—W. L., 250, 300, 600. Note: Radio station operated and controlled by Joseph G. Baier (Stuyvesant High School Radio Club).
 OAKLAND, CAL. (6XC).—Strike out all particulars.
 OAKLAND, CAL. (6XT).—Strike out all particulars.
 SEATTLE, WASH. (7XM).—Strike out all particulars.
 STEAMSHIP *Tyler*.—Strike out all particulars.
 WARREN, OHIO.—Strike out all particulars.

SPECIAL LAND STATIONS, ALPHABETICALLY BY CALL SIGNALS.

Strike out all the particulars following the call signals: 1ZZ, 2XH, 2XR, 2XT, 5XC, 6XC, 6XT, 7XM, and 8XW.

MISCELLANEOUS.

MARINE DISASTERS IN WHICH WIRELESS FIGURED DURING FISCAL YEAR 1916.

1915.

July 2.—Steamship *Panuco* grounded at entrance to South Pass, La., with a crew of 35 aboard. Aid was summoned by wireless and the vessel was floated.

July 10.—The pilot boat *New Jersey* was rammed and sunk by the United Fruit steamer *Manchioneal* at the eastern entrance to Ambrose Channel. The steamship *Manchioneal* saved the crew, but the SOS calls sent out brought assistance promptly, which, however, was not needed.

July 11.—The *Invermore* was wrecked near Brig Harbor, Labrador. The distress call was sent by radio and the necessary aid was obtained.

July 15.—The steamship *Jutlandia* ran aground north of Gatun Locks, Panama Canal. The vessel was rescued, however, and no lives were lost.

July 22.—The steamship *Sucha*, while on fire in the Gulf of St. Lawrence, signaled for help by wireless, which was received by the *Royal George*, and the latter vessel proceeded to the rescue of the *Sucha*, but later received word by wireless that the fire had been extinguished and that assistance was not needed.

August 2.—The steamship *Georgian* went aground off Duxbury Reef. The steamship *Harvard* responded to the SOS call and no lives were lost.

August 4.—The *Emma Angel* was storm-battered and water-logged 45 miles southeast of the Highlands and signaled to the *Bermudian* near-by, which sent a wireless distress call, to which the *Seneca* responded and all on board were saved.

August 13.—The *El Sud* grounded on Galveston Bar. The tug *Senator Bailey* responded and brought the necessary assistance.

August 19.—The steamer *Baron Erskine* when one day from Avonmouth was torpedoed by a submarine. There were 108 persons on board, but no lives were lost.

August 20.—The steamer *Marrowijne* is supposed to have been sunk in a storm in the Gulf of Mexico. Nothing definite is known in regard to this disaster and probably never will be.

August 23.—Steamship *Metapan* grounded in Cartagena Harbor. There were 45 passengers and 19 in crew. The cargo was promptly discharged into lighters and steamer subsequently floated.

August 29.—Steamship *Admiral Watson* rammed by the steamship *Paraiso* while lying in dock, Seattle, Wash., sinking in 10 minutes. All aboard were saved with the exception of one person.

August 30.—Steamship *Edith*, of the Alaska Steamship Co., when 40 miles northeast of Cape St. Elias, listed badly on account of shifting of cargo of copper concentrates. The SOS call brought the necessary aid and all on board were saved. The fate of the vessel, however, has not been definitely learned.

September 13.—Steamship *Sant Anna*, of the Fabre Line, was on fire in mid-ocean, latitude 40° 23' north, longitude 47° 30' west. The SOS call brought the *Ancona*, which took off 600 persons and convoyed the distressed vessel to port. The *Sant Anna* carried 1,700 persons in addition to the crew.

September 19.—Steamship *Athinai* was destroyed by fire in mid-ocean, latitude 40° 54' north, longitude 58° 47' west. The *Tuscania* and *Romanian Prince* responded, resulting in the saving of 470 lives.

October 8.—Steamship *Mariposa* grounded and sank on rocky shore in Llama Passage, off Pointer Island, British Columbia. The SOS call was heard by two vessels. The *Despatch*, being within 30 miles, responded and rescued the 139 persons on board.

November 22.—Steamship *Santa Clara* was wrecked on jetty at Coos Bay, Oreg. Wireless succeeded in bringing a vessel to the aid of the wrecked ship and 93 persons were saved.

November 5.—The steamship *Fort Bragg* grounded in Gulf of California. The U. S. S. *San Diego* responded to the distress call and 47 persons were rescued.

November 5.—The steamship *Rio Lages* caught fire in mid-ocean, latitude 41° 58' north, longitude 59° 30' west. Distress calls were sent and all on board were saved.

November 8.—The steamship *Rochambeau* caught fire at sea and sent SOS call by wireless; later, however, she sent another message stating that the fire was under control.

November 9.—Steamship *Lievatta* (Italian), loaded with cased kerosene and gasoline, caught fire 65 miles east of Sabine Bar, Tex.; reported by wireless by steamship *Gulfstream*, which vessel stood by the burning steamer until other assistance, summoned by wireless, arrived from Port Arthur and Galveston. Without the assistance thus secured the vessel and cargo would have been a total loss.

November 27.—The steamship *Minnesota*, when 760 miles south of San Francisco, sent wireless stating that machinery was disabled. The necessary aid was rendered by the *Iroquois* and the tug *Dauntless*, which responded promptly upon hearing the distress call.

December 1.—Steamship *Flamenco* ran aground at South Pass, La. The accident was reported by wireless and rescue soon followed.

December 13.—Steamship *Antilla* collided with a barge beached off Sea Gate. Wireless was instrumental in saving the cargo.

December 27.—Steamship *Thessaloniki* sprung a leak about 400 miles southeast of Sandy Hook. Several vessels responded to the distress call and 300 persons were saved.

1916.

January 1.—Steamship *Vandeggen*, not equipped with wireless, showed signals of distress, which were seen by the steamship *Muskogee*. Message sent broadcast giving position of disabled steamer, which was later towed to port.

January 17.—Car ferry *Pere Marquette No. 19* went aground 4 miles north of Ludington, Mich., 7.40 p. m. Wireless communication established with Ludington and *Pere Marquette* car ferries Nos. 17 and 18, which were advised not to come in close on account of shoal water. Wireless used throughout salvage operations.

January 19.—Steamship *Pollentia*, 706 miles off Cape Race, in latitude 36° 30', longitude 35° 04', sinking, called SOS. Immediately answered by steamships *America*, *Guiseppe Verdi*, *Moncenisio*, *Westerdyk*, and *Narragansett*. Crew of 35 rescued by boats from *Guiseppe Verdi*, while *Narragansett* poured oil on waves.

January 22.—Steamship *Centralia*, off Columbia River, heavy seas washed away deck load, broke rudder, and flooded engine and wireless rooms. Aerial carried away, but repaired by operator, who then called SOS. Answered at once by steamships *Governor*, *Adeline Smith*, *Yosemite*, *Admiral Schley*, *Eurana*, and land stations at Marshfield and Eureka. Weather and sea finally moderated and ship made San Francisco safely without assistance.

January 23.—Steamship *Brazos* and steamship *Suffolk* in collision 23 miles southeast Scotland Light in dense fog. Wireless communication informed agents of accident and vessel returned to New York for repairs.

January 24.—Steamship *Frank H. Buck* when 355 miles north of San Francisco lost her rudder. Wireless used to summon aid.

January 26.—Steamship *Proteus* in collision with steamer *Brabant* below the narrows, New York Harbor. Wireless messages informed agents of accident which, however, was not serious.

January 30.—Steamship *Philadelphia* in collision with sailing ship *Ben Lee* 12 miles south of Carnavon Bay. Wireless used in notifying agents of accident.

February 1.—Steamship *Takata Maru* in collision with steamship *Silver Shell*; SOS answered by radio stations at Boston and Cape Race and various steamers. Crew rescued by *Silver Shell*.

February 4.—Steamship *Texas* (Swedish) reported by radio that cargo of cotton was on fire. Later reported fire under control and assistance not required.

February 4.—Steamship *Howard* in collision with barge off Point Judith. Barge sunk. Wireless used to notify owners of accident.

February 7.—Steamship *Harvard* rammed the steam schooner *Excelsior* in San Francisco Bay. Wireless calls brought immediate assistance from shore.

February 7.—Steamship *Caloria* ran aground head of South Pass, La. The distress call brought a number of tugs and lighters to her assistance.

February 15.—Steamship *Pavlof* struck an uncharted reef at 9.01 p. m. between Tugidak and Sitkanak Islands. At 9.12 p. m. SOS call was sent out and communication established with the naval radio station at Dutch Harbor. At 10 p. m. the *Pavlof* raised the naval radio station at Kodiak. The steamship *Alameda* was summoned from Cordova to the assistance of the distressed vessel, which had previously lost her propeller, and towed her to anchorage.

February 21.—Steamship *Middlesex* reported ashore inside Cross Rip. The radio operator on the steamship *Nacooche* notified the revenue cutter *Acushnet* at Woods Hole, which in turn informed the owners, thus obtaining the necessary assistance.

February 24.—Steamship *Polarine* went ashore on the 23d of February near Helsingborg. In answer to wireless distress call the steamship *Pioneer*, from Copenhagen, proceeded to assistance of stranded vessel.

February 24.—Steamship *Cretan* struck by steamship *Dorothy* 3 miles southeast Wimble Shoal buoy. SOS call sent out and answered at once by several ships. Later found assistance not required, as passengers were transferred to *Dorothy*, which was towed in by United States revenue cutter *Onondaga*. Communication with Marconi stations at Hatteras and Virginia Beach throughout.

February 28.—Steamship *Juniata* went ashore in Vineyard Sound, Mass. Communication was established by radio and repairs directed by means of wireless.

February 28.—The French auxiliary cruiser *Provence II* (so designated to distinguish her from the French battleship *Provence*) was torpedoed and sunk in the Mediterranean Sea. French and British patrol boats, which were summoned by wireless, rescued 870 persons.

February 29.—Steamship *Multnomah* struck on Viti Rock off south end of Lummi Island in heavy fog. Wireless communication established with radio station at Seattle and accident reported. Vessel backed off rock and returned to Bellingham and beached in mud flats.

March 4.—Steamship *Apache*, 45 miles off Cape Henry, had machinery disabled and anchored in 25 fathoms. In answer to wireless message wrecking tugs towed her to port.

March 5.—Steamship *Principe de Asturias* foundered off Ponta Boi near Santos. In answer to distress calls the steamship *Vega* rescued practically all of the passengers and crew, of whom there were about 1,000.

March 14.—Steamship *Kanawha* sprang a leak and sank off the coast of South Carolina. The steamship *Santa Marta* picked up 21 of crew and notified other steamers by wireless to search for the other boat containing 7 of the crew.

March 14.—Steamship *Motano* grounded off Burrwood, La. Two tugs and three lighters responded to the distress call, with the aid of which the vessel was floated. There was no loss of life or damage to the vessel.

March 16.—Steamship *Zealandia*, of the Fiske Trading Co., in distress 300 miles off Sandy Hook with steering gear disabled. Wireless messages telling of the plight of the steamship relayed to radio station at Miami by the Standard Oil steamer *Richmond* and assistance sent to the disabled steamer.

March 16.—Steamship *Macona* ashore on Barbuda Island, British West Indies. Owners notified by wireless and arrangements made with wrecking company to send tug to relief of stranded steamer.

March 16.—Steamship *Sanofre* ran short of coal during blizzard off Newfoundland coast, 500 miles from Halifax. In response to wireless calls was taken in tow by steamship *Ashtabula* and was towed to Halifax.

March 16.—Steamship *Cubantia* sunk by mine or torpedo near Noorhinder lighthouse. Wireless calls for help sent out were first picked up at the Hook of Holland. All passengers and crew rescued.

March 20.—Steamship *Strombus* grounded across Southwest Pass Channel, 250 feet inside bell buoy. Several tugs responded to the distress call and succeeded in floating the vessel.

March 21.—Steamship *Bradford* leaving San Francisco had an accident to her rudder. Communication was established with the radio station at San Francisco and messages exchanged calling for assistance of vessels.

March 22.—Steamship *Minneapolis* sunk by submarine in the Mediterranean. Wireless SOS calls sent out stating that the *Minneapolis* had been torpedoed and was sinking. Calls answered by *Leicestershire* and other vessels, which went to the aid of the sinking steamer.

March 23.—Steamship *Alamo*, 130 miles northeast of Cape Hatteras, with a broken rudder and her engine disabled. Sent out wireless calls for help. A wrecking tug was sent to her assistance from Norfolk.

March 23.—Steamship *Svaland*, in latitude 44° north, longitude 55° 30' west, dismasted. Steamer *Murjek* reported a large crew on board and asked that tug be sent to assistance of distressed vessel.

March 27.—Steamship *San Cristobal*, owned by the Anglo-Mexican Petroleum Products Co., burned near her pier at Puerto, Mexico.

March 28.—Steamship *Rotterdam* grounded Southwest Pass Channel near bell buoy, with a crew of 36 on board. Several tugs responded to the distress call, and the vessel was floated March 30.

March 29.—Steamship *Siberia*, latitude 51° 8' north, longitude 7° 3' west, Irish Sea—received SOS call from British cruiser. In response the *Siberia* gave general distress call, which brought British destroyer to her assistance. The cruiser had been torpedoed by a submarine.

March 31.—Steamship *Chiyo Maru* grounded during fog on the Lema Islands. Wireless calls summoned nine tugboats and launches and a British torpedo boat destroyer, taking off 299 passengers.

April 2.—Steamship *Enterprise* broke her main shaft and damaged her stern. Wireless communication established with steamer *Manoa*, 150 miles away, and constant communication maintained all day until 8.30 p. m., when *Manoa* came alongside disabled steamer and took her in tow.

April 5.—Steamship *Patria*, of the Fabre Line, at 9.45 a. m. called SOS when 20 miles southwest Spartivento Sardinia, Torpille Manguee. The steamship *Siberia* answered and would have hastened to aid of the *Patria* if necessary, but at 10.30 a. m. the *Patria* sent word by radio that her assistance would not be required, as the torpedo which had threatened the boat had missed her.

April 6.—Steamship *Zent*, of the Elder Line, torpedoed at Fastnet. Wireless calls for help sent out before the vessel sank brought assistance and most of the crew were rescued.

April 8.—Steamship *Madison*, Old Dominion Line, standing by two barges off Long Branch, N. J., flying distress signals. At 6.15 p. m., rescued five men from one barge and called the Coast Guard cutter *Mohawk* from New York to assistance of others.

April 8.—Schooner *Emma F. Angell*, latitude 37° 43', longitude 75° 08', sunk in collision with steamer *Cheptow Castle*. Crew of schooner rescued by latter. Accident reported by radio.

April 9.—Steamship *Guajara*, with passengers and freight from Rio for New York, 301 miles south of Scotland light, badly disabled. Wireless calls brought the steamship *Sizaola*, which vessel towed the disabled liner to Norfolk.

April 10.—Steamship *San Ramon*, Pacific Coast Line, lost her propeller at 3.30 a. m. Wireless messages through the radio station at San Francisco resulted in the sending of tugs to the assistance of the disabled steamer.

April 15.—Steamship *Wm. P. Hood* reported in distress 57 miles southwest of Five-Fathom Bank lightship by steamer *Jamestown*. Revenue cutter *Mohawk*, in answer to wireless messages, went to assistance of disabled vessel.

April 15.—Schooner *Mary E. Morse* off Hatteras in distress. Steamship *Lenape* standing by schooner and notified Norfolk by radio that distasted schooner wished to be towed to port.

April 18.—Schooner *Millie R. Frank* observed by steamship *Madison* flying distress signals. The *Madison* informed the Coast Guard cutter *Mohawk* by wireless of the schooner's plight, which went to assistance of schooner. The crew was rescued by Toms River coast guards.

May 8.—Steamship *Philadelphian* collided with the Fire Island lightship. Communication was established by radio with the Sea Gate station, requesting that relief be sent at once. Wireless calls were responded to by the Coast Guard cutter *Mohawk*, and the damaged lightship taken in tow by the *Philadelphian* and brought to port.

May 9.—Steamship *Roanoke*, North Pacific Steamship Co., foundered and sank sometime during daylight hours. The operator, together with 47 others, lost his life; only six survivors were rescued. Two open boats were picked up by the steamer *Edgar Vance*, which notified shore stations of disaster.

May 11.—Barge *Ivie*, of the New England Coal & Coke Co., rammed and sunk in Hampton Road by steamer *Berkshire*. The *Berkshire* ashore on Hampton bar. The crew of barge rescued by steamer and owners notified of accident by radio.

May 14.—Steamship *Kandahar* on fire in Ambrose Channel. Facts reported to agent, who promptly sent fire boat from New York to assistance of burning vessel.

May 15.—Steamship *San Giovanni* and steamship *Grekland* in collision in a fog in Ambrose Channel near Sandy Hook. The *San Giovanni* established wireless communication with the station at Sea Gate and reported the accident. The United States Coast Guard cutter *Mohawk*, steamship *Portuguese Prince*, and steamship *Roma* went to assistance of distressed vessels.

May 19.—Steamship *Catania* went aground during heavy weather at Aransas Pass Bar, Tex. SOS signals promptly answered by radio station at Galveston, from which point a large tug was immediately dispatched to the distressed vessel. The tug succeeded in floating the *Catania* and towing her to Aransas docks. It is probable that without the prompt assistance secured by radio the vessel would have broken up, as a heavy gale was blowing.

May 29.—The bark *Jacquina*, when 51 days out of Alicante, Spain, found herself dangerously near rocks, entrance to harbor Guantanamo, Cuba. The steamship *An, tilles* discovered her plight and summoned a tug to her assistance by wireless.

June 14.—Steamship *Bear*, of the San Francisco & Portland Steamship Co., was wrecked off Cape Mendocino during the evening, the vessel grounding on a rock in a dense fog. The steamers *Queen*, *Grace Dollar*, U. S. S. *Oregon*, and the tug *Relief* responded to the distress calls sent. Five lives were lost as a result of capsizing of some of the lifeboats in the surf, while 200 passengers and crew were saved.

COAST SURVEY STEAMER MAKES RESCUE.

The Department has received a report of the rescue of the passengers and mail of the Spanish mail steamer *Fernando Po* by the Coast Survey steamer *Pathfinder*, on June 24 last, near Iloilo, P. I. The *Pathfinder* first picked up the SOS of the disabled steamer when about 180 miles distant, and immediately proceeded to the rescue, finding the *Fernando Po* stranded near Black Rock light, Tubbataha reef. After several futile attempts to float the steamer, the passengers and mail were taken off and carried to Iloilo, a distance of about 200 miles.

NAVAL COMMUNICATION SERVICE REGULATION.

The following announcement, which appeared in Radio Service Bulletin No. 19, of July 1, 1916, is being republished at the request of the Director of Naval Communications, particular attention being called to the fact that parentheses should be placed around "S C" in address of example shown. Failure of the sender of a radiogram to so inclose it may result in a charge being made for an additional word.

The Director of Naval Communications announces that, effective on and after July 1, 1916, it will be obligatory on the part of a sender of radiograms to be handled by the Naval Communication Service to indicate in the address of the message the class of vessel it is desired to reach by this service, such as "SS" (steamship or steamer) or "USS" (United States ship), as the case may be. Example:

[Radio.]

John Doe
USS New Hampshire
Charleston, (S C)

This order becomes necessary, owing to the confusion in proper handling of such traffic, inasmuch as a large number of names of ships are the same as those of cities, towns, etc.

The extra word will be charged for and counted in the check.

CHANGE IN TITLE OF NAVAL RADIO SERVICE.

Hereafter the Naval Radio Service will be known as the "Naval Communication Service." Charges on all traffic exchanged between other systems (radio, telegraph, and cable) and radio stations (ship and shore) operated by the Navy will be accounted for by the Naval Communication Service.

In addition to his other duties, the Director of Naval Communications will perform the duties formerly assigned to the Superintendent Naval Radio Service.

Correspondence relating to the Naval Communication Service should be addressed to the Director of Naval Communications, Radio, Va.

Remittances should be made payable to Naval Communication Service. If used, money orders should be drawn on postmaster, Washington, D. C.

MARCONI COMPANY INSURES ITS EMPLOYEES.

The Marconi Wireless Telegraph Co. of America has recently put into effect a system of life insurance for its operators and employees who have been in the Marconi service for more than one year, without expense to the holders of the policies. Accident insurance, valid for one year, has been furnished to such of the ship operators as are not eligible for regular life insurance under the conditions of the company's plan in order to give them protection until they become qualified for the life-insurance privilege. A suitable allowance will be made for personal effects lost by Marconi operators while on duty at sea in storms and wrecks. The company also will hold open the positions of its employees who wish to volunteer for service in the United States military forces, and can be spared, until January 1, 1917, allowing them half pay until that date, when the matter will receive further attention. The company has enrolled many of its rank and file as a naval reserve, having furnished the Navy Department with a complete list of its employees. The life-insurance announcement states:

Being constantly mindful of the loyalty and efficiency of our employees, and appreciating those qualities upon which the continued success of our company depends, and after a careful study of more than two years as to the best method of showing our appreciation, it has been decided to maintain for all employees without expense to them, insurance in the sum of \$500 for all those who have been with us over one year but less than five years, and in the sum of \$1,000 for all those who have been in the employ of the company five years or more.

In the announcement regarding accident insurance, E. J. Nally, vice president and general manager of the Marconi Co., said:

It gives me much pleasure to announce an extension of the company's insurance scheme which became effective April 1, 1916. As a further mark of appreciation for the work performed by our ship operators, the company desires to provide some protection for them until such time as they are eligible for regular life insurance, and it has therefore arranged to furnish without expense to ship operators not insured under the company's life plan a \$500 accident insurance policy.

The policy will be valid for one year and cover loss of life, both hands, both feet, one hand and one foot, or the sight of both eyes, by accident, in the amount of \$500.

Should the operator, upon passing into the life-insurance class, desire to continue the accident policy, arrangements have been made whereby he may do so at exceptionally low rates.

Employees of over one year's service, temporarily transferred to Government service under the call of the colors, will continue to be protected under the company's life-insurance plan, and such absence from duties will not interrupt the continuity of the employees' service and seniority benefits. Public spirit is also shown in the company's waiver of the usual fee charged students in its wireless school in New York, who will be instructed without cost.

AMENDMENTS.

[To be cut out and pasted in your copy.]

The Radio Laws and Regulations of the United States, edition of July 27, 1914, are hereby amended as follows:

Paragraph 73, page 57, amended September 1, 1916, to read:

Persons or corporations holding licenses for radio stations, either land or ship, should notify the radio inspector for the district whenever the station or vessel goes out of commission for a period exceeding three months. The Commissioner of Navigation should be notified promptly of any intention to suspend or discontinue the service of any commercial station.

Paragraph 74, page 57, amended September 1, 1916, to read:

If there is no intention to resume the same service, or if the station or vessel will enter a different service from that indicated by the license, the radio inspector will submit the license to the bureau, together with a statement of the facts, so that the license may be amended.

Paragraph 75, page 57, amended September 1, 1916, to read:

When the station goes into commission, the radio inspector will satisfy himself that the station corresponds to the schedule of the station as shown in the license.

Paragraph 93, page 59, amended September 1, 1916, to read:

Hereafter expired station licenses of all classes, commercial and amateur, need not be returned to the radio inspectors with applications for renewals. Owners desiring a renewal license must complete new forms, as prescribed for original applications. New licenses will be issued in every case of renewal.

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