

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of )  
 )  
Amendment of the Commission's Rules ) WT Docket No. 10-177  
Concerning Commercial Radio Operators )

**NOTICE OF PROPOSED RULEMAKING**

**Comments of Kurt Anderson  
In regard to Section-C concerning Part-80 rules  
on Equipment Testing, Station Log and other areas.**

The past decade's improvements in the CFR (e.g. permitting routine calling on the DSC scanner frequencies, advances in the log-keeping & Subpart W sections etc.) are appreciated. However, there is a pressing need for further progress -- the removal of conflicts in the law, a better equipment testing schedule and further clarity & guidance for the watch officer. Mates on the bridge have the burden of GMDSS watch-standing & a plethora of DSC alerts added to the duty of safe navigation of their own vessel.

The language of the GMDSS CFR should correspond exactly with the log-keeping and watch-keeping requirements contained elsewhere in part 80 and all sections of Part 80 should reinforce the proper procedures taught in competency-based USCG STCW classes.

Everything is written from a perspective that the DSC alert is genuine and intentional. The CFR typically makes sense on the assumption that the vessel initiating or engaged in communications is actually in distress.

The reality is that watch-standers are still dealing with a barely-diminished flood of DSC alerts -- nearly all of them accidentally or ineptly initiated transmissions -- that arrive via a daisy-chain of DSC Ackn/Relay transmissions from other oceans and other hemispheres. Almost never does the watch officer receive the proper cancellation and in the case of multiple daisy-chain DSC calls it would be impossible to expect such cancellations.

Current language contained in Subpart W from 80.1111 - 80.1121 does not adequately distinguish between machine Sat/DSC distress alert transmissions (80.1111) and subsequent human follow on transmissions. In other words the word "Alert" is used throughout numerous sections without any distinction between A DSC Alert/Relay/Ackn and actual human voice or NBDP transmissions. It commingles terrestrial DSC activities and satellite based alerts/responses in a manner that is prone to be misread.

Inconsistent usage of the words "Acknowledgement" or "Relay" could easily lead mariners into an indiscriminate use of the All-ships DSC Relay & Ackn features. The CFR does not adequately apply to the recipient of another vessel's all-ships DSC relay of another ship's DSC alert. Nor does it offer good guidance to the recipient of a Coast Station DSC Relay or Ackn of something that wasn't genuine to begin with.

The GMDSS CFR needs enforce a 'first-link' in the DSC chain mentality. It needs to be sufficiently explicit & detailed to relieve the watch officer of the burden of recording DSC alerts that are too far away to possibly engage them in SAR -- while avoiding inculcating a cavalier response to a potential distress that is unfortunately also far too prevalent in the industry.

A prime example of this problem is the MAIB investigation into the collision of the Alam Pintar and the fishing vessel Etoile des Ondes on 20 December 2009 resulting in one fatality and the loss of the fishing vessel. Jobourg MRCC issued three VHF Channel 16 "Mayday Relay" broadcasts, each preceded by a GMDSS DSC alert requesting vessels in the area to proceed to the distress position, but none of the other vessels in the area responded. Upon investigation, the reasons given for the lack of officer response fell into three categories:

- 1) Some masters heard the calls but expected to be directly contacted by the MRCC.
- 2) The Watch Officer did not inform the master of the MRCC DSC alerts and the "Mayday Relay" calls.
- 3) VHF voice calls were unheard due to control maladjustments and the DSC calls were ignored.

Not all the GMDSS problems relating to DSC can be resolved by changing the regulatory language -- but the false DSC alert problem is the central failure of GMDSS and it is why many vessels don't properly comply with regulations and why many mariners loathe and ignore GMDSS. This submittal may be overly long and detailed but 10-154 may be the last vehicle for the foreseeable future to make the required changes and any new CFR language must confront the full scope of the present situation. There are seven issues following that identify 7 areas of conflict or areas for improvement. Since 10-154 invites "proposals as specific as possible" -- language changes tied to these seven issues follow later. I'm sure that the proposed language may have overlooked something or also be imperfect -- we in the industry/instructor community would welcome any opportunity possible to participate in discussion or exchanges of any potential draft language changes.

Please also see section Appendix I in this submittal for related comments submitted to the USCG GMDSS modernization group that bear on GMDSS equipment software and its relationship to the CFR.

**Issue #1: DSC alerts/DSC responses:**

One primary problem is that due to HF propagation variability and geographical positional differences -- many ships typically can receive an alert without knowing that a Coast Station has in fact already responded. Many others would receive the Coast Station response without ever receiving the original alert. This would be true in a genuine Distress alert and is even more so when the Relay and Ackn DSC calls start flying around the oceans.

The current language of 80.1117 requires: "In cases where no acknowledgement has been heard and no distress traffic has been heard, the ship should transmit a distress alert relay to the coast station." Given that ships that make mistakes almost never confess and cancel their alerts -- this situation is the very definition of a false or inadvertent alert. This language requires an affirmative action on the part of every watch officer that doesn't happen to receive a Coast Station's DSC response. This will greatly increase the workload at coast Stations if the language doesn't make it clear that this doesn't mandate a Relay of an Ack of a Relay of a Relay etc.

Almost no software that we're aware of does anything but an All-ship's Relay or Ackn either out of the Data directory or in real time response to the DSC call. (The master is going to be required to be called to the bridge to approve such an action.) Most 1<sup>st</sup>/2<sup>nd</sup> generation equipment has the REL SEL (Relay Select) commands hidden in deeper menus. A watch officer is manually going to have to transfer the particulars of the DSC call from the printout or machine memory and format a new outbound DSC transmission. Many watch officers will find this a burden and I predict many will not comply.

80.1117 makes no distinction between VHF-MF-HF and attaches no conditions to the required action. This language therefore contradicts the language in 80.1121, which has such distinctions and conditions.

80.1115 makes no distinction between a re-transmission of a DSC distress alert and a re-transmission of Voice/NBDP follow-on communications. Neither does 80.324, which contains nearly identical language and an additional clause dealing with geography:

- (3) When, although not in a position to assist, it has heard a distress message which has not been acknowledged. When a mobile station transmits such a distress message, it must notify the authorities who may be able to assist.

Does not 80.324 apply equally to GMDSS vessels & non-GMDSS vessels? If so -- then 80.1115 is missing the third clause of 80.324.

**Issue #2: DSC alerts/DSC responses & timing**

80.1113 (c) & (d) asks ships in distress to distinguish between ship-shore DSC alerts and ship to ship alerts (which are not to be done on HF unless there's no response on VHF-MF bands.) This bi-furcated approach is not what would happen in the real world. A ship in deep water - thousands of miles from a DSC coast station -- would not prefer VHF unless there was another ship on the radar and MF would also be a shot in the dark. A ship in the middle of the ocean is supposed to be selecting the proper HF band to reach the optimum Coast Station based on their knowledge of propagation and of relative geography. A single HF call is inevitably going to light up one or more Coast Stations and numerous ship stations on a single action. SAR communications in that case are going to rest on the proper HF follow-on frequencies (at least at first.) All of the ITU references are tailored toward a hierarchal A1-A4 Sea mentality, which makes sense in Europe with their full A1 & A2 coverage but makes less sense in the U.S., especially in the Pacific Ocean.

80.1111 (d) suggests a mere 5 minute period for follow-on distress watches and intimates a fairly swift ship response via voice/NBDP.

80.1117 says ship stations should give 'sufficient time' for a Coast Station to respond.

80.1119 says Coast stations should defer a period no longer than 3 minutes for an RCC to respond. Does this section refer to Public Coast Stations? Private Coast stations? USCG COMMSTAs? All three? Is there any U.S. RCC with HF capability to react within 3 minutes? Isn't the U.S. system based upon USCG COMMSTA DSC response followed by USCG listening watches on the follow-on frequencies to determine if the call might be a genuine distress? (And now on Rescue 21 systems for VHF distress traffic?)

These time values don't seem very real world based -- a ship might have a fire explosion, initiate a Sat-C hot-key alert and/or DSC alert and then not be able to do anything else in the way of follow-on communications for 5-15 minutes while the crew is mustered to fight a fire.

**Issue #3: Voice/NBDP Distress procedures/responses:**

80.314 has a full voice Mayday procedure for all classes of vessels.

80.322 has a full voice Mayday response procedure for all classes.

80.1117 has a full voice Mayday response procedure for all classes.

80.1113 has no voice Mayday procedure for GMDSS vessels.

All four of these sections should be improved and made consistent with one another.

80.320 has Man overboard as an urgency situation with the old Morse/2182 alarm signals preceding it. MOB is a Distress DSC function under GMDSS and 80.320 should be altered accordingly. It also references telegraphy procedures that are completely out of date.

80.322 & 80.325 references telegraphy procedures that are completely out of date.

**Issue #4: Log-keeping:**

80.409 (a) (1) allowing electronic log-keeping is a significant & welcome advance conforming with much industry practice but the (a) (2) section requiring an electronic strike-through feature is so much overkill it will never be complied with. Such formatting features in Word or Excel are either unavailable or so difficult to use that this requirement is so cumbersome it will not be complied with. (Mariners make their edits with the backspace key.)

80.409 (d) is Ship Radio-telegraph log-keeping language. We're 10+ years into GMDSS -- is there any such vessel in the American fleet (or anywhere in the world for that matter???) . Isn't this sub-section obsolete?

80.409 (e) (1) & (2) has changed but remains insufficiently specific & subjective in its guidance - especially at the Distress priority (c.f. Alam Pintar casualty above.)

80.409 (e) (3) requires a pre-departure entry and a publications entry -- no such tests are listed in Subparts R, S, T & U and the daily test entries are redundant of 80.409 (e) (12)

80.409 (e) (5) calls for a weekly test of the DSC, which under 80.409 (e) (3) and (e) 12 requires a daily test anyway.

80.409 (e) (5) calls for a weekly test of the SCT and of the SART - this is too often. The SCT has only an 8 hour battery & numerous ships that tested weekly back when the CFR was annual on the SCT were ordering new units after 8-14 months. A weekly test simply drains the battery. New language on the battery labels is desired - many ships get nailed on inspections and I am aware of a casualty leading to loss of life in which a typo on the returned EPIRB label led to loss of life.

The current 80.409 (e) (6) now calls for monthly battery/RSE checks but the information should be amplified to encourage good testing practice and correct record keeping.

One reading of 80.409 (e) (8) is that a log entry must be made every watch that the GPS was checked - that is an undue burden. If the GPS fails it will get logged under the equipment failure requirements. The language should be changed to account only for manual update entries.

**Issue #5: Testing:**

The basic requirements for a daily test of the gear and notification of the Master if a daily test fails in subparts R, S, T & U have essentially the same simple language (although they are not identical.) Likewise the language on the battery capacity discharge tests.

For these 4 subparts the log-keeping entries seem currently adequate but could be arranged more logically. It is Subpart W GMDSS that remains problematic.

80.1095 (a) covers VHF SCTs while (b) covers SARTs. 80.1095 (c) says "Survival craft equipment must be tested at intervals not to exceed twelve months." This conflicts with the requirement in 80.409 (e) (5) (ii) that such devices have weekly log entries of tests. It is not clear whether 80.1095 is referring to operational tests or the annual inspection check of the battery life decals and adequate battery life.

80.1085 (a) (6) iii & 80.1105 (k) clearly are referring to annual technical tests of 406 MHz EPIRBs rather than the monthly mandatory operational tests required by the NOAA SRSAT office & USCG SAR Office: [www.sarsat.noaa.gov/EPIRB\\_inspecting.pdf](http://www.sarsat.noaa.gov/EPIRB_inspecting.pdf)

80.1099 (f) (2) requires monthly tests of portable S.C.E. for GMDSS ships. Conflict -- Weekly per 80.409, Monthly per 80.1085 & yearly per 80.1095. All S.C.E. should be tested monthly as the best period to ensure proper operations while not overly draining the batteries.

#### **Issue #6: Watch-keeping:**

80.1123 ties the watch-keeping requirements to the equipment carriage requirements. This has always been a bit odd and enforces a last-line to first-line GMDSS watch-keeping mentality. Why couldn't an A-3 Sea Area American ship turn their MF-HF scanner off while transiting the English Channel with full A-1 coverage from shore stations? (This would reduce the distraction of alarms in a tight navigation situation in the same way we relieve vessels of the Ch-16 watch when they are in a VTS area.) What about in port? Prior to GMDSS there was no requirement to leave radio equipment on while tied up at a dock. There should be an explicit relief from that requirement in the GMDSS CFR (with the proviso that LRIT notification regulations are followed.)

80.1131 & 1131 mandate an Urgency or Safety DSC call be sent prior to the Urgency or Safety Radiotelephony transmissions. That is definitely a good idea but I don't believe many vessels know or comply with these sections - especially before Securite calls in harbor.

#### **Issue #7: Miscellaneous/housekeeping:**

80.409 (e) went from 12 paragraphs to 13 between 2007 & 2009 -- the 2009 version of 80.409 (f) doesn't seem to have been adjusted to account for the new paragraph.

80.409 (f) specifies which paragraphs of 80.409 (e) apply to GMDSS ships, to ships subject to the Communications Act, to the Safety Convention, to the Great Lakes Agreement and the Bridge-to-Bridge Act. Wouldn't it be easier to reshuffle the paragraphs of 80.409 (e) and group them by those that apply to all ships, assign those that apply just to Great Lakes or Bridge-to-Bridge (if any) and then let those that just apply to GMDSS ships cluster near the end? It would make it easier to read.

The current language of 80.409 (f) (1) says Bridge-to-Bridge Act must record entries indicated by paragraphs (e)(1) through (e)(12) of this while 80.409 (f) (2) says Bridge-to-Bridge Act must record entries indicated by paragraphs (e) (1), (5), (6), (7), (8), (9), (11) and (12) of this section. Don't these two conflict with 80.409 (f) (1) requiring all 12 paragraphs while 80.409 (f) (2) allows the omission of (2), (3), (4) & (10)???

80.415 references NIMA Publication 117 - hasn't their name changed to NGA? (80.1085 & 80.401 also have the same issue?).

80.1129 (b) references homing 'singnals' - simple typo.

80.103 is a bit of an orphan given that it often references subpart W. Anything there that is missing in Subpart W?

**Issue #1: DSC alerts/DSC responses and Issue #2: DSC alerts/DSC responses & timing proposed CFR changes for both issues:**

Sec. 80.1111 Distress alerting.

(a) The transmission of a distress alert indicates that a mobile unit or person is in distress and requires immediate assistance. The distress alert is a digital selective call using a distress DSC format in bands used for terrestrial radio communication or a distress alert message format, which is relayed through space stations to LESs/RCCs.

(b) The distress alert must be sent through a satellite either with absolute priority in general communication channels or on exclusive distress and safety frequencies or, alternatively, on the distress and safety frequencies in the MF, HF, and VHF bands using digital selective calling.

(c) The distress alert must be sent only on the authority of the Master of a mobile station or other person responsible for the ship, aircraft or other vehicle carrying the mobile station or the mobile earth station.

(d) All stations which receive a distress alert transmitted by digital selective calling directly from a single ship must immediately cease any transmission capable of interfering with DSC distress traffic and distress traffic on the associated Voice/NBDP distress traffic frequency. All stations must continue watch on the DSC distress calling frequency to determine if a coast station has responded to the DSC distress call with a DSC Ackn or DSC Relay. If no such coast station response is observed then 80.1117 shall be followed. Additionally, the station receiving the DSC alert must set watch on the associated Voice/NBDP distress traffic frequency for sufficient time to determine if actual distress traffic takes place. (See 80.1121).

(e) Stations of the maritime mobile service, which receive a Voice/NBDP distress message from a mobile station, which is beyond any possible doubt in their vicinity, must immediately respond to the distress. However, in areas where reliable communication with one or more coast stations is practicable, ship stations may defer this response for a short interval so that a coast station may respond.

(f) Stations of the maritime mobile service which receive a Voice/NBDP distress message from a mobile station which beyond any possible doubt is not in their vicinity, must allow a short interval of time to elapse before any response in order to permit stations nearer to the mobile station in distress to respond without interference.

(g) If any genuine Voice/NBDP distress communications are received aboard a mobile maritime station, regardless of how fragmentary or how far away, they shall be re-transmitted to an appropriate Coast station or RCC per 80.324 & 80.1115 via any available means other than DSC. When a mobile station transmits such a distress message, it must notify the authorities who may be able to assist. The only exception to this requirement is if beyond any possible doubt the mobile station can determine that the vessel in distress is receiving a response via Voice/NBDP.

Sec. 80.1113 Transmission of a distress alert.

(a) The distress alert must identify the station in distress and its position. The distress alert may also contain information regarding the nature of the distress, the type of assistance required, the course and speed of the mobile unit, the time that this information was recorded and any other information that might facilitate rescue. Voice follow-on distress messages shall conform to 80.320 and NBDP follow-on distress messages shall be text patterned after the proper voice format.

(b) boilerplate ITU etc.

(c) Ship-to-shore satellite distress alerts are used to alert Rescue Coordination Centers via coast stations or coast earth stations that a ship is in distress. These alerts are based on the use of transmissions via satellites (from a ship earth station or a satellite EPIRB).

(d) Ship-to-shore terrestrial DSC distress alerts are used to alert Rescue Coordination Centers or coast stations that a ship is in distress. These DSC calls are made in the appropriate VHF-MF-HF bands depending on the distress vessel's requirements, position in Sea Area A1-4 coverage and the relative availability of DSC Coast stations within propagation range. Such a DSC distress alert will notify all ship & shore stations within range.

(e) Ship-to-ship distress alerts are used to alert other ships in the vicinity of the ship in distress and are based on the use of digital selective calling in the VHF and MF bands. Ships beyond range of an A1 or A2 Coast station that are certain or believe other ships are in the vicinity may switch to VHF/MF DSC alerts to obtain on-scene SAR communications as an aid to rescue. However, unless the situation is so precipitate (abandoning vessel, explosion etc.) as to require just a ship-ship call -- then the first priority should be some form of alert to a shore authority.

(f) Shore-to-ship distress DSC Ackn or Relays are used by a station or Rescue Coordination Center to relay information about a ship in distress to, as appropriate, all ships, a selected group of ships, or a specific ship by satellite and/or terrestrial means. The distress alert relay must contain the identification of the mobile unit in distress, its position and all other information that might facilitate rescue. Shore-to-ship Distress SAR MSI may also provide such information.

Sec. 80.1114 False or inadvertent distress alerts.

(a) The provisions of Sec. Sec. 80.334 and 80.335 apply to false distress alerts.

(b) An unintentional or inadvertent DSC Distress alert shall be cancelled by making the correct call to all stations on the associated Voice/NBDP distress traffic frequency where others are listening. A multi-frequency DSC alert would therefore require six such all stations cancellations.

Sec. 80.1115 Re-transmission of a distress alert by a station not itself in distress.

(a) A station in the mobile or mobile-satellite service which learns that a mobile station is in distress must re-transmit a distress message in any of the following cases:

(1) When the station in distress cannot transmit the distress message itself; or

(2) When the master or person responsible for the mobile unit not in distress or the person responsible for the land station determines that further help is necessary.

(3) When, although not in a position to assist, it has heard a distress message, which has not received any response. When a mobile station re-transmits such a distress message, it must notify the authorities who may be able to assist.

(b) A station re-transmitting a Voice/NBDP distress alert message in accordance with paragraph (a) of this section or a DSC distress alert Sec. 80.1117 or Sec. 80.1121(c) must indicate that it is not itself in distress.

Sec. 80.1117 Procedure for receipt and acknowledgement of DSC distress alerts and satellite distress alerts.

(a) Normally, distress calls received using digital selective calling are only acknowledged using a DSC acknowledgement by a coast station. Ships should delay any acknowledgement in order to give sufficient time for a coast station to acknowledge the call. In cases where no acknowledgement has been heard and no distress traffic has been heard, the ship should transmit a DSC distress alert relay to an appropriate station. The DSC Distress Relay should use the DSC RELay SElect command to ensure it reaches a single coast station without proliferating alerts to all stations. An All-ships DSC Relay may only be used if no other option is available. Do NOT use the DSC Ackn or DSC Relay feature to re-send the DSC Relays and DSC Ackn calls that come from other stations - regardless of whether they are ship stations or shore stations (see 80.1121). Upon advice from the Rescue Coordination Center, the ship may transmit a DSC acknowledgement call to stop it from being repeated.

Acknowledgement by digital selective calling of receipt of a distress ... ITU boilerplate ...

(b) Acknowledgement through a satellite of receipt of a distress alert from a ship earth station must be sent immediately (see Sec. 80.1119).

(c) Response by radiotelephony of upon receipt of a distress alert from a ship station or a ship earth station must be given in the form specified by 80.322:

- (1) The distress signal MAYDAY;
- (2) The name and call sign (or name only if no call sign assigned) of the mobile station in distress, spoken three times; (phonetics for the call sign).
- (3) The words THIS IS; (or DE spoken as DELTA ECHO in case of language difficulties)
- (4) The name and call sign (or name only if no call sign assigned) of the station responding to the vessel in distress, spoken three times; (phonetics for the call sign).
- (5) The words "ROGER YOUR" or "RECEIVED YOUR" (or RRR spoken as ROMEO ROMEO ROMEO in case of language difficulties);
- (6) The distress signal MAYDAY.
- (7) Any particulars of the responding vessel - own ship position, nature of assistance offered etc. that might help for SAR.
- (8) "MAYDAY THIS IS" name and call sign of the station responding as the closing line.

(d) The acknowledgement by NBDP of receipt of a distress alert from a ship station must be given in the following form:

- (1) The distress signal MAYDAY;
- (2) The name and call sign (or name only if no call sign assigned) of the mobile station in distress including Sitor selcall or other identification of the station sending the distress alert;
- (3) The word DE;
- (4) The name and call sign (or name only if no call sign assigned) of the station responding to the vessel in distress .
- (5) The signal RRR;
- (6) The distress signal MAYDAY.
- (7) Any particulars of the responding vessel - own ship position, nature of assistance offered etc. that might help for SAR.
- (8) "MAYDAY THIS IS" name and call sign of the station responding as the closing line.

(e) The acknowledgement by direct-printing telegraphy of receipt of a distress alert from a ship earth station must be given by the coast earth station receiving the distress alert by re-transmitting the ship station identity of the ship transmitting the distress alert.

Sec. 80.1121 Receipt and acknowledgement of distress alerts by ship stations and ship earth stations.

(a) Ship or ship earth stations that receive a distress alert must, as soon as possible, inform the master or person responsible for the ship of the contents of the distress alert.

(b) For VHF and MF, ships in receipt of a distress alert from a single ship shall not transmit a DSC distress alert relay, but should listen for sufficient time on the associated Voice/NBDP distress traffic frequency to determine if actual distress traffic takes place. If genuine distress traffic is heard follow procedures given in 80.1111. If no distress traffic has been heard follow the DSC procedures given in 80.1117.

(c) For HF, ships in receipt of a distress alert from a single ship shall not transmit a DSC distress alert relay, but should listen for sufficient time on the associated Voice/NBDP distress traffic frequency to determine if actual distress traffic takes place. If genuine distress traffic is heard follow procedures given in 80.1111.

If no distress traffic has been heard follow the DSC procedures given in 80.1117.

(d) In cases where distress alert continues to be received from the same source, the ship may, after consultation with the Rescue Coordination Center, transmit a DSC acknowledgment to terminate the call.

(e) A ship station in receipt of a shore-to-ship DSC distress alert relay or DSC Ackn (see Sec. 80.1113(e)) should not re-transmit such a call via DSC but instead should listen for sufficient time on the associated Voice/NBDP distress traffic frequency to determine if actual distress traffic takes place. If the Distress is genuine then establish communication as directed and render such assistance as required and appropriate.

**Issue #3: Voice/NBDP Distress procedures/responses proposed**  
**CFR change:**

The following proposed language is a combination of the old 80.314 language which required the ship's name/call sign 3 times (a very good idea) and the ITU language on page 18 of ITU-R M541.9 page 18 which uses the closing line name/call sign method (a very good idea.) Phonetics used to be required in the initial transmission by the CFR and is likewise a good idea in a distress.

Sec. 80.314 Distress communications.

(a) The international radiotelephone distress signal consists of the word MAYDAY, pronounced as the French expression ``m'aider''.

(b) These distress signals indicate that a mobile station is threatened by grave and imminent danger and requests immediate assistance.

(c) The radiotelephone distress call consists of:

(1) The distress signal spoken three times: "MAYDAY MAYDAY MAYDAY";

(2) The words THIS IS;

(3) The name and call sign (or name only if no call sign assigned) of the mobile station in distress, spoken three times; (phonetics for the call sign).

(4) MAYDAY my MMSI is xxxxxxxxxx (use 9 digit vessel DSC identity) for vessels with DSC identities or MAYDAY then position for vessels without DSC identities

(5) "MY POSITION IS": Particulars of the station's position;

(6) The nature of the distress;

(7) The kind of assistance desired; and

(8) Any other information that might facilitate rescue, for example: the length, color, and type of vessel, or number of persons on board.

(9) "MAYDAY THIS IS" name and call sign as the closing line.

(d) The procedures for canceling false distress alerts are contained in Sec. 80.335.

Sec. 80.320 Radiotelephone distress call and message transmission procedure.

- (a) The radiotelephone distress procedure consists of:
  - (1) The radiotelephone alarm signal (whenever possible);
  - (2) The distress call voice per 80.314;
  - (3) The distress message.
  - (4) Voice/NBDP Distress relays per 80.324;
- (b) The DSC distress procedure consists of:
  - (1) Transmission by a mobile unit in distress;
  - (2) Reception;
  - (3) Response to DSC distress calls per Subpart W;
  - (4) DSC Distress relays or acknowledgements per Subpart W;
- (c) Radiotelephone distress transmissions must be made slowly and distinctly, each word being clearly pronounced to facilitate transcription.
- (d) After the transmission by radiotelephony of its distress message, the mobile station may be requested to transmit suitable signals followed by its call sign or name, to permit direction-finding stations to determine its position. This request may be repeated at frequent intervals if necessary.
- (e) The distress message, preceded by the distress call, must be repeated at intervals until an answer is received. This repetition must be preceded by the radiotelephone alarm signal whenever possible.
- (f) When the mobile station in distress receives no answer to a distress message transmitted on the distress frequency, the message may be repeated on any other available frequency on which attention might be attracted.

Sec. 80.321 Proper response to receipt of distress message.

- (a) Stations of the maritime mobile service, which receive a Voice/NBDP distress message from a mobile station, which is beyond any possible doubt in their vicinity, must immediately respond to the distress. However, in areas where reliable communication with one or more coast stations is practicable, ship stations may defer this response for a short interval so that a coast station may respond.
- (b) Stations of the maritime mobile service which receive a Voice/NBDP distress message from a mobile station which beyond any possible doubt is not in their vicinity, must allow a short interval of time to elapse before any response in order to permit stations nearer to the mobile station in distress to respond without interference.
- (c) Stations of the maritime mobile service, which receive a DSC Distress alert, shall switch to the appropriate follow-on frequency. Any response via DSC shall follow the DSC procedures contained in subpart W.

Sec. 80.322 Form of response to a Distress.

- (b) The response upon receipt of a radiotelephone distress message is transmitted in the following form:
  - (1) The distress signal MAYDAY;
  - (2) The name and call sign (or name only if no call sign assigned) of the mobile station in distress, spoken three times; (phonetics for the call sign).
  - (3) The words THIS IS;

(4) The name and call sign (or name only if no call sign assigned) of the station responding to the vessel in distress, spoken three times; (phonetics for the call sign).

(5) The words "ROGER YOUR" or "RECEIVED YOUR";

(6) The distress signal MAYDAY.

(7) Any particulars of the responding vessel - own ship position, nature of assistance offered etc. that might help for SAR.

(8) "MAYDAY THIS IS" name and call sign of the station responding as the closing line.

Sec. 80.323 Information furnished by a station responding to a distress message.

(a) Every mobile station that responds to a voice/NBDP distress message must, on the order of the master or person responsible for the ship, aircraft, or other vehicle carrying such mobile station, transmit as soon as possible the following information in the order shown:

(1) Its identifier;

(2) Its position;

(3) The speed at which it is proceeding towards, and the approximate time it will take to reach the mobile station in distress.

(b) Before sending this message, the station must ensure that it will not interfere with the emissions of other stations better situated to render immediate assistance to the station in distress.

Sec. 80.324 Re-transmission of distress message by station not itself in distress.

(a) A mobile station or a land station which learns that a mobile station is in distress must re-transmit a distress message in any of the following cases:

(1) When the station in distress cannot transmit the distress message itself.

(2) When the master or person responsible for the ship, aircraft, or other vehicle not in distress, or for the land station, believes that further help is necessary.

(3) When, although not in a position to assist, it has heard a distress message, which has not been acknowledged. When a mobile station

re-transmits such a distress message, it must notify the authorities who may be able to assist.

(b) Transmission must be made on the international distress frequencies or on any other available frequency on which attention might be attracted. Any Distress DSC re-transmissions shall comply with 80.1117 & 80.1123.

(c) Transmission of the distress message must always be preceded by the call indicated below, which must itself be preceded whenever possible by the radiotelegraph or radiotelephone alarm signal. This call consists of:

(1) When radiotelegraphy is used:

(i) The signal DDD SOS SOS SOS DDD:

(ii) The word DE;

(iii) The call sign of the transmitting station, sent three times.

- (2) When radiotelephony is used:
- (i) The signal MAYDAY RELAY, spoken three times;
  - (ii) The words THIS IS;
  - (iii) The name and call sign (or name only if no call sign assigned) of the station re-transmitting the information of the vessel in distress, spoken three times; (phonetics for the call sign).
  - (iv) provide all of the particulars of the vessel in distress. sign
  - (v) The signal "MAYDAY RELAY THIS IS" name and call sign (or name only if no call sign assigned) of the station re-transmitting the information of the vessel in distress, spoken once (phonetics for the call sign).
- (d) When the radiotelegraph alarm signal is used, an interval of two minutes must be allowed, whenever this is considered necessary, before the transmission of the call mentioned in paragraph (c)(1) of this section.

Sec. 80.318 Use of alarm signals.

- (a) The radiotelegraph or radiotelephone alarm signal, as appropriate, must only be used to announce:
- (1) That a distress call or message is about to follow;
  - (2) The transmission of an urgent cyclone warning. In this case the alarm signal may only be used by coast stations authorized by the Commission to do so; or
  - (3) The loss of a person or persons overboard. In this case the alarm signal may only be used when the assistance of other ships is required and cannot be satisfactorily obtained by the use of the Distress Voice/NBDP or Distress DSC procedures contained elsewhere in Part 80.
- (b) In cases described in paragraphs (a)(2) and (3) of this section, the transmission of the warning or message by radiotelegraphy must not begin until two minutes after the end of the radiotelegraph alarm signal.

Sec. 80.335 Procedures for canceling false distress alerts.

If a distress alert is inadvertently transmitted, the following steps shall be taken to cancel the distress alert.

- (a) VHF Digital Selective Calling.
  - (1) Reset the equipment immediately;
  - (2) Immediately cancel the distress alert orally over the telephony distress traffic channel associated with each DSC channel on which the distress alert was transmitted;
  - (3) Set to Channel 16; and
  - (4) Transmit a broadcast message to "ALL STATIONS" spoken three times "THIS IS" The name and call sign (or name only if no call sign assigned) of the mobile station in distress, spoken three times; (phonetics for the call sign). State: MY MMSI is (9 digit vessel DSC identity.)
  - (5) "PLEASE CANCEL MY INADVERTENT ALERT" giving the particulars of the false distress alert.
  - (6) "THIS IS" name and call sign as the closing line.

(b) MF Digital Selective Calling.

(1) Reset the equipment immediately;

(2) Immediately cancel the distress alert orally over the telephony distress traffic channel associated with each DSC channel on which the distress alert was transmitted; and

(3) Tune for radiotelephony transmission on 2182 kHz; and

(4) Transmit a broadcast message to "ALL STATIONS" spoken three times "THIS IS" The name and call sign (or name only if no call sign assigned) of the mobile station in distress, spoken three times; (phonetics for the call sign). State: MY MMSI is (9 digit vessel DSC identity.)

(5) "PLEASE CANCEL MY INADVERTENT ALERT" giving the particulars of the false distress alert.

(6) "THIS IS" name and call sign as the closing line

(7) If NBDP was requested as the emission for follow-on communications in the false distress alert then a BFEC Sitor message composed as per the voice format shall be transmitted on 2174.5 kHz.

(c) HF Digital Selective Calling;

(1) Reset the equipment immediately;

(2) Immediately cancel the distress alert orally over the telephony distress traffic channel associated with each DSC channel on which the distress alert was transmitted;

(3) Tune for radiotelephony on the distress and safety frequency in each band in which a false distress alert was transmitted; and

(4) Transmit a broadcast message to "ALL STATIONS" spoken three times "THIS IS" The name and call sign (or name only if no call sign assigned) of the mobile station in distress, spoken three times; (phonetics for the call sign). State: MY MMSI is (9 digit vessel DSC identity.)

(5) "PLEASE CANCEL MY INADVERTENT ALERT" giving the particulars of the false distress alert.

(6) "THIS IS" name and call sign as the closing line

(7) If NBDP was requested as the emission for follow-on communications in the false distress alert then a BFEC Sitor message composed as per the voice format shall be transmitted on the correct HF NBDP frequency associated with the DSC band of the inadvertent alert.

**Issue #4: Log-keeping proposed CFR change:**

Change language on electronic log-keeping. Subpart R, S, T & U vessels all have to do a daily test anyway - a prudent mariner checks gear before leaving the dock and for smaller vessels their pre-departure test suffices as their daily test. Revise/reorder 80.409 (e) paragraphs (1) through (13) and ensure that 80.409 (f) references the correct paragraphs in 80.409 (e). I've resorted & combined 80.409 (e)(1) to (e) (13) entries and adjusted 80.409 (f) accordingly.

Subpart I\_Station Documents

Sec. 80.409 Station logs.

(a)

(2) Erasures, obliterations, or willful destruction of written logs, or deletions of data or willful destruction of computer files or computer hardware containing electronic logs, is prohibited during the retention period. If the log is written, corrections may be made only by the person originating the entry -- by striking out the error, initialing the correction and indicating the date of correction. With respect to electronic logs, normal computer editing procedures are permitted. However, timely & periodic printouts of electronic logs shall be done in case of computer failure, file deletion or other damage to the data contained in the electronic log. These printouts shall be signed by the watch-officer or other person responsible for the maintenance of the station log.

(d) Ship radiotelegraph logs. (Possible section to delete???)

(e) Ship radiotelephone logs. Logs of ship stations that are compulsorily equipped for radiotelephony must contain the following applicable log entries and the time of their occurrence:

(1) (i) A summary of all Distress, Urgency & Safety communications transmitted by the station's own ship. This shall include all DSC calls, all Voice or NBDP transmissions and any satellite-based communications.

(ii) A summary of all Distress communications received by the station's own ship. This shall include all single-ship DSC calls, all Voice or NBDP transmissions and any satellite-based SAR communications. GMDSS ships shall log DSC Distress calls originated by a single ship. The GMDSS DSC procedures of 80.1117 & 80.1121 shall govern in this case. GMDSS ships shall not have to log DSC Distress Ackn or DSC Distress Relay calls to all ships - regardless of whether they come from other ship stations or from shore stations. The GMDSS watch requirements of 80.1111 (d), 80.1121 and 80.1123 shall still apply to these All-Ships DSC calls.

(iii) A summary of all re-transmitted Distress communications (Voice, NBDP or DSC) per 80.324, 80.1115, 80.1117 & 80.1121.

(iv) A summary of all Voice, NBDP & Satellite Distress communications received from search and rescue authorities and any own ship transmissions in response - including requests for reporting in to RCCs, SAR requisitions & SAR releases of your vessel. Generalized Distress MSI traffic such as unidentified or unlocatable EPIRBs, hurricanes changing course etc. does not have to be logged.

(2) A summary of all Urgency and Safety communications specifically directed to your own ship shall be logged. Generalized Urgency and Safety MSI or weather broadcasts do not have to be logged.

(3) The time of any inadvertent transmissions of Distress, Urgency and Safety signals including the time and method of cancellation.

(4) All classes of vessels shall enter on a voyage basis or on a calendar basis (quarterly or monthly) that the required documents and publications are aboard. GMDSS vessels shall also enter their Sea Area of operation and Maintenance Methods per 80.1069 & 80.1105 on a voyage or calendar basis. GMDSS vessels shall, on a voyage basis or calendar basis, record all licensed GMDSS Radio Operators including the required designations as primary/secondary operator per 80.1073. Pre-departure equipment checks shall be made & logged for all classes of vessels. Pre-departure entries shall be made that all the S.C.E. have been inspected and are aboard. The pre-departure test for Subpart R, S, T & U vessels shall be the daily test required by 80.869, 80.931 80.971 & 80.1023 respectively. Subpart W GMDSS vessels shall test all carriage-mandatory GMDSS equipment prior to departure as per 80.1105.

(5) All classes of vessels shall perform tests and make a daily statement about the condition of the required radiotelephone equipment, as determined by either actual communications or test communications. For subpart R, S, T, & U vessels the pre-departure test is the daily test. Any of these vessels not returning to port within a day shall perform the daily test while at sea. Subpart W GMDSS vessels shall test all carriage-mandatory GMDSS equipment daily at sea until arrival at the next port. Arrival at dock & departure from dock entries shall be made by GMDSS ships to account for periods when the GMDSS equipment is not required to be on watch during port stays.

(6) Survival Craft Equipment shall not be tested on a Pre-departure or daily basis per the above. Instead -- monthly operational tests and log entries shall be done as follows:

(i) The SARTs have been inspected and tested.

(ii) The portable survival craft radio gear or SCTs have been inspected and tested.

(iii) The EPIRBs have been inspected and tested.

(iv) All S.C.E. battery expiration date labels are intact and current. The EPIRB ARM or Hydrostatic expiration date label is intact and current. The NOAA registration label for the EPIRB is intact, current and the registration number is correct.

(7) An entry at least once every thirty days that the batteries or other reserve power sources have been checked and are functioning properly. GMDSS vessels shall remove AC power to the console monthly and ensure that the RSE or Emergency batteries provide power instantly to the console without interruption. Monthly entries of the specific gravity of lead-acid storage batteries and voltage reading of other types of batteries provided as a part of the compulsory installation shall be made. If cell-by-cell readings are available then all shall be recorded. Checks of the battery charging voltage and current readings shall be made and logged at least every month and more often would be preferable.

(8) Results of any additional required equipment tests such as the annual or on demand battery inspections required by 80.862, 80.921, 80.965 or Port State control inspections of GMDSS vessels overseas. Records of annual inspections shall be recorded per 80.409 (f).

(9) Results of inspections and tests of compulsorily fitted lifeboat radio equipment.

(10) When the master is notified about any improperly operating compulsory radiotelephone or GMDSS equipment.

(11) At the beginning of each watch, the Officer of the Navigational Watch, or GMDSS Operator on watch, if one is provided, shall ensure that the navigation receiver is functioning properly and is interconnected to all GMDSS alerting devices which do not have integral navigation receivers, including: VHF DSC, MF DSC, satellite EPIRB and HF DSC or INMARSAT SES. On a ship without integral or directly connected navigation receiver input to GMDSS equipment, the Officer of the Navigational Watch, or GMDSS Operator on watch, shall update the embedded position in each equipment. If manual entries are made as per 80.1085 (c) then an appropriate log entry of the manual position update shall be made every 4 hours. The check of automated position equipment shall be done but a log entry need not be made unless such equipment fails.

(12) A GMDSS radio log entry shall be made whenever GMDSS equipment is exchanged or replaced (ensuring that ship MMSI identifiers are properly updated in the replacement equipment), when any repairs to GMDSS equipment are accomplished and when annual GMDSS inspections are conducted and the results of these inspections.

(13) An entry describing any malfunctioning GMDSS equipment and another entry when the equipment is restored to normal operation. The license of the technician performing the repair or replacement shall be entered into the log and the technician should make the log entry.

(f) Applicable radiotelephone log entries. The log entries listed in paragraph (e) of this section are applicable as follows:

(1) All classes of stations subject to Subparts R, S, T, U & W shall comply with paragraphs 80.409 (e)(1) through (e) (10). Subpart W GMDSS vessels shall additionally comply with 80.409 (e) (11), (12) & (13).

Beyond this in 80.409 (f) I make no proposals beyond the Housekeeping table in Issue #7 following ... due to the Bridge-Bridge mention in (f) 1 f (2) and again in f (3) and the missing paragraph 13 in 80.409 (f) it will take some attention to rewrite this section. If Great Lakes vessels are not in fact subject to all the provisions of my reordered (e)(1) - (e)(10) more work is required.

**Issue #5: Testing proposed CFR change:**

Revise Sec. 80.1095 Survival craft equipment.

Revise Paragraph (c):

(c) This section refers to the required Annual Inspection tests. For periodic operational test requirements see section 80.409 (e). Survival craft equipment (EPIRB, SART, SCT) must be tested at intervals not to exceed twelve months. See sections 80.1085 (a) (6) iii & 80.1105

(k) for EPIRB Annual Inspection procedures. For batteries used for survival craft equipment, the month and year of its manufacture must be permanently marked on the battery. Also, the month and year upon which 50 percent of its useful life will expire must be permanently marked on both the battery and the outside of the transmitter. Batteries must be replaced if 50 percent of their useful life has expired or if the transmitter has been used in an emergency situation.

**Issue #6: Watch-keeping proposed CFR change:**

A new paragraph (5) in Sec. 80.1123 (a) as follows:

(5) (i) A3 & A4 compulsory ships that are certain of continuous A1 Sea Area coast station coverage may turn off the MF-HF DSC scanning watch receiver watch required by 80.1123 (a) (3) during that portion of their voyage.

(ii) A3 & A4 compulsory ships that are certain of continuous A2 Sea Area coast station coverage may choose to de-select 3 of the 4 HF DSC frequencies required by 80.1123 (a) (3) during that portion of their voyage. The DSC frequency 8414.5 kHz may not be one of the HF frequencies de-selected.

(iii) All GMDSS ships that are certain of MSI receipt via Navtex coverage may choose to Log-out on their Inmarsat-C terminals to reduce distractions from the printer. 80.1123 (b) requires receipt of MSI but it does not require simultaneous receipt via Navtex and Inmarsat. If this is done -- the Inmarsat-C terminal is to remain powered on to comply with 80.1123 (a) (4), which requires receipt of an unscheduled SAR EGC message.

**Issue #7: Miscellaneous/housekeeping proposed CFR change:**

Revise/reorder 80.409 (e) paragraphs (1) through (13) and ensure that 80.409 (f) references the correct paragraphs in 80.409 (e). I've resorted & combined 80.409 (e)(1) to (e) (13) entries and adjusted 80.409 (f) accordingly. Given the original discrepancy the proposed 80.409 (f) needs close scrutiny to make sure each class of vessel is properly accounted for. The following table tracks my reordering and attempt to make sense of the current 80.409 (f) language. In other words - are 409 (f) (2) ships (Great Lakes) currently subject to (8) & (9) which are GMDSS related and exempt from (2) & (3) which seem applicable to nearly any ship? Only GMDSS ships should be subject to the current (4).

Old 409 E	New 409E	Comms Act	Solas:	B2B1	B2B2	GTLakes	B2B3
1	1	yes	yes	yes	yes	yes	yes
2	2	yes	yes	yes			
3	4	yes	yes	yes			
4	13	yes	yes	yes			
5	6	yes	yes	yes	yes	yes	yes
6	7	yes	yes	yes	yes	yes	yes
7	3	yes	yes	yes	yes	yes	yes
8	11	yes	yes	yes	yes	yes	
9	12	yes	yes	yes	yes	yes	
10	8	yes	yes	yes			
11	9	yes	yes	yes	yes	yes	yes
12	5	yes	yes	yes	yes	yes	yes
13	10	?	?	?	?	?	?
		409 (f) (1)	409 (f) (1)	409 (f) (1)	409 (f) (2)	409 (f) (2)	409 (f) (3)

Thank you for your consideration.  
Respectfully submitted,

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Appendix I The problem of DSC Acknowledgements/Relays has been discussed endlessly and for well over a decade and yet they still plague the watch-standing deck officer. As an instructor I issue paper copies of DSC Acknowledgements & relays received at our school in Seattle.

We don't even have antennas currently hooked up and yet -- we still have received in the last year multiple calls from NOJ Kodiak and NMC Pt. Reyes. These calls can persist over hours. In one instance the call originated from 9 degrees south and 76 degrees East -- how many ships it took to daisy-chain that one from the Indian Ocean to the U.S. on 8414.5 MHz can't be known -- but it must have been multiple vessels.

Everyone should know the problems associated with the DSC false alert problem persist. Training of officers can only partially solve this problem (see below). If the format of the DSC call cannot be readily altered then at least the manufacturer's software must be changed. This change must be made

retroactive to all currently installed DSC units whether through software or hardware upgrades. Officer aggravation would be exponentially reduced and a corresponding confidence in GMDSS greatly enhanced by this one change.

For instance -- the new Furuno MF-HF console has removed the DSC ACK feature and brought the Relay SEL command to a more prominent menu location but the Relay All command is still the first on offer.

The only DSC Relay function that should be available to a ship's officer is the Relay Select command. Just as now -- it should appear at the end of any incoming DSC Distress with nature and position call. This menu should also be the only DSC Relay function apparent at the end of examining a past Distress DSC call in the data directory.

The Relay select field should enforce the first two digits as double-zero to ensure that only coast stations get the call. The removal of the All-ships ACK/RELAy features from the ships would also eliminate the problems caused by the lack of YY/MM/DD values in DSC calls dredged up and re-transmitted days and months later.

SAR communications would not be impaired by this change. Nearly the entire DSC alarm problem is caused by inattentive and insufficiently trained officers -- in response to situations that are not genuine Distress alerts in the first place. The removal of ACK/REL all ships commands will eliminate the blizzard of false alarms and will not prevent vessels from being rescued. If the ACK/REL command was used in response to an inadvertent DSC alert it shouldn't have happened in the first place. If the Distress is genuine -- the ACK and Relay commands are unnecessary. The information pertaining to any authentic distress could always be conveyed ashore to SAR authorities by a wide variety of communications modes -- not by lighting up the whole ocean with DSC calls and alarms. The good intentions of the system designers are evident but no human can deal well with a Distress system leading to a barrage of alarms/alerts. (While serving in East Asian waters I have recorded them at 20 per minute on a bad day.)

Part 80 CFR currently reads:

80.1117 Procedure for receipt and acknowledgement of distress alerts.

(a) Normally, distress calls received using digital selective calling are only acknowledged using a DSC acknowledgement by a coast station. Ships should delay any acknowledgement in order to give sufficient time for a coast station to acknowledge the call. In cases where no acknowledgement has been heard and no distress traffic has been heard, the ship should transmit a distress alert relay to the coast station. Upon

advice from the Rescue Coordination Center, the ship may transmit a DSC acknowledgement call to stop it from being repeated.

This language is a vast improvement over prior regulations. However, the third sentence is still problematic. Given that almost no DSC Distress alert turns out to be from a genuinely distressed vessel -- it requires of a ship (that for propagation reasons didn't catch a Coast Station's Ack or Relay) to deluge coast stations with DSC calls concerning alerts that in all likelihood were accidentally transmitted to begin with. Compliance with this by anyone will inevitably result in a vastly greater workload at the DSC coast stations with consequent distraction to CRS watch standers.

"No distress traffic heard" -- that's almost assuredly a false alarm. At minimum -- this language should make explicitly mandatory what it implicitly suggests -- that the Relay Select command be used. If there is an incessant DSC Distress transmission from a vessel then it is either genuine (and likely from an unmanned bridge) or it is not genuine. In either case the RCC should get various Coast Stations to collaborate to silence it and keep the ship's officers out of the loop. On an interim basis the language should be changed to try and keep ships from re-transmitting calls out of the data directory or of sending Ack and Relay responses to the Ack and Relay commands of other stations.

However -- the software should not be altered based upon any nautical mile radius mentality -- ships hundreds and even thousands of miles away might be able to render communications assistance (especially in remote locations such as the poles) -- without being able to render physical assistance. Also many ships have been known to have defective GPS equipment without being aware of it and to have incorrect manual positions entered -- this would totally confuse any DSC computer trying to make automated software decisions based on accurate positions.