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the Northwest Atlantic Fisheries

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Background document to aid in understanding
attached Canadian proposal for inspections by helicopter hoist procedure

1. The helicopter used for transferring personnel is the CH 124 "Sea King" of the Canadian Armed Forces. This helicopter is carried by Canadian Destroyers which have been designated as ICNAF inspection vessels. The CH 124 is a single rotary wing helicopter powered by two gas turbine engines. It has a flying boat-type hull bottom and two outrigger sponsons. A pennant indicating that the aircraft is carrying out international inspection duties will be affixed to the fuselage aft of the pilot's window on the right hand side of the helicopter.
2. The CH 124 conducts personnel transfers using a hoist winch located above the cargo door on the starboard midsection of the aircraft. This hoist has thirty meters of cable. A lifting device, normally a personnel sling, is attached to the hook at the cable end. A white nylon steadying line may be used during a personnel transfer and will be lowered first. It is attached to the cable at the same point as the personnel sling.
3. On the occasions when equipment only is to be transferred, a small zippered bag or net will be used in lieu of a sling. Do not detach these items from the hoist hook.
4. When a helicopter hoist transfer is conducted, the pilot will normally hover facing the wind in such a position as to permit him to maintain visual contact with the vessel superstructure and any obstructions and lower the hoist to either:
 - a) The center of the clear space if a free hoist is being conducted; or,
 - b) A point over the ship's side adjacent to the clear space if the steadying line procedure is being used.

In general, if the transfer takes place to the forward part of the vessel, the pilot will seek a relative wind from the vessel's starboard beam or astern; and similarly, if the transfer takes place to the after part of the vessel, the pilot will seek a relative wind from the vessel's port beam or ahead. In an emergency, such as a rescue operation, the helicopter pilot will take whatever action appears appropriate under the circumstances consistent with the degree of urgency and his responsibilities for a safe operation.

5. The vessel and the aircraft shall attempt to contact one another in English on 2182 KHZ or such other radio frequency as may have been arranged. If this method is unsuccessful, radio contact should be attempted with another ship which can act as a relay. The vessel shall turn off power to any radio or radar antennae or aeriels which are in the vicinity of the transfer area as accidental contact with such equipment could be harmful to the person being transferred.

6. The pilot will assess the relative wind, sea state, vessel motion, and possible transfer areas and decide if a personnel transfer can be safely conducted. The helicopter will then indicate its intention to transfer an inspection team to the vessel by hovering alongside with the cargo door open; instructions will be passed by message board or radio. These instructions will include a course to maintain and basic instructions on the transfer technique.

7. If the vessel is free to manoeuver (i.e., not fishing, shooting, or hauling), the aircraft captain may request a course change to establish the optimum relative wind. Once the transfer has commenced, the vessel must maintain a steady course and constant speed until the transfer is completed and the helicopter moves away. If it becomes necessary for any reason to alter either course or speed during the transfer, the aircrew must be warned immediately so that appropriate action can be taken by the pilot.

8. The helicopter pilot will require some indication of the wind direction over the vessel. A pennant or some other indication of relative wind should be mounted or held in such a position where the relative wind can be gauged by the pilot.

9. If no large clear space exists, a small area, approximately three meters square, free of obstructions and adjacent to the vessel's side will normally be used in conjunction with the steadying line. The selected area will normally be at or near the bow or stern of the vessel. Loose articles in the transfer area should be stowed or secured. The downwash from the helicopter is quite strong (approximately 40 knots) and may cause such articles to fly up and be lost overboard or strike and damage the helicopter.

10. The helicopter pilot will normally indicate the area to which he would prefer to conduct the transfer by one or more of the following means:

- a) Radio communication;
- b) Message board;
- c) A high hover over the position;
- d) Hand signals.

11. The following visual signals may be used by the aircrew or vessel crew to permit communication as appropriate to the stage of the operation:

- a) Signal: Vertical motion with an arm or a flag, or a "Thumbs-Up" indication

<u>Used by:</u>	<u>Meanings:</u>
Both	Ready to conduct transfer; or
Vessel	Desire transfer from this position; or
Helicopter	Take up the slack on the steadying line; or
Helicopter	Pull in gently on the steadying line; or
Both	Any affirmative response.

- b) Signal: Horizontal motion with arm or flag, or "Thumbs-Down" indication

<u>Used by:</u>	<u>Meanings:</u>
Vessel	Transfer not recommended from this position - recommend alternate (and point towards desired position); or
Both	Not ready to conduct transfer; or
Vessel	Request you stop the transfer; or

b) continued

<u>Used by:</u>	<u>Meanings:</u>
Helicopter	Ease the tension on the steadying line; or
Helicopter	Release the steadying line; or
Both	Any negative response.

12. The aircraft will then be positioned over the point to which the transfer will take place and the rope steadying line will be lowered to the deck. A crew of three men should normally recover the line, handle and coil it on deck ensuring that it does not become entangled in any rigging or fixtures. It will also be helpful to have a director on deck who could use hand signals to instruct the line handlers while the helicopter is overhead. This line and the hoist cable and hook must NEVER be allowed to tangle with or be secured to any part of the vessel.

13. The first man of the inspection team will don the sling in the helicopter and be lowered on the hoist. While this man is being lowered below the aircraft, the steadying line shall be used to steady him, and when the man approaches the deck (approximately 3 meters above) to guide him past any obstructions and onto the deck. Once on the deck, he will ground the cable to the deck to discharge helicopter static electricity. The cable and hook must NOT be touched until they have been grounded. In the event that equipment is transferred to the vessel first, the cable and hook must be allowed to contact the deck before they are handled. The steadying line, when used, may be manipulated to accomplish this procedure.

14. After the man is free of the sling, it will be returned to the helicopter. The steadying line will follow the sling and shall be handled until it leaves the deck. The first man transferred will direct the deck crew for the second personnel hoist.

15. Transferring a man from the vessel to the aircraft is the reverse of this procedure. As the man lifts off, the steadying line is gently used to assist him clear of any obstructions. He is then allowed to move below the aircraft as the aircraft moves clear of the vessel. The end of the steadying line is then held onboard until subsequent hoists are complete or the helicopter crewman signals and pulls it away.

16. In the event that the steadying line is not used, the helicopter will hover so that the hoist is directly over the selected transfer area. The man will be lowered vertically to the deck and may require manual steadying assistance upon landing. This method will normally only be used when there is a large unobstructed area available.

17. In the event that a helicopter is used for the evacuation of a medical case or other humanitarian need, the preceding instructions apply. The vessel will be requested to steer a course which is indicated by the aircraft captain if its present course and speed give an unacceptable relative wind. An aircrewman may be lowered to the deck initially to assist in transferring personnel. The rescue sling should be entered by slipping it over the shoulders and under the arms with the hoisting cable hook in front.

18. It is often difficult for a helicopter pilot to pick out the particular ship he is looking for unless a distinctive distress signal is used by the ship. Flares or a lifeboat's orange coloured smoke are very distinctive from the air. An accurate ship's position, type or colour of hull are beneficial. The helicopter crew will be attempting contact on a frequency of 2182 KHZ either directly with the vessel in trouble, or via relay with another vessel.

19. The following situations are representative of conditions under which a personnel helicopter hoist transfer will not be attempted unless an emergency exists whereby the life of a vessel crew members is in danger:

- a) In the opinion of the captain of the aircraft, there is inadequate clear space for a transfer or there are too many obstructions;
- b) There is significant vessel motion such that, in the opinion of the captain of the aircraft, a hazard exists;
- c) The helicopter cannot position itself with an acceptable relative wind;
- d) Other hazards exist which prejudice the safety of the helicopter or of personnel being transferred.

Canadian proposal for amendment to ICNAF Scheme of Joint International Enforcement to permit inspections by helicopter hoist procedure

Proposal () from the June 1976 Annual Meeting for amendment of the Scheme of Joint International Enforcement of the Fishery Regulations in the Convention Area and in Statistical Areas 0 and 6:

That pursuant to paragraph 5 of Article VIII of the Convention, paragraphs 2, 4(i), and 7 of the Scheme of Joint International Enforcement, adopted at the Twenty-Fourth Annual Meeting (Annual Report Vol. 24, 1973-74, pages 87-89), be replaced by the following; and that Annexes A and B be added to the Scheme of Joint International Enforcement:

"2. Vessels and helicopters carrying inspectors shall display a special flag or pennant approved by the Commission to indicate that the inspector is carrying out international inspection duties. The names of the vessels which may be either special inspection vessels or fishing vessels and identification of the helicopters so used for the time being, shall be notified to the Commission.

"4. i) The master of a vessel employed for the time being in fishing for sea fish or in the treatment of sea fish in the Convention Area or in Statistical Areas 0 and 6 shall facilitate boarding when given the appropriate signal in the International Code of Signals by a vessel or a helicopter carrying an inspector. The vessel to be boarded shall not be required to stop or manoeuver when fishing, shooting, or hauling. The master shall nonetheless provide:

- a) a boarding ladder; or,
- b) such assistance to boardings from helicopters as specified in Annexes A and B to the Scheme of International Enforcement; and
- c) in either case, observe the ordinary practice of good seamanship to enable an inspection party to board as soon as practicable.

"7. An inspector observing a failure of a vessel to enable an inspection party to board after being properly signalled by a notified vessel or authorized helicopter shall:

- i) Report the apparent infringement as soon as possible to any inspector of the flag state known to be in the vicinity or a designated authority of the flag state;
- ii) Prepare a report giving as much information as possible, including the distance from which the signal was given, the visibility at the time, sea state, wind and icing conditions."

Instructions to masters for transfer of an ICNAF inspection party by helicopter to and from fishing vessels

"The Contracting Governments shall take appropriate action to ensure that all masters of fishing vessels under their jurisdiction engaged in fishing for sea fish or in the treatment of sea fish in the Convention Area or in Statistical Areas 0 and 6 are made aware of and comply with the following instructions with regard to the transfer of ICNAF inspection parties by helicopter to and from fishing vessels.

"1. Inspection parties authorized under the ICNAF Scheme of Joint Enforcement procedures may board a vessel not only by sea boat, but also by helicopter. In some ice conditions this may be the only practical way of boarding a vessel. Masters shall be aware of this method of transferring inspectors, and shall be conversant with the information contained in these instructions.

"2. The captain of the helicopter shall be responsible for the safety of personnel who are being transferred between a vessel and the helicopter during the entire time such personnel are attached to the helicopter via the hoist cable and the lifting device.

"3. The master of the vessel shall provide assistance to the helicopter as described in the following:

- i) Attempt to communicate by radio in English or some common language;
- ii) Alter course and speed if requested and if free to do so;
- iii) Maintain a steady course and speed throughout the transfer operation unless the safety of the vessel is in jeopardy;
- iv) A visual indication of relative wind shall be provided by means of a pennant or other suitable device;
- v) Clear the transfer area of objects which could be blown loose;
- vi) Provide crew members familiar with these instructions in the transfer area who will assist the arrival and departure of personnel as required;
- vii) ENSURE THAT NONE OF THE LINES OR FITTINGS LOWERED FROM THE HELICOPTER ARE ATTACHED TO OR PERMITTED TO FOUL IN THE VESSEL.

"4. The helicopter displaying its ICNAF pennant shall communicate to the vessel, by one or more of the following means, his intention to conduct a boarding:

- i) radio communications on 2182 KHZ, VHF-FM Channel 16 or other agreed to frequencies;
- ii) visual or aural indication of an appropriate signal extracted from the International Code of Signals as included in Annex B of the ICNAF International Inspection Scheme;
- iii) hover over or near the intended boarding position in conjunction with hand signals indicated in paragraph 5.

"5. The following visual hand signals adopted from the International Code of Signals may be used by the aircrew or vessel crew to permit communication as appropriate to the stage of the boarding operation:

i) Signal: Pointing movement by the arm or hand

Used by:

Meanings:

Helicopter

Wish to conduct transfer or boarding in the indicated location

ii) Signal: Vertical motion with an arm or a flag, or a "Thumbs-Up" indication

Used by:

Meanings:

Either

Ready to conduct transfer; or

Vessel

Desire transfer from this position; or

Helicopter

Take up the slack on the guide line; or

Helicopter

Pull in gently on the guide line; or

Either

Any affirmative response.

iii) Signal: Horizontal motion with arm or flag, or "Thumbs-Down" indication

Used by:

Meanings:

Vessel

Transfer not recommended from this position - recommend alternate (and point towards desired position); or

Either

Not ready to conduct transfer; or

Vessel

Request you stop the transfer; or

Helicopter

Ease the tension on the guide line; or

Helicopter

Release the guide line; or

Either

Any negative response.

"6. A visual display of the symbol YU by the helicopter or the radio transmission of YANKEE UNIFORM to the fishing vessel indicates the signals in Annex B of the Scheme of Joint International Enforcement are to be used for inspection communications."

Standard examples from the International Code of Signals, meanings and remarks pertinent to helicopter transfers under the ICNAF Scheme of Joint Enforcement

<u>INCO Signal</u>	<u>INCO Meaning</u>	<u>ICNAF Remarks</u>
SQ 3	You should stop, or heave to, I am going to board you	The display of the ICNAF pennant indicates the boarding team in the helicopter
MG	You should steer course	Course is true
IK-RQ	Request you proceed at _____ KTS	
AZ	I cannot alight but I can lift crew	Indication of intentions to conduct helicopter hoist transfer (used with BB signal)
BB1-RQ	May I alight on your deck: are you ready to receive me forward)))	Used in conjunction with signal AZ to indicate helicopter will not alight but conduct a lift
BB2-RQ	May I alight on your deck: are you ready to receive me amidships)))	
BB3-RQ	May I alight on your deck: are you ready to receive me aft)))	
K	I wish to communicate with you by...(extracts from INCO Table 1) 6. International Code Flags 8... Radiotelephony 2182 KHZ 9... VHF Radiotelephony Channel 16	
YX	I wish to communicate by radio-telephony on frequency indicated	
C	YES (affirmative)	
N	NO (negative)	NO by voice or radio transmission
YU	I am going to communicate with your station by means of the International Code of Signals	
BT	Helicopter is coming to you now (or at time indicated)	