

R1/6

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Cruise 0795C

FRV *Clupea*

REPORT

24-28 April 1995

Personnel

C D Hall	SSO (in charge)	}	
C W Shand	HSO	}	staff living ashore
P J Barkel	PTO	}	

Objectives

1. To monitor the performance of the remote controlled TV vehicle during use on a standard fishing gear.
2. To compare a DC motor drive system with the existing AC drives with the aim of reducing video interference.
3. To compare SIT RF and video cameras under varying light conditions.
4. To test new fishing gear instrumentation.

Out turn days per project: IBD1 four days, ICL1 one day

Narrative

Staff travelled to Mallaig on Monday 24 April, where the remote controlled TV vehicle (RCTV) was set-up in the afternoon. Working in the Sound of Sleat, the net and RCTV were deployed in 75-85 m of water. Three different models of video camera were tested to compare their performance in viewing the net under varying light levels. The AC drive system was replaced with a DC system, and the tests on the three cameras repeated. Finally the DC system was run for a sustained period to compare the output power with that generated by the AC system.

A new design of 5 tonne load-cell, incorporating a depth meter, was tested against a standard 5 tonne cell during a one-hour haul on BT 158 wing trawl. The usual rigging arrangements for attaching the instruments to the trawl doors had to be modified due to the restricted height at the hanging blocks at the stern of the vessel.

The vessel was off-loaded at Mallaig on Friday 28, after which staff returned to Aberdeen.

Results

AC motor system:

- a) RF SIT camera - little interference at high light levels, increasing as the light decreased. Interference ("herring-bone" pattern) from an external RF (radio frequency) source outwith the control system.
- b) standard video SIT camera - picture completely lost due to interference. Severe "banding" and loss of horizontal sync.
- c) colour RF SIT camera - clear pictures at high light levels, RF noise at low light levels.

DC motor system:

- a) RF SIT camera - no interference from motors. RF pick-up at low light levels.
- b) standard video SIT camera - very low level of noise (banding and horizontal lines) at all light levels.
- c) colour RF SIT camera - no noise from motors. RF pick-up at low light levels.

This indicates that using a combination of a DC drive system and a video SIT camera on the RCTV would be a practical solution to the existing noise problems.

The DC system was not as controllable as the AC system at low speed. At high speed the motors were able to drive the rotors continuously for several hours.

The new load-cell recorded similar tensions to those recorded on the standard instrument, with additional information from the depth sensor.

Chris Hall
10 May 1995

Seen in draft: G Geddes (OIC FRV *Clupea*)