

## **(RISE) Buoy Deployment and Recovery Procedures**

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### **I. Deployment**

#### **A. Bridge preparations prior to deployment**

1. Arrive on station, examine existing buoy location, current, and local depths
2. Set deployment location
3. Set approach point about 0.7 nm from deployment location

#### **B. Deck Preparations Prior to deployment**

1. Set buoy in deployment position on fantail in cradle
2. Set inline instrumentation out on deck below buoy
3. Setup snatch block on deck from capstan, run bull line through block on A frame to quick release hook on buoy bail.
4. Run tag lines to buoy
5. Assemble personnel
  - a. 1 deck boss w/radio
  - b. 2 tag line operators
  - c. 1 A frame operator
  - d. 1 quick release operator
  - e. 1 capstan operator
  - f. 1 winch operator
  - g. 2 cage/instrument handlers (can include capstan and winch operators)
6. Inform bridge of status, check position etc.
7. Upon OK from bridge, drop safety lines

#### **C. Buoy and inline instrumentation deployment**

1. Check tag lines and all other personnel for readiness
2. Request permission from bridge to deploy, ask ship to kick out of gear
3. Unbind and remove buoy hold down chains
4. Carry near-surface instruments over transom
5. A frame out
6. In on the capstan as necessary to lift buoy over the transom
7. With A frame all out, down on the capstan to place buoy in the water
8. Clear tag lines
9. Release buoy, clear cradle
10. Inform bridge, OK to make headway 0.5 knots or so
11. Stream wire, carry 15, 20 m instrument cages and T-loggers over transom
12. Stop winch, attach pig
13. Push pig over side, pay out anchor chain with winch.

#### **D. Anchor deployment**

1. Stop winch, attach chain to anchor, at this point anchor is not taking load
2. Attach chain to cleat on deck using quick release, transfer load to line by running winch out

3. Disconnect winch wire from chain, run winch wire through block on A-frame
4. Attach winch wire to anchor with quick release
5. Use quick releaser to transfer load to anchor
6. Rig anchor tag lines, unbind anchor hold down chains
7. Center anchor using A frame and if necessary winch
8. 200 ft downstream of deployment location place anchor in water using A frame and winch
9. At deployment location, clear tag lines, tie off quick release
10. Lower anchor with winch until anchor releases

## **II. Recovery**

### **A. Approach and buoy hooking.**

1. Prepare pole and hook with winch wire
2. Prepare 2 poles with tag lines
3. A frame out, if not already out
4. Assemble personnel
  - a. 1 deck boss w/radio
  - b. 1 buoy hooker
  - c. 2 taggers
  - d. 1-2 capstan operators
  - e. 1 winch operator
  - f. 2 instrument handlers
  - g. 1 A frame operator
5. Approach buoy from downstream with buoy on port side
6. Hook buoy along port side and have bridge kick stern to port
7. Hook taglines into buoy bails

### **B. Buoy and instrument recovery**

1. Lift buoy on deck with winch and A frame
2. Attach bull line to buoy as soon as practical, take slack out
3. Attach stopper chain to D-ring below 3/4" chain
4. Unhook buoy from mooring string, Move winch wire to D-ring, unhook stopper, A frame out
5. Move buoy forward with capstan to starboard side forward of A frame, secure buoy
6. Winch and A frame in to raise 5 m SEACAT, hook stopper chain below swivel
7. Move winch wire below swivel, remove SEACAT, remove stopper chain, A frame out
8. Winch and A frame in to raise 15 m ADCP, hook stopper chain into D-ring below ADCP cage
9. Move winch wire to D-ring, remove ADCP, remove stopper chain, A frame out
10. Winch and A frame in to raise 20 m SEACAT, hook stopper chain below swivel
11. Move winch wire below swivel, remove SEACAT, remove stopper chain, A frame out
12. A frame out, Winch in to recover mooring wire
13. Stop winch as necessary, A frame in to recover T-loggers
14. Inform bridge when anchor lifts clear of bottom

### **C. Anchor recovery**

1. Winch in until pig surfaces, stop winch, recover pig
2. Prepare poles with tag lines
3. Continue with winch in to recover anchor chain
4. Stop winch with anchor at surface
5. Tag anchor
6. Winch and A frame in to recover anchor