ROV Handling
Hazards:

1. Personnel handling load with swing (4-8 ton):
   *Risk of personnel injuries and equipment damage*

2. Operating manual guide systems:
   *Risk of squeeze hand or fingers*

3. Cage and ROV can hit vessel structure:
   *Loss of ROV \ Rig downtime*

4. Side forces on A-frame \ sheave:
   *Loss of ROV \ Rig downtime*

5. Snap load on ROV umbilical:
   *Loss of ROV \ Rig downtime*
Improvements:
- Remove swing.
- Remote controlled handling
- Avoid drift of and snap load in splash sone

Alternatives:
1- Guiding of Cage/ROV above moonpool
2- Guiding of Cage/ROV through moonpool
3- Guiding of Cage/ROV through splash-sone (full cursor)
Guide above deck

Advantage / disadvantages

+ Improve personnel safety
+ Simple installation
+ Low cost

- Do not solve entry of moonpool on recovery
- Low effect on swing in splash-zone
- Do not improve weather limitations

Estimat Alternative 1:
Prestudie of guide system above deck
Production

: NOK 50-100 000,-
: NOK 0,5-1 millioner
Guide system through moonpool

Advantage / disadvantage

+ Low cost
+ Improve personnel safety
+ Simple installation
+ Guided entry of moonpool
+ Reduced swing due to shorter pendel length

- Require work inside or under moonpool
- Modification of hatches
- Limited improvement of weather limitations

Estimat Alternative 1:

Prestudie of guide system through moon pool: NOK 50-100 000,-
Production: NOK 1-2 millioner

Estimat Alternativ 2:

Forstudie av guide system gjennom moonpool: NOK 50-100 000,-
Anttt prisleie på guide system gjennom moonpool: NOK 1-2 millioner
Full Cursor

Advantage / disadvantage

+ Improve personnel safety
+ Improve equipment safety
+ Designed to withstand seastate 6

- Can not be installed offshore

Estimat Alternative 3:
Prestudie of full cursor: NOK 50-100 000,-
Production: NOK 3-5 millioner
Weather limitation without cursor
Transocean Arctic

ROV Weather Tolerance
LOCATION: Transocean Arctic
ROV: Magnum 12

Through Splash-Zone
Max sea: 5.0 m
Seas from: 105 deg.
Cage Heave: 1.0 m

New ROV Location Without Cursor

Heave at Working Depth
Max predicted heave during dive: 2.0 m

Date:
Approved By:

Risk Level
High
Medium
Low

Deg. off Rig Heading
0 15 30 45 60 75 90 105 120 135 150 165 180 195 210 225 240 255 270 285 300 315 330 345 m (H max)

Meters Heave
0 1 2 3 4 5 6 7 8

OCEANEERING - ROV
Weather limitation with cursor
Tranocean Arctic

**ROV Weather Tolerance**

**LOCATION:** Transocean Arctic  
**ROV:** Magnum 12

Through Splash-Zone
- Max sea: 5.0 m
- Seas from: 105 deg.
- Cage Heave: 1.0 m

**New ROV Location With Cursor**

Heave at Working Depth
- Max predicted heave during dive: 2.0 m

**Risk Level**
- High
- Medium
- Low

**Date:**

**Approved By:**

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OCEANEERING - ROV
Example - rail system
Example - Cursor in moonpool