



# Antarctic Research Vessel (ARV)

## Seakeeping Performance Report

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# 1. Executive Summary

This Seakeeping Performance Report provides a summary of the seakeeping studies undertaken for the National Science Foundation (NSF) Antarctic Research Vessel (ARV). This report describes the processes, methods, and parameters that are used to accomplish the analysis. The analysis includes an assessment of ship motions at a range of speeds and sea states in accordance with the ARV Performance Specification (P-Spec), Reference (1). The seakeeping analyses were performed repeatedly throughout the design process to stay current with the latest hull lines, Reference (2), and the ARV Design Weight Estimate, Reference (3). The report also includes an evaluation of Motion Sickness Incidence (MSI), Motion Induced Interruptions (MII), and wetness-on-deck occurrences for the foremost and aftmost locations of interest on the hull form. The hull form analyzed in this study includes appendages such as a skeg, box keel, and ice knife. All conditions analyzed herein include the use of the U-tube anti-roll tank in accordance with Reference (1).

The analysis was performed using VisualSMP (SMP), a frequency-domain, linear strip theory seakeeping tool developed by the U.S. Navy. The ARV P-Spec, Reference (1) requires 100% operability in Sea State 4, 80% operability in Sea State 5, and 50% operability in Sea State 6. Additionally, the ARV P-Spec guided the operation-specific operability criteria for all key hull locations, which were analyzed in upper Sea State 5. For Sea States 7 and 8, the ARV is required to allow personnel to work safely, where work is defined as the safe operation of the vessel for crew only.

The seakeeping analysis for the Full Load, Deliver condition demonstrates the ARV meets the requirements outlined in Reference (1) in all sea states analyzed. The operability is 100% for Sea States 4 and 5, and 64% for Sea State 6. Zero speed operability within +/- 45 degrees of best heading was confirmed for Sea States 4 through 6. Sea State 6 showed pitch motions exceeding limits for seas +/- 45 degrees off the bow; best heading is 90 degrees.

Sea State 7 and 8 were analyzed using a proposed System Safety Criteria. The ARV stays within these criteria for all assessed speed/heading combinations in Sea State 7 and 8, which demonstrates that the ARV will be able to maintain safe operation during high sea states.

Reference (1) does not provide a recommended limit for MII and MSI; therefore, these responses were compared against the recommended limits provided in STANAG 4154, Reference (4). At Sea State 4, the ARV meets STANAG 4154 MII and MSI values for 100% of speed heading combinations. At Sea State 5 and 6, the ARV meets STANAG 4154 MII for 100% of speed heading combinations, while the best operating speed for MSI is observed at 2 knots for both sea states. With a broad range of speed and heading combinations displaying acceptable MSI responses, the ARV is considered to provide adequate operability across the design sea state range.

ARV Seakeeping characteristics will be confirmed experimentally via model testing during the Stage 4 model test program. During the Final Design phase, survivability seakeeping performance will be confirmed using higher-order computational tools or additional model testing to confirm that no capsize events are predicted within a range of safe operable speed and heading combinations for ARV in Sea States 7 and 8.

## 1.1 Acronyms

ABL	Above Baseline
ART	Anti-Roll Tank
ARV	Antarctic Research Vessel
ASC	Antarctic Support Contractor
CL	Centerline
CTD	Conductivity, Temperature, and Depth
FP	Forward Perpendicular
FSC	Free Surface Correction
FWD	Forward
GM	Distance from Center of Gravity to Metacenter
KG	Vertical Center of Gravity Above the Keel
LBP	Length Between Particulars
LCG	Longitudinal Center of Gravity
LFE	Lateral Force Estimator
LOA	Length Overall
MSI	Motion Sickness Incidence
MII	Motion Induced Interruptions
OCL	Off Center Line
PDR	Preliminary Design Review
NSF	National Science Foundation
P-Spec	Performance Specification
ROV	Remotely Operated Vehicle
SMP	Ship Motion Program
SS	Sea State
STANAG	NATO Standardized Agreement
STBD	Starboard
T	Draft
UAV	Uncrewed Aerial Vehicle
VCG	Vertical Center of Gravity

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## 2. Introduction

This report provides a discussion and summary of the results of the seakeeping and ship response study undertaken for the ARV design. Low speed responses up to 11 knots are predicted using VisualSMP, a frequency-domain, linear strip theory tool.

The output from VisualSMP is used to assess the predicted ship response against allowable ship motions as specified in the ARV P-Spec, Reference (1).

### 2.1 Background Information

Below is a listing of the terminology and definitions that are used in the seakeeping analysis.

#### 2.1.1 Environmental Information

Average Period –  $\bar{T}$ , mean value of many measurements of the wave period in a seaway.

Average Wave Height –  $\bar{H}_a$ , mean value of many measurements of the wave height in a seaway.

Average Wave Length –  $\bar{\lambda}$ , mean value of many measurements of wave length in a seaway.

Irregular Waves – Confused sea state composed of multiple waves.

Long Crested Waves – Waves in which component waves advance in the same direction, possessing certain steady-state characteristics that may be described analytically.

Modal Wave Period, also Period of Maximum Energy of Spectrum –  $T_0$ , period of the waves associated with the maximum spectral energy of a seaway.

Period –  $T_w$ , time between the passage of two successive wave crests past a fixed point.

Regular Waves – Ideal two-dimensional, periodic waves of a single wave length and frequency.

RMS, also Root Mean Square –  $\sigma$ , standard deviation relative to the mean, or (with respect to wave height), where  $N$  is the number of observations of a wave height. Defined by the following equation:

$$\sigma = \sqrt{\frac{\sum_{n=1}^N (H_n - H_a)^2}{N}}$$

Short Crested Waves – Waves in which component waves advance in various directions.

Significant Wave Height –  $\bar{H}_{1/3}$ , mean height of the highest one-third waves in a seaway.

Wave Amplitude –  $\zeta_a$ , vertical distance from mean level to wave crest or trough (see Figure 2-1).

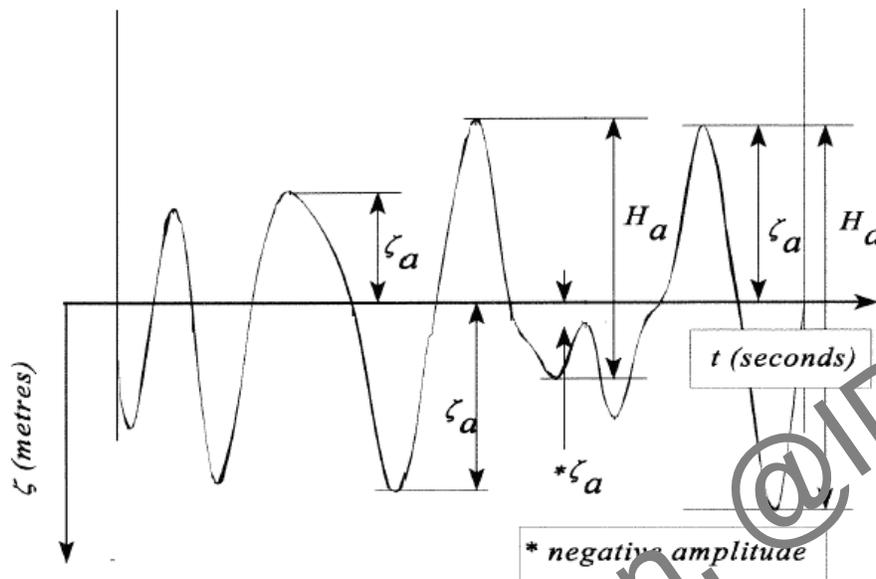
Wave Frequency –  $\omega_w$  or  $\omega$ , inverse of the wave period, or  $1/T$ .

Wave Height –  $H_a$ , vertical distance from wave crest to bottom of the succeeding trough, or twice the wave amplitude (see Figure 2-1).

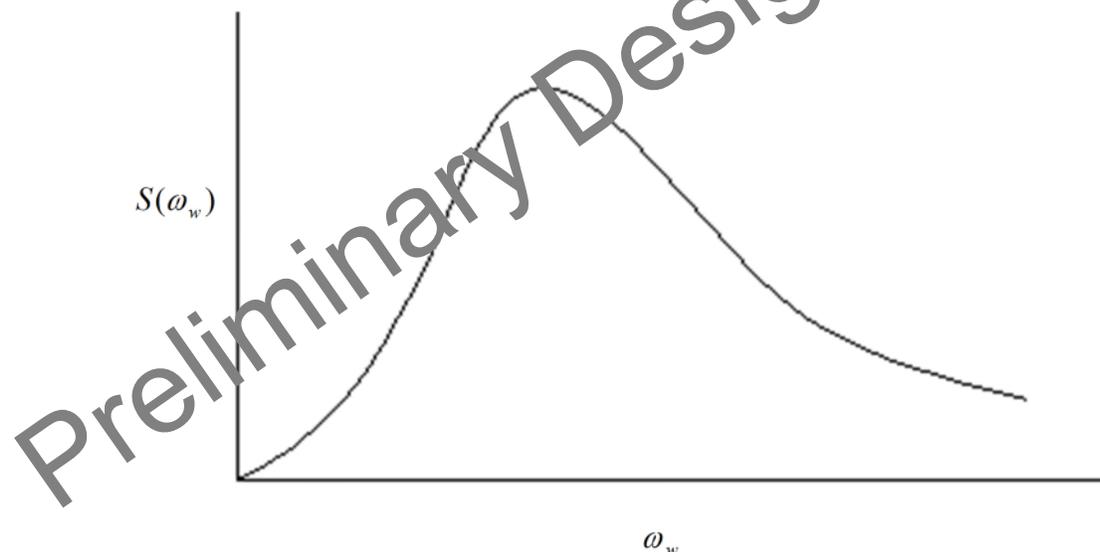
Wave Length –  $\lambda$ , horizontal distance between adjacent wave crests in the direction of advance.

Wave Spectrum –  $S(\omega_w)$  or  $S(\omega)$ , distribution of spectral density of wave energy according to wave frequency (see Figure 2-2).

**Figure 2-1: Typical Wave Record**



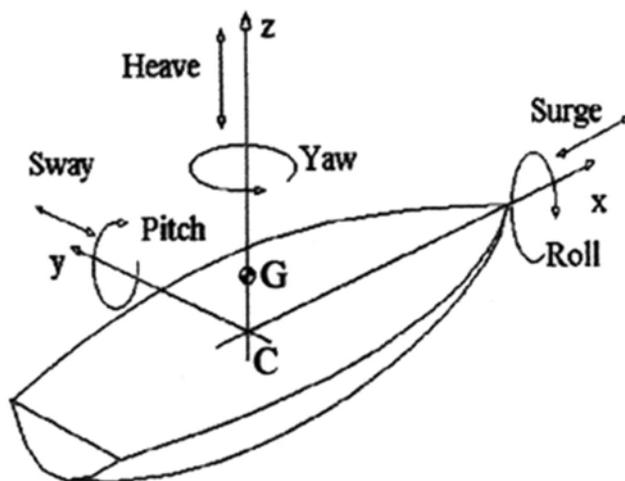
**Figure 2-2: Typical Wave Spectrum**



### 2.1.2 Ship Response Definitions

Figure 2-3 shows the definition of the basic ship motions involved in a seakeeping analysis. This figure shows a notional ship floating in water with a 3-dimensional set of axes located at its center of gravity. In terms of the 3-D axes, the ship's motions can be defined in terms of six components (or degrees of freedom), consisting of linear motion along each axis and rotational motion about each axis.

**Figure 2-3: Definition of the Basic Ship Motions Involved in a Seakeeping Analysis**



**Pitch** – The angular component of motion, as the ship rotates about its Y-axis. It is also identified as  $\eta_5$  or  $X_5$ .

**Roll** – The angular component of motion, as the ship rotates about its X-axis. It is also identified as  $\eta_4$  or  $X_4$ .

**Seakeeping Responses** – Collectively, the ship's motions, velocities, and accelerations in these 6 degrees of freedom are often referred to as its seakeeping responses in waves.

### 2.1.3 Review of Sea State Definition

The ARV P-Spec, Reference (1), requires the analysis to use the Bretschneider short-crested ocean wave spectrum at various sea states. The sea states referenced in the analysis are defined in Table 1 below:

**Table 1: Sea State Definition**

Sea State Number	Significant Wave Height Range (ft)	Average Modal Wave Period (sec)
≤4	0 – 8.2	8.5 (SS4)
5	8.2 – 13.1	9.4
6	13.1 – 19.7	10.4
7	19.7 – 29.5	11.2
8	29.5 – 45.9	12.2

## 2.1.4 MSI & MII Analysis

Analyses of the personnel performance was conducted to determine the operational envelope that can be expected of a vessel in a seaway. This analysis used the MSI and MII criteria defined by STANAG 4154, Reference (4). MSI calculates the percentage of crew members experiencing motion sickness to the point of vomiting during a specified period of time. MII calculates the number of instances per minute in which a crewmember may either tip or slide.

### 2.1.4.1 MSI Calculation

The MSI is defined in STANAG 4145, Reference (4), as the percentage of crewmembers at a given task location that experience motion sickness to the point of vomiting within a given time period.

The MSI takes into consideration the magnitude of the vertical acceleration of the ship and the frequency with which the motion occurs.

MSI is defined by the following set of equations from Reference (6):

$$MSI = 100 * \left( 0.5 + \operatorname{erf} \left( \frac{\log_{10} \left( \frac{|\bar{s}_3|}{g} \right) - \mu_{MSI}}{0.4} \right) \right)$$

$$\mu_{MSI} = -0.819 + 2.32 * (\log_{10} W_e)^2$$

$$W_e = a_v * g / V_v$$

Where  $|\bar{s}_3|$  is defined as the average modulus of the vertical acceleration. Variable  $a_v$  is the vertical acceleration in “g”,  $V_v$  is the vertical velocity, and  $g$  is the acceleration due to gravity. These formulae assume that the accelerations are distributed over a Gaussian probability. Since the distribution of the sea state used in the simulation follows a Gaussian distribution as well, the accelerations will meet this assumption and is a simple matter to calculate for each case investigated based upon the time history data and frequency-domain data available.

The major assumption that limits the MSI’s accuracy in predicting personnel performance degradation is that it does not take acclimation to the marine environment into consideration when calculating the index. References (4), (7), and (8) show empirical studies that the overall percentage of MSI decreases exponentially within the first three days of a ship leaving port. Thus, the MSI calculation is a conservative estimate, and over the projected mission, the ARV can expect to see a decreasing observed MSI.

### 2.1.4.2 MII Calculation

Motion Induced Interruptions are considered to occur when a crewmember is subject to forces that result in either sliding or tipping. The basis for determining personnel performance degradation occurs when the number of MII’s per minute exceeds operability criteria for a vessel.

The number of MII’s per minute was calculated by determining the number of instances per minute in which a tip or slide to port or starboard will occur for a given time duration of a task. The generic time duration used for all tasks considered in the calculation is one (1) minute.

The calculation for tipping is given by:

$$MII_T = \frac{2 * T_T}{T_L} * e \left( -\frac{1}{2} * \left( \frac{l}{L_{RMS}} * g \right)^2 \right)$$

And the calculation for sliding is given by:

$$MII_S = \frac{2 * T_T}{T_L} * e \left( -\frac{1}{2} * \left( \frac{\mu * g}{L_{RMS}} \right)^2 \right)$$

Where,

$T_T$  = Time duration of task in seconds

$T_L$  = Zero-crossing period of Lateral Force Estimator (LFE) in seconds

$l$  = half-stance of a crewmember

$h$  = VCG of a typical crewmember

$\mu$  = coefficient of friction of a dry deck

$L_{RMS}$  = RMS value of the LFE in m/s<sup>2</sup>

The assumptions made in calculating the tipping and sliding conditions are similar to those used in the original algorithm derivation as defined in Reference (5) and are:

1. Sliding condition calculated for a dry deck with a coefficient of friction value,  $\mu=0.7$
2. Tipping condition assumes a typical CG ( $h=2.98$  ft) and half-stance of a crewmember ( $l=0.75$  ft).

### 2.1.5 Sea State 7 and 8 System Safety Approach

In Sea States 7 and 8, the ARV is required to allow for safe operation of the vessel. In order to evaluate the safe operation of the vessel, a System Safety Criteria was used, which requires the ship responses to be analyzed in terms of standard deviation. The System Safety Criteria Limits used in this analysis are outlined in Section 3.1.2 for motion limits in pitch, roll, lateral acceleration, and vertical acceleration. The standard deviation equation below was utilized to calculate the total deviation of each response type at each analyzed sea state. For this calculation, the total number of values in the sample was taken as the total number of responses for the combination of speeds and headings analyzed. For Sea State 7 and 8, responses were considered for 0, 2, 4, 6, and 7 knot speeds and wave headings from 0 to 345 degrees in 15-degree increments. This results in a total of 120 values in the sample set. The mean was taken as the average of all of the values within that data set for each response. The sample data for each response includes responses for each speed and wave heading combination, resulting in a total standard deviation for each motion.

$$S = \sqrt{\frac{\sum (X - \bar{x})^2}{n - 1}}$$

$S$  = Sample standard deviation.

$X$  = Each sample value.

$\bar{x}$  = Sample data mean.

$n$  = Total number of values in sample

## 2.2 ARV Principal Characteristics

The principal characteristics of ARV used in the VisualSMP analysis, are shown in Table 2. The seakeeping analysis was completed for the Full load, Delivery loading condition. The analysis conditions include all design and build weight margins.

The values shown in Table 2, reflect a working version of the ARV Weight Estimate, Reference (3). Minimal changes to the values shown are not expected to affect the overall results of this analysis. As the design progresses, the analysis will be updated to reflect the latest mass properties of the ARV design.

**Table 2: ARV VisualSMP Model Principal Characteristics**

Particular	Full Load, Delivery
Displacement:	13,046 LT
LOA:	365 ft
LBP:	349 ft
Beam (molded):	80 ft
T (mean):	32.01 ft
VCG:	36.07 ft
LCG:	184.90 ft
GM:	6.26 ft
FSC (Without ART):	2.54 ft
FSC (With ART)	3.27 ft
KG:	39.33 ft

The principal characteristics of the ARV include a U-Tube anti-roll tank. The anti-roll tank dimensions used in the VisualSMP analysis are included in Table 3.

**Table 3: Anti-Roll Tank Dimensions**

Anti-Roll Tank Dimensions	
Side Tank Length	69.53 ft
Side Tank Width	32 ft
Duct Length	52.83 ft
Duct Width	32 ft
Duct Height	2.5 ft
Tank Height	33.50 ft
Tank Wall Slope	29.9 Degrees
Fluid Depth	8.77 ft
Specific Gravity	1.025
Total Weight	197 LT
Longitudinal Position (+ towards stern)	106 ft
Vertical location of tank bottom from BL	16.50 ft ABL

## 2.3 VisualSMP Analysis

### 2.3.1 Basis and Description

The seakeeping analysis for the ARV hull form was performed using VisualSMP Version 3.3, originally developed by the U.S. Navy, and distributed commercially by Proteus Engineering.

SMP is a strip theory, frequency domain seakeeping program that provides predictions of monohull ship motions, including motion displacements, velocities, and accelerations, for a ship advancing at constant speed at arbitrary headings in both regular and irregular waves. Irregular seas can be modeled using the two-parameter Bretschneider spectrum, the three-parameter JONSWAP, or the six-parameter Ochi-Hubble wave spectral models, each with the ability to model both long-crested and short-crested seas. The Bretschneider spectrum and short-crested waves were used for all analyses shown in this report, in accordance with Reference (1), which are reflective of multi-directional waves, and are generally more restrictive for total operability than single directional open ocean long-crested waves.

An SMP model consists of hull offsets, appendage dimensions, and control coefficients (for active ride control system components). The hull offsets are described by points on hull sections and the stem and stern profiles. VisualSMP Version 3.3 allows a maximum of 70 stations with 70 points on each station. The primary appendage applicable to the ARV analysis is the skeg. The dimensions for the skeg are detailed in Table 4, below. Due to the limitations of the VisualSMP, the dimensions and effects of other items that are typically considered appendages, the box keel, and the ice knife, are captured in the hull offsets rather than being programmed as hull appendages.

The ARV vessel design does not include a rudder. Instead, twin podded propulsors are to be installed on the ARV. Currently, the propulsors are not represented in VisualSMP and the seakeeping analysis due to limitations of the VisualSMP program. However, not including the podded propulsors in the analysis results in more conservative predictions, as the roll damping from the lateral surface area which is provided by the pods is not represented in the seakeeping model.

Table 4, below, indicate the ARV Skeg characteristics used in VisualSMP:

**Table 4: ARV VisualSMP Skeg Dimensions**

Skeg Dimensions	
Fwd End (ft aft of FP)	224.58 ft
Aft End (ft aft of FP)	289.00 ft
Aft End Top (ft aft of FP)	306.23 ft
Waterline at Fwd End	0.00 ft
Waterline at Aft Top Station	24.71 ft

### 3. Requirements

#### 3.1 Vessel Seakeeping Response Predictions

##### 3.1.1 Operability Criteria

The ARV is required to meet ship responses limits as defined in the ARV P-Spec, Reference (1). The ARV is required to meet the operability criteria shown in Table 5.

**Table 5: Required Operability**

Sea State	Required Operability	Operability Criteria	On-Station Speed/Headings	Underway Speed / Headings
4	100%	Vertical Accel. < 0.15 g (RMS)	0-2 knots +/- 45 degrees	2-11 knots All Headings
5	80%	Lateral Accel. < 0.05g (RMS) Roll Angle < 3° (RMS)	0-2 knots +/- 45 degrees	2-9 knots All Headings
6	50%	Pitch Angle < 2° (RMS)	0-2 knots +/- 45 degrees	2-7 knots All Headings

For the purposes of this analysis, operability is defined as the percentage of headings and speeds in which all seakeeping criteria are below the imposed motion requirement in each sea state. The percent operability for a given sea state can be calculated by dividing the number of heading and speed combinations exhibiting operability from the total number of speed and heading combinations considered. At the current stage of design, the most probable modal period for each sea state, as presented in Table 1, were analyzed and are presented in this report. Additionally, all wave directions, 0° to 345° in 15° increments, were analyzed, including for the on-station analysis, which covers speeds from 0 to 2 knots. Head seas is defined as 0 degrees.

In accordance with the ARV P-Spec, Reference (1), the ARV is also required to meet the operation-specific operability criteria shown in Table 6. For the purposes of these requirements, the operability of each operation is to be defined based on the maximum motions for each operation when compared to the operability requirements of Table 5. In subsequent revisions of this report, ship speed for each operation will be determined based on input from vendors and operators and from examples of comparable operations on similar ship designs.

**Table 6: Sea State 5 Operation-specific Operability**

Operation	Required Operability
CTD Operations	90%
Mooring Deployments	75%
Coring	50%
ROV or similar	50%

### 3.1.2 Key Locations

In accordance with the ARV P-Spec, Reference (1), operability was evaluated at the locations shown in Table 7. VisualSMP uses the X, Y, and Z coordinates of each point to evaluate location-specific motions, with the positive X direction being aft from the forward perpendicular, the positive Y direction being starboard from CL, and the positive Z direction being above baseline.

**Table 7: Key Locations**

Location #	Location Name	X + AFT (ft aft FP)	Y+ PORT (ft OCL)	Z +UP (ft ABL)
1	Outboard extent of the Transom, A-frame*	356.00	17.00	53.00
2	UAV Deck, Outboard Edge	50.00	33.50	84.50
3	Bridge Wing, forward/outboard extent	138.00	44.00	102.5
4	Forward-most stateroom, forward/outboard extent	36.00	29.23	30.00
5	Starboard side overboard handling system, outboard extent (CTD operations location)	170.00	- 52.00	57.50

\*The position of this key location at the sheave at the top of the A-Frame is intentionally overly conservative.

To satisfy the operation-specific operability criteria, additional key locations were considered. Table 8 shows the locations selected for each operation of interest. Two representative locations for coring and mooring were selected as they occur at different points on the ship. It should be noted that CTD operations are located at Key Location #5, as shown in Table 7, and no additional point was entered for analysis in VisualSMP for this operation.

**Table 8: Operations Locations**

Operation	Location #	X + AFT (ft aft FP)	Y+ PORT (ft OCL)	Z +UP (ft ABL)
CTD Operations	5	170.00	- 52.00	57.50
Coring (FWD and AFT)	6	184.00	- 52.00	50.50
	7	350.00	- 34.78	50.50
ROV or similar	8	290.00	- 52.00	50.50
Mooring Deployments (FWD and AFT)	9 (FWD)	20.00	22.00	66.50
	10 (AFT)	340.00	40.00	50.50
<b>Deck Wetness Checks</b>				
Lab Van	11	298.00	28.05	45.5
UAV Deck	2	50	33.50	84.50
Transom, STBD	12	349.00	-40.00	45.50

### 3.1.3 Recommended System Safety Criteria

In accordance with Reference (1), the ARV is required to allow personnel to work safely in Sea States 7 and 8, where work is defined as the safe operation of the vessel. This is interpreted as the survival of the vessel and general operability of ship systems, not the ability for scientists to work onboard. In order to provide quantifiable values to the safe operation of the vessel, the ARV was analyzed against a set of industry-standard system safety criteria. In Sea States 7 and 8, the global and location dependent responses are high. Therefore, the proposed limits used are based on the calculated standard deviation of the motions for each response type to ensure that extreme motions that might endanger crew or vessel are not predicted in the headings deemed operable by the analysis. The recommended System Safety Limits for the ARV are shown Table 9 below.

**Table 9: Sea State 7 to 8 Seakeeping System Safety Criteria**

Motion	Required Limits
Roll	Standard Deviation < 8.5 degrees
Pitch	Standard Deviation < 2.35 degrees
Lateral Acceleration	Standard Deviation < 0.185 g
Vertical Acceleration	Standard Deviation < 0.2 g

### 3.2 Crew Performance

Crew performance requirements were assessed using the MSI and MII calculations, as defined by Reference (6). Details for this calculation are shown in Section 2.1.4 above. The recommended criteria selected for the MSI and MII evaluation is taken from NATO STANAG 4154, Reference (4). The limit applied for MSI is 20% of crew for four hours of exposure time, and the MII limit is 1 interruption incidence per minute. Note that MSI incidence has been experimentally shown to reduce with time at sea, and the calculation is conservative in omitting any benefit from environmental acclimatization that occurs during a voyage.

## 4. Results

The ship’s predicted motions, as calculated by VisualSMP, are provided in polar plot form in the following sections. Root Mean Square (RMS) data is given for all required criteria in accordance with the ARV P-Spec, Reference (1). Each Sea State is analyzed at the average modal wave period and at the highest significant wave height as defined in Table 1.

For each plot, the radial coordinate represents the magnitude of the motion, while the polar angle represents the ship’s heading in degrees.

Head seas is represented by 0 degrees. Roll and pitch are measured in degrees; acceleration is measured as fractions of gravity (g). The Bretschneider wave spectrum in short-crested seas was used in accordance with the ARV P-Spec, Reference (1). The results below will be discussed based on global ship, and location dependent responses.

Within this section, only polar plots with motions exceeding requirements are provided in the interest of report clarity and brevity. The full set of motion polar plots is provided as Attachment (1) to this report.

### 4.1 Summary of Results

Table 10 presents the operability for the ARV in Sea States 4 through 6. For each key location, a speed and heading combination is determined to be “operable” if it meets all required operability limits in Roll, Pitch, Lateral Acceleration, and Vertical Acceleration. Operability is the combination of the combined criteria results for all Key Locations; the ship has an operable speed and heading combination if all key locations demonstrate compliance with the seakeeping operability criteria at that speed and heading combination. The operability of the ARV is then calculated as total number of operable speed and heading combinations divided by the total number of heading and speed combination considered.

**Table 10: Operability in Sea States (All Speeds, Headings, and Key Locations)**

Sea State	Required Operability	Operability	Meets Requirement (Y/N)
4	100%	100%	Y
5	80%	100%	Y
6	50%	64%	Y

100% operability for full ship motion criteria is achieved in Sea State 4 and 5, exceeding all operability requirements imposed by Reference (1). With 100% operability, motions plots for Sea States 4 and 5 are found in Attachment 1 only, as no limits are exceeded in the polar plots. With a 64% operability at Sea State 6, the ARV also meets the 50% operability requirement for this sea state. Detailed results for Sea State 6 are shown in Section 4.2.3 and 4.3.3 of this report to highlight areas of operating restrictions.

Operation-specific performance for Sea State 5 is shown in Table 11, below. As outlined in Section 3.1.1, operations-specific requirements were not provided in Reference (1). Therefore, the limits detailed in Table 5, were used to analyze the operability at these locations. The ARV is compliant for all speeds analyzed at Sea State 5.

**Table 11: Summary of Operation-Specific Performance in Sea State 5**

Operation	Required Operability	Actual Operability	Compliant?
CTD Operations	90%	100%	Y
Coring (Forward)	50%	100%	Y
Coring (Aft)	50%	100%	Y
ROV or similar	50%	100%	Y
Mooring Deployments (Forward)	75%	100%	Y
Mooring Deployments (Aft)	75%	100%	Y

Reference (1) does not provide a recommended limit for MII and MSI; therefore, these responses were compared against the recommended limits provided in STANAG 4154, Reference (4). MII and MSI responses were analyzed for Sea States 4, 5, and 6. Additionally, the operability for these responses were analyzed separately from the other seakeeping responses. At Sea State 4, the ARV meets STANAG 4154 MII and MSI values for 100% of speed heading combinations. At Sea State 5 the ARV meets STANAG 4154 MII for 100% of speed heading combinations, while the best operating speed for MSI is observed at 2 knots. At Sea State 6 the ARV meets STANAG 4154 MII for 100% of speed heading combinations, while the best operating speed for MSI is observed at 0 – 2 knots, each speed achieving 71% operability. With a broad range of speed and heading combinations displaying acceptable MSI responses, the ARV is considered to provide adequate operability across the design sea state range.

**4.1.1 Sea State 4**

Sea State 4 combined criteria operability results are shown below in Table 12 through Table 14 below. The ARV displays 100% operability for all speeds, headings, and locations analyzed.

**Table 12: Sea State 4 Combined P-Spec Criteria Operability**

Sea State 4		
Speed	Degrees Inoperable	% Operability
0 knots	0	100%
2 knots	0	100%
4 knots	0	100%
6 knots	0	100%
8 knots	0	100%
10 knots	0	100%
11 knots	0	100%

**Table 13: Sea State 4 MSI Against STANAG 4154 Limits**

MSI Sea State 4		
Speed	Degrees Inoperable	% Within Limits
0 knots	0	100%
2 knots	0	100%
4 knots	0	100%
6 knots	0	100%
8 knots	0	100%
10 knots	0	100%
11 knots	0	100%

**Table 14: Sea State 4 MII Against STANAG 4154 Limits**

MII Sea State 4		
Speed	Degrees Inoperable	% Within Limits
0 knots	0	100%
2 knots	0	100%
4 knots	0	100%
6 knots	0	100%
8 knots	0	100%
10 knots	0	100%
11 knots	0	100%

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### 4.1.2 Sea State 5

Sea State 5 combined criteria operability results are shown below in Table 15 through Table 17. The ARV displays 100% operability for all speeds, headings, and locations. The results shown in Table 17 reflect global and location dependent responses for all locations analyzed in Sea State 5. The MII responses for Sea State 5 display 100% of speed heading combinations within STANAG 4154 recommended limits. MSI responses reflect 78% of speed heading combinations within STANAG 4154 recommended limits.

**Table 15: Sea State 5 Combined P-Spec Criteria Operability**

Sea State 5		
Speed	Degrees Inoperable	% Operability
0 knots	0	100%
2 knots	0	100%
4 knots	0	100%
6 knots	0	100%
8 knots	0	100%
9 knots	0	100%

**Table 16: Sea State 5 MSI Against STANAG 4154 Limits**

MSI Sea State 5		
Speed	Degrees Inoperable	% Within Limits
0 knots	0	100%
2 knots	0	100%
4 knots	15	96%
6 knots	135	63%
8 knots	165	54%
9 knots	165	54%

**Table 17: Sea State 5 MII Against STANAG 4154 Limits**

MII Sea State 5		
Speed	Degrees Inoperable	% Within Limits
0 knots	0	100%
2 knots	0	100%
4 knots	0	100%
6 knots	0	100%
8 knots	0	100%
9 knots	0	100%

### 4.1.3 Sea State 6

Sea State 6 combined criteria operability results are shown below in Table 18 to Table 20. The ARV displays 64% composite operability for combined global and location dependent responses, not including MSI and MII, for all speeds, headings, and locations. Sea State 6 operability is best between 0 and 2 kts. Sea State 6 motions are limited by lateral accelerations between 60 degree and 90 degree wave headings, as well as global pitch motions.

The results in Table 18 reflect global and location dependent responses for all locations analyzed in Sea State 6. Average combined operability for all speeds is 64%. The MII responses for Sea State 6 display 100% of speed heading combinations within STANAG 4154 recommended limits. MSI responses reflect approximately 51% of speed heading combinations within STANAG 4154 recommended limits.

**Table 18: Sea State 6 Combined P-Spec Criteria Operability**

Sea State 6		
Speed	Degrees Inoperable	% Operability
0 knots	75	79%
2 knots	75	79%
4 knots	165	54%
6 knots	165	51%
7 knots	165	54%

**Table 19: Sea State 6 MSI Against STANAG 4154 Limits**

MSI Sea State 6		
Speed	Degrees Inoperable	% Within Limits
0 knots	105	71%
2 knots	105	71%
4 knots	225	38%
6 knots	225	38%
7 knots	225	38%

**Table 20: Sea State 6 MII Against STANAG 4154 Limits**

MII Sea State 6		
Speed	Degrees Inoperable	% Within Limits
0 knots	0	100%
2 knots	0	100%
4 knots	0	100%
6 knots	0	100%
7 knots	0	100%

#### 4.1.4 Sea State 7

Sea State 7 system safety criteria results are shown below in Table 21. The ARV meets all system safety criteria for operations in Sea State 7. The results shown in Table 21 reflect assessment of combined global and location dependent responses for all locations analyzed in Sea State 7. MII and MSI responses were not assessed for Sea State 7. Worst-case system safety results are shown against criteria for each speed in Sea State 7 in Table 21 below.

**Table 21: Sea State 7 System Safety Results**

Roll Standard Deviation	Pitch Standard Deviation	Lateral Acceleration Standard Deviation	Vertical Acceleration Standard Deviation
Criteria: <8.5 deg	Criteria: <2.35 deg	Criteria: < 0.185 g	Criteria: < 0.2 g
0.408 deg	0.364 deg	0.014 g	0.037 g

#### 4.1.5 Sea State 8

Sea State 8 system safety criteria results are shown below in Table 22. The ARV meets all system safety criteria for operations in Sea State 8. The results shown in Table 22 reflect assessment of combined global and location dependent responses for all locations analyzed in Sea State 8. MII and MSI responses were not assessed for Sea State 8. Worst-case system safety results are shown against criteria for each speed in Sea State 8 in Table 22 below.

**Table 22: Sea State 8 System Safety Results**

Roll Standard Deviation	Pitch Standard Deviation	Lateral Acceleration Standard Deviation	Vertical Acceleration Standard Deviation
Criteria: <8.5 deg	Criteria: <2.35 deg	Criteria: < 0.185 g	Criteria: < 0.2 g
0.684 deg	0.575 deg	0.021 g	0.053 g

## 4.2 Global Response Predictions

Pitch and Roll are global motions because they are not dependent on ship location. The ARV is compliant with pitch and roll limits for all speeds and headings analyzed in Sea State 4 and 5, as shown in Table 12 and Table 15. Sea State 6 is discussed with detail addressing the headings exceeding ARV criteria, and Sea States 7 and 8 are discussed as highest Sea States based on safe operation of the vessel against recommended criteria.

### 4.2.1 Sea State 4

Sea State 4 seakeeping responses pass all speeds and headings combinations with 100% operability for pitch and roll motions. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 4 are within the acceptable limits and exceed the ARV seakeeping requirements outlined in Reference (1). Full set of motions plots can be found in Attachment 1.

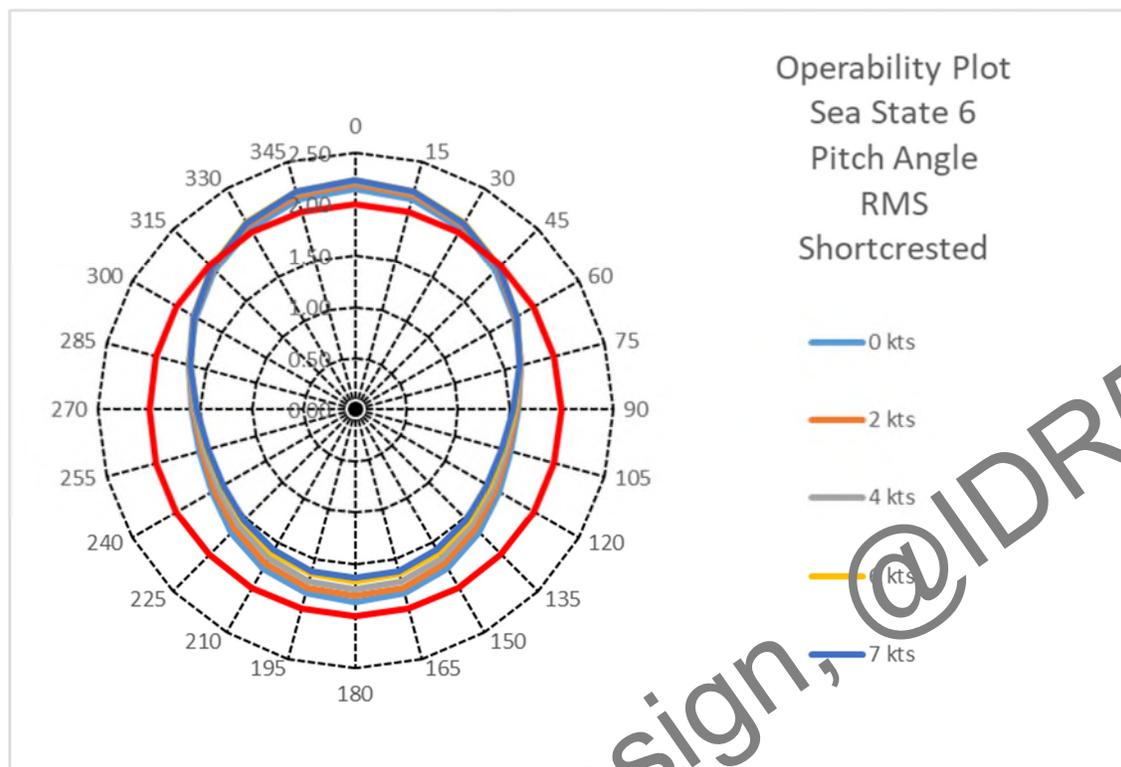
### 4.2.2 Sea State 5

Sea State 5 seakeeping responses pass all speeds and headings combinations with 100% operability for pitch and roll motions. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 5 are within the acceptable limits and exceed the ARV seakeeping requirements outlined in Reference (1). Full set of motions plots can be found in Attachment 1.

### 4.2.3 Sea State 6

Sea State 6 global motions remain below the required limits for Roll. Pitch motions exceed limits for some speed and heading combinations as shown in Figure 4-1 below, within head seas +/- 30 degrees. For the On-Station 0.2 knot requirements, Sea State 6 exceeds operability of +/- 45 degrees. The ARV provides operability greater than 50% for global motions at Sea State 6, exceeding the requirements imposed by Reference (1). Full set of motion plots can be found in Attachment 1.

**Figure 4-1: Sea State 6 Pitch Global Response Polar Plot**



#### 4.2.4 Sea State 7

Sea State 7 seakeeping performance passes all speeds and headings combinations with 100% operability, with less than 2.35 degrees for pitch and less than 8 degrees for roll. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 7 are within the acceptable limits and exceed the ARV seakeeping requirements outlined in Section 3.1.1 of this report. Full set of motions plots can be found in Attachment 1.

#### 4.2.5 Sea State 8

Sea State 8 seakeeping performance passes all speeds and headings combinations with 100% operability, with less than 2.35 degrees for pitch and less than 8 degrees for roll. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 8 are within the acceptable limits and exceed the ARV seakeeping requirements outlined in Section 3.1.1 of this report. Full set of motions plots can be found in Attachment 1.

## 4.3 Location Dependent Response Predictions

Accelerations are location dependent as they are a motion that is felt as a combination of roll, pitch, heave, yaw, etc. at a specific point. As summarized in Section 3.1.1, the ARV operability limits for lateral and vertical accelerations apply to all key locations. The following sections offer a detailed look at the results of the seakeeping analysis at all key locations and its impact on the ship's overall seakeeping performance and operability.

The results were analyzed for Sea States 4 through 6. For Sea States 4 through 6, Key locations 1 to 5 are assessed for all motion types. Sea State 5 contains increased analysis with additional key locations 6 through 10 for all motion types.

Sea States 7 and 8 are analyzed against the proposed criteria outlined in Section 3.1.3.

### 4.3.1 Sea State 4

Sea State 4 motions meet all speed and heading combinations with 100% operability for Vertical and Lateral Accelerations. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 4 are within the acceptable limits and exceed the ARV seakeeping requirements outlined in Reference (1). Full set of motions plots can be found in Attachment 1.

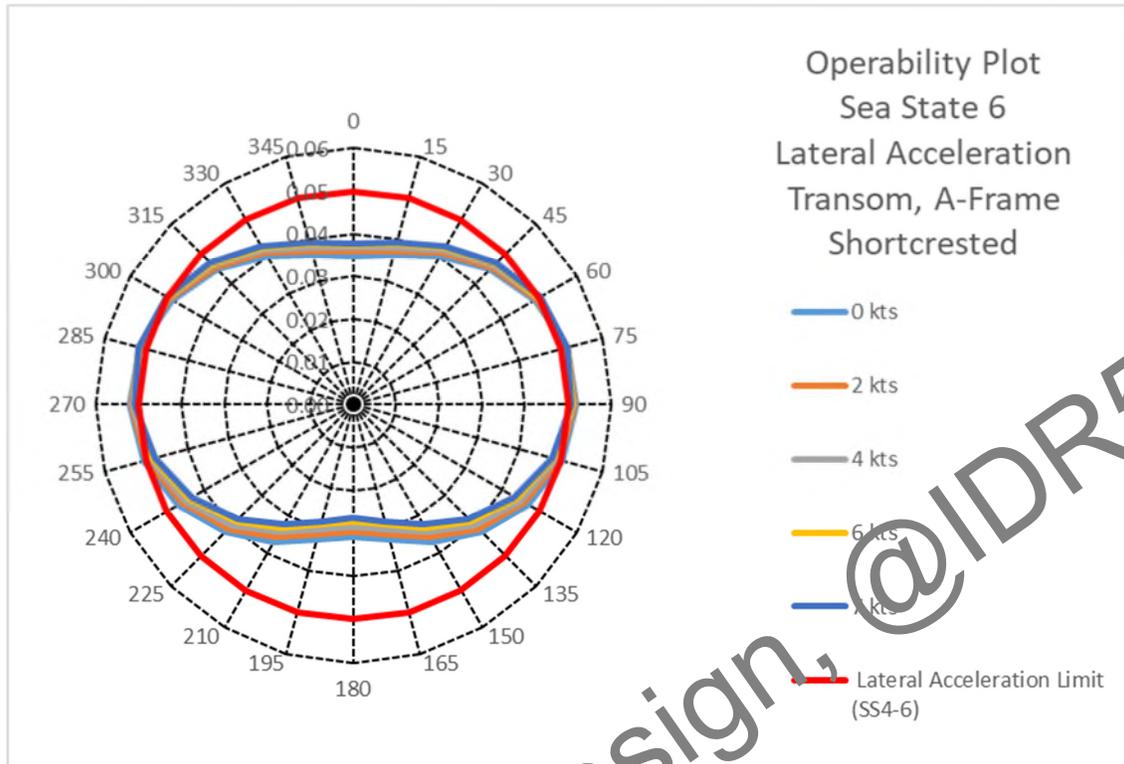
### 4.3.2 Sea state 5

Sea State 5 motions meet all speed and heading combinations with 100% operability for Vertical and Lateral Accelerations. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 5 are within the acceptable limits and exceed the ARV seakeeping requirements outlined in Reference (1). This includes the additional key locations 6 through 10, as shown in Table 6. Full set of motions plots can be found in Attachment 1.

### 4.3.3 Sea State 6

Sea State 6 motions remain below the required limits for most speeds, headings, and locations. Lateral accelerations exceed the limits for key locations 1, 2, 3, and 4, within +/- 30 degrees of direct beam seas – bow quartering showing higher acceleration than stern quartering. The composite operability for Sea State 6 is 64%, limited by lateral accelerations which are particularly pronounced at extreme bow and stern locations. The Polar Plots in Figure 4-2 to Figure 4-4 for Sea State 6 display the lateral accelerations for key locations 1, 2, and 4. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. Full set of motions plots can be found in Attachment 1.

Figure 4-2: Sea State 6 Lateral Acceleration Polar Plot for Key Location 1



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Figure 4-3: Sea State 6 Lateral Acceleration Polar Plot for Key Location 2

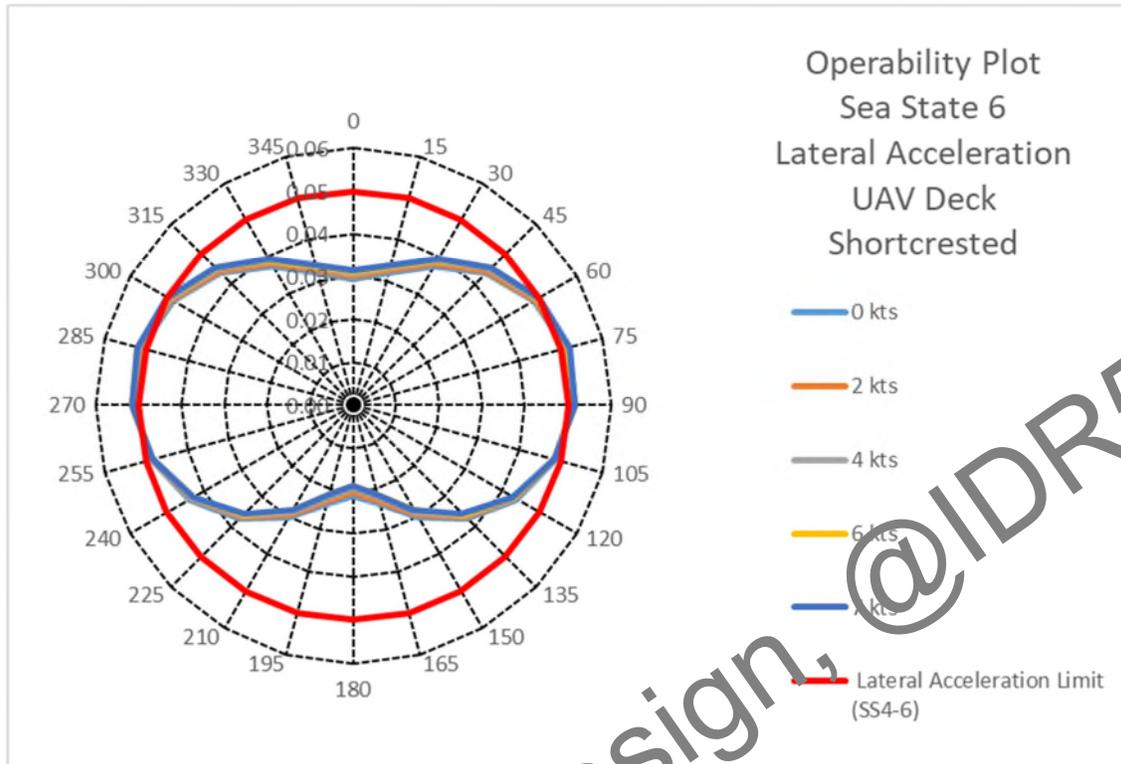
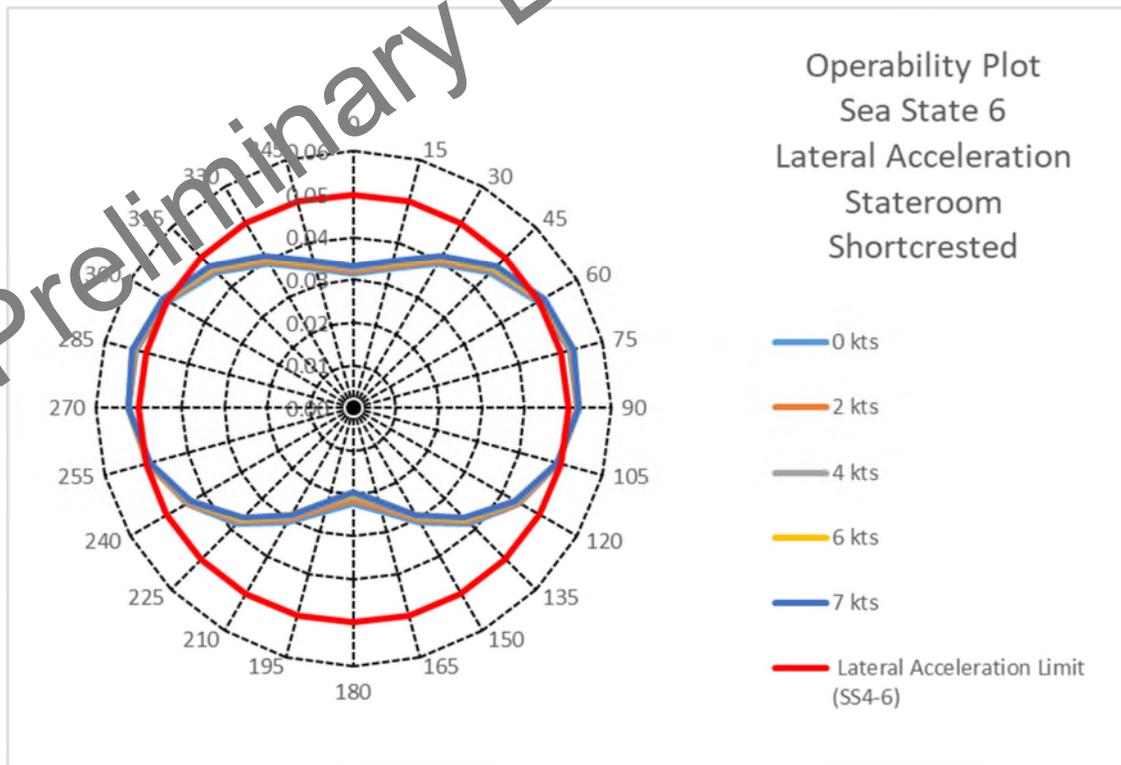


Figure 4-4: Sea State 6 Lateral Acceleration Polar Plot for Key Location 4



#### 4.3.4 Sea State 7

Sea State 7 motions provide safe operation against criteria for at all speeds and headings combinations for vertical and lateral accelerations. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 7 are within the acceptable standard deviation limits and exceed the recommended criteria in Section 3.1.3. Full set of motions plots can be found in Attachment 1. The plots show the SMP calculated results and do not present a criteria limit. The SMP calculated results are presented along with the plots. Under the tables, the standard deviation is shown as calculated from the SMP results.

#### 4.3.5 Sea State 8

Sea State 8 motions provide safe operation against criteria for at all speeds and headings combinations for vertical and lateral accelerations. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 8 are within the acceptable standard deviation limits and exceed the recommended criteria in Section 3.1.3. Full set of motions plots can be found in Attachment 1. The plots show the SMP calculated results and do not present a criteria limit. The SMP calculated results are presented along with the plots. Under the tables, the standard deviation is shown as calculated from the SMP results.

### 4.4 Additional Operability Metrics

The MSI and MII analyses were performed using the equations described in Section 2.1.4 and References (5), (6), (7), and (8). The raw data for use in the equations was obtained from the results of the VisualSMP analysis. In the absence of MII and MSI operability requirements in Reference (1), the NATO STANAG 4154, Reference (4), recommended limits were used for this analysis.

#### 4.4.1 Sea State 4

Sea State 4 MSI and MII results pass all speeds and headings combinations with 100% below STANAG 4154 recommended criteria for MSI and MII. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. All motions for Sea State 4 are within the acceptable limits and exceed the recommended criteria in Section 3.2. Full set of motions plots can be found in Attachment 1.

#### 4.4.2 Sea State 5

Sea State 5 MII remains below the STANAG 4154 recommended criteria for all speeds, headings, and locations. However, Sea State 5 MSI exceeds recommended criteria for speeds of 6, 8 and 9 knots at key locations 1, 2 and 4. The MII responses for Sea State 5 display 100% of speed heading combinations within STANAG 4154 recommended limits. MSI responses reflect approximately 79% of speed heading combinations within STANAG 4154 recommended limits. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. The MSI results are shown in Polar Plot form within Figure 4-5 to Figure 4-10. Full set of motions plots can be found in Attachment 1.

Figure 4-5: Sea State 5 MSI Polar Plot for Key Location 1

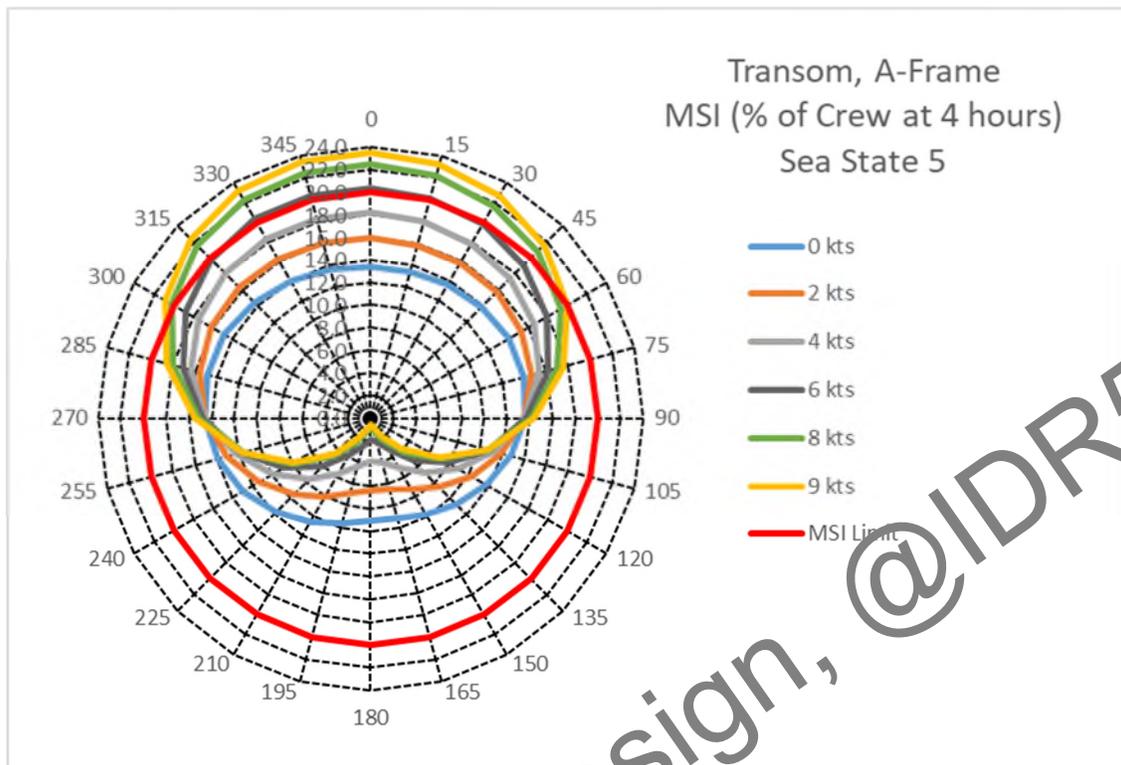


Figure 4-6: Sea State 5 MSI Polar Plot for Key Location 2

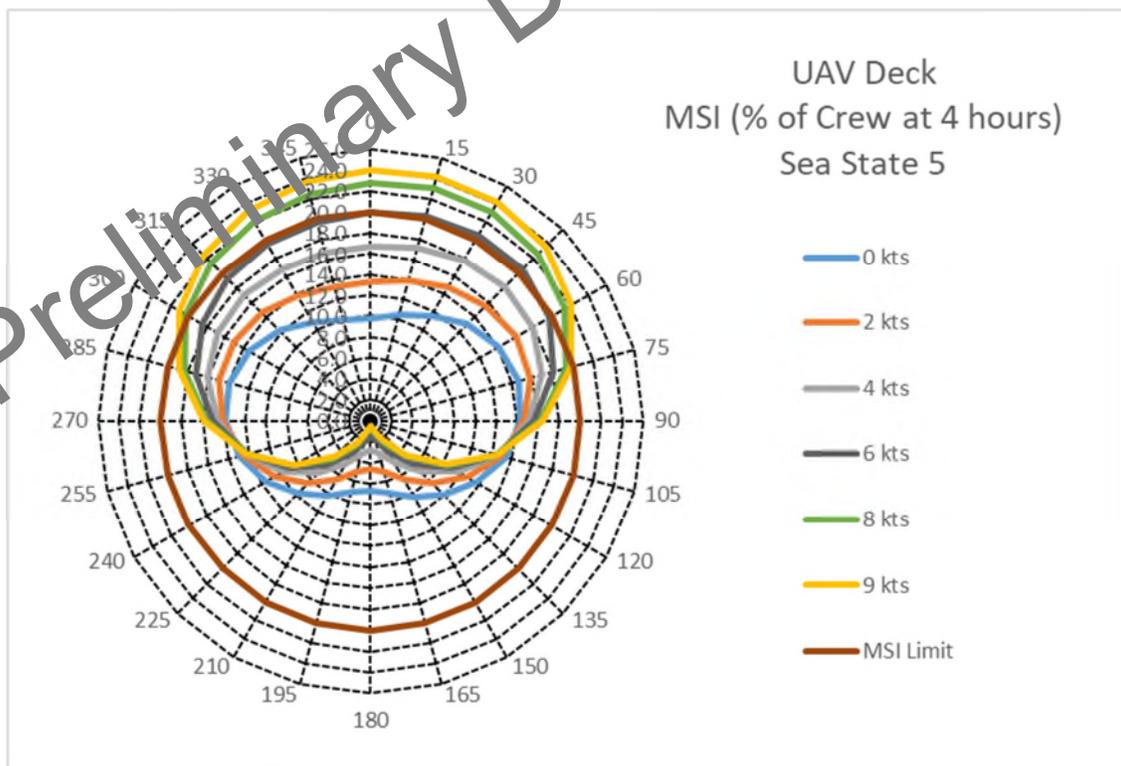


Figure 4-7: Sea State 5 MSI Polar Plot for Key Location 4

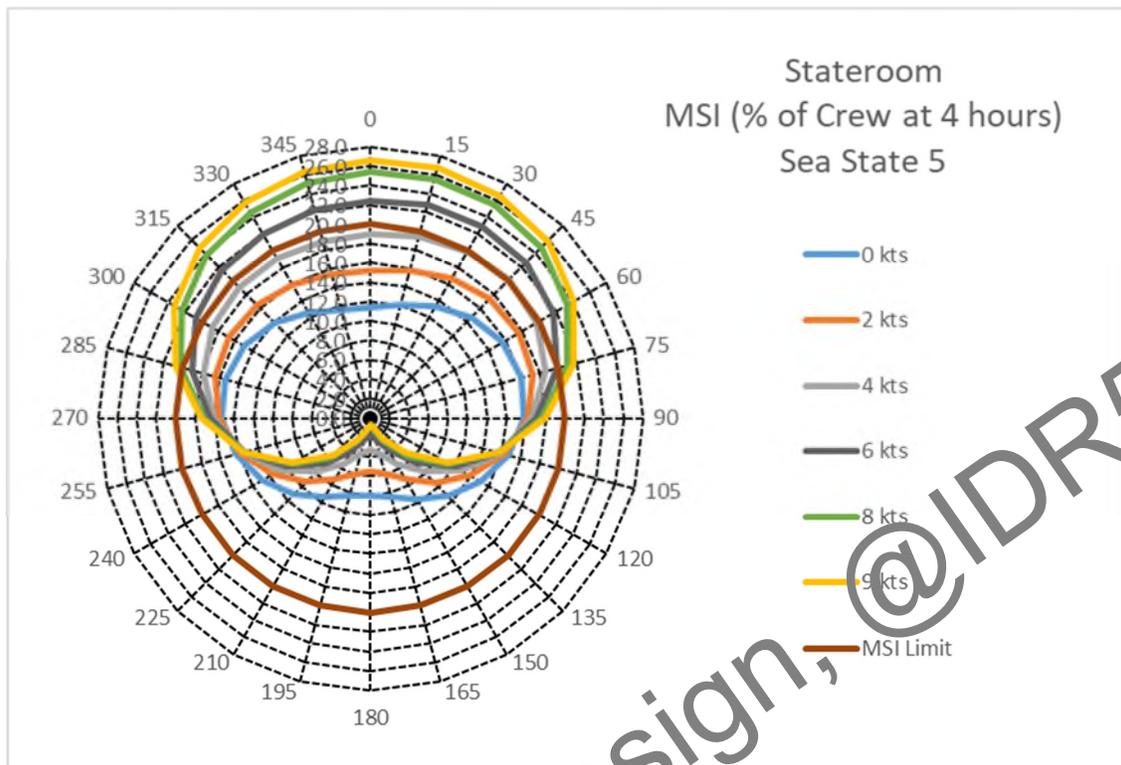


Figure 4-8: Sea State 5 MSI Polar Plot for Coring, Aft

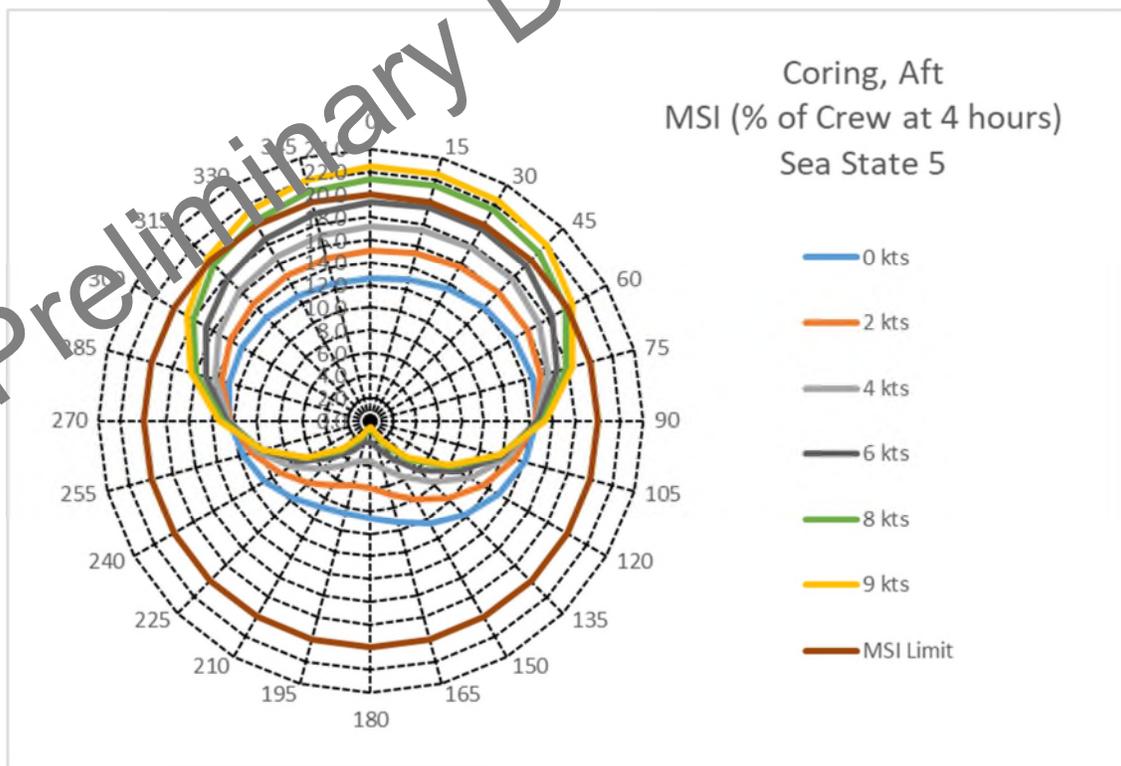


Figure 4-9: Sea State 5 MSI Polar Plot for Mooring, Fwd

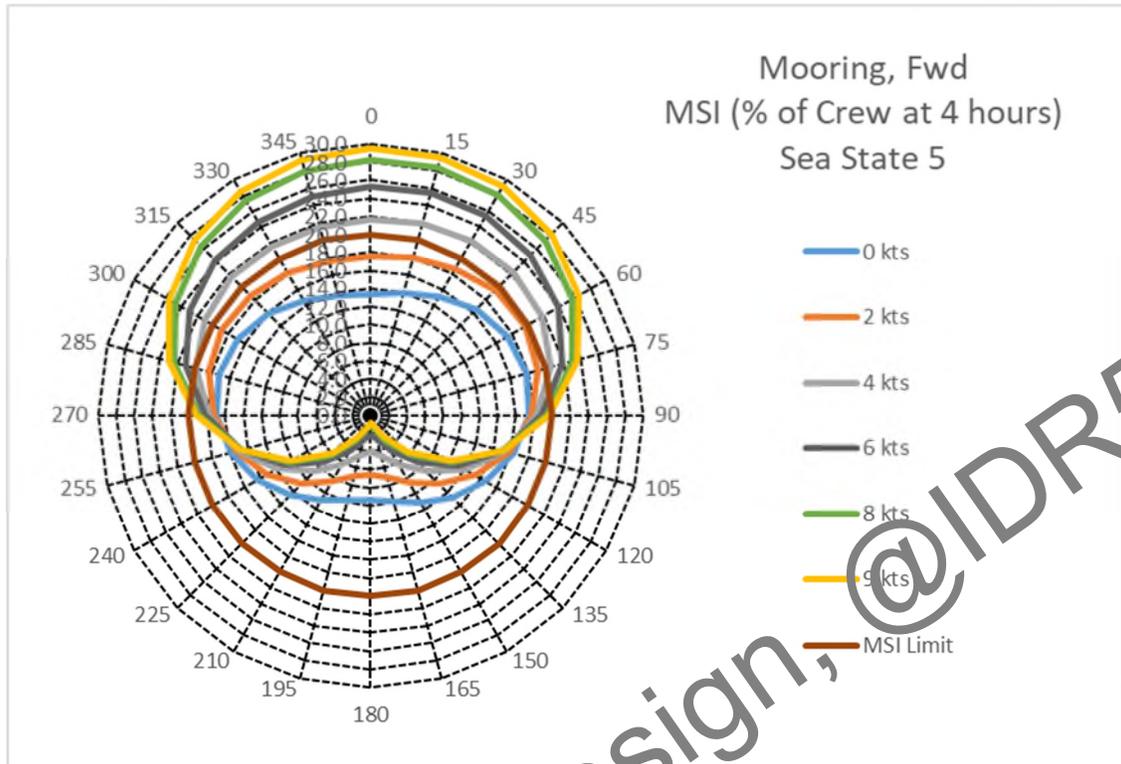
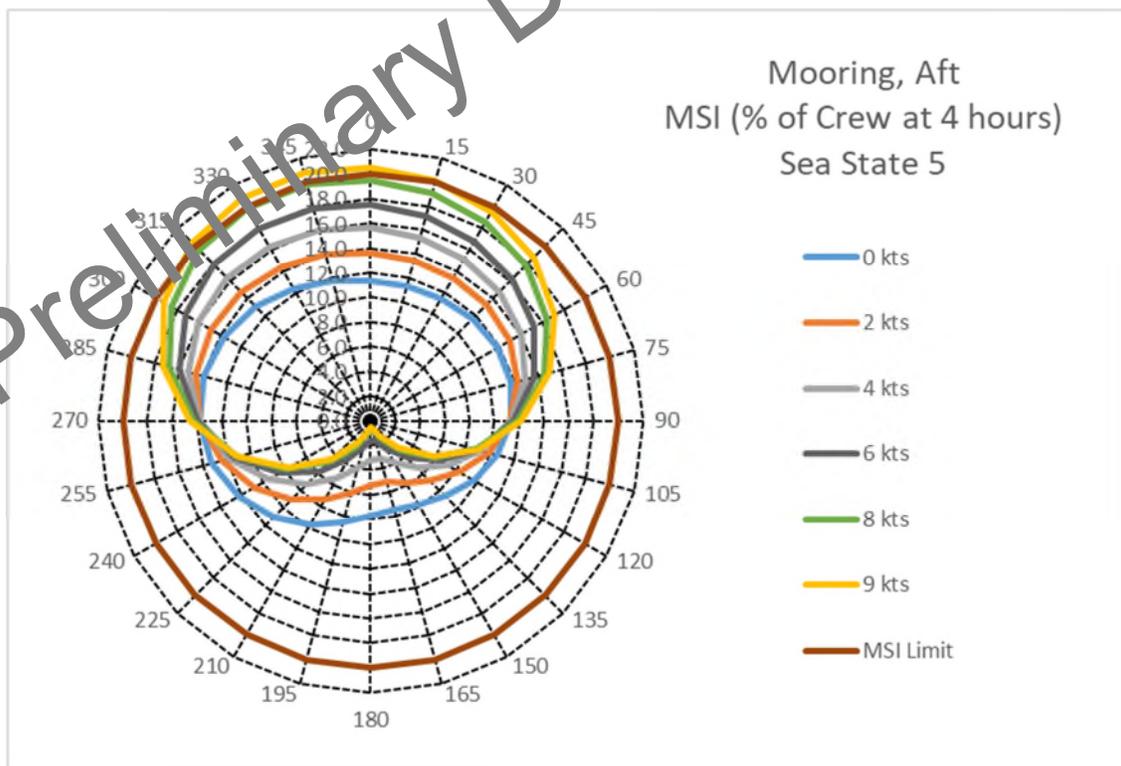


Figure 4-10: Sea State 5 MSI Polar Plot for Mooring, Aft



### 4.4.3 Sea State 6

Sea State 6 MSI exceeds STANAG 4154 recommended response limits only at key locations 1, 2 and 4. MII responses remain below recommended response limits for all headings, speeds, and locations. The MSI values that exceed recommended limits commence at 0 degrees through to +/- 150. While locations 1 and 2 exceed MSI limits, these are considered working locations that will be less utilized in higher sea states. These locations may require operator discretion in selecting comfortable operating headings when evolutions must be conducted in Sea State 6, particularly early in a voyage.

MSI responses exceeding STANAG 4154 recommended limits also occur at key location 4, which is the forward most stateroom outboard edge. During Sea State 6 it is more likely crew and scientists will be in berthing or watch standing locations; however, key location 6 is considerably forward than the rest of the staterooms, which results in higher MSI responses. Polar Plots with motions fully below the proposed limits are omitted from this report for clarity. Only Polar Plots with motions exceeding the limits are shown. The MSI results are shown in Polar Plot form within Figure 4-11 to Figure 4-17.

Figure 4-11: Sea State 6 MSI Polar Plot for Key Location 1

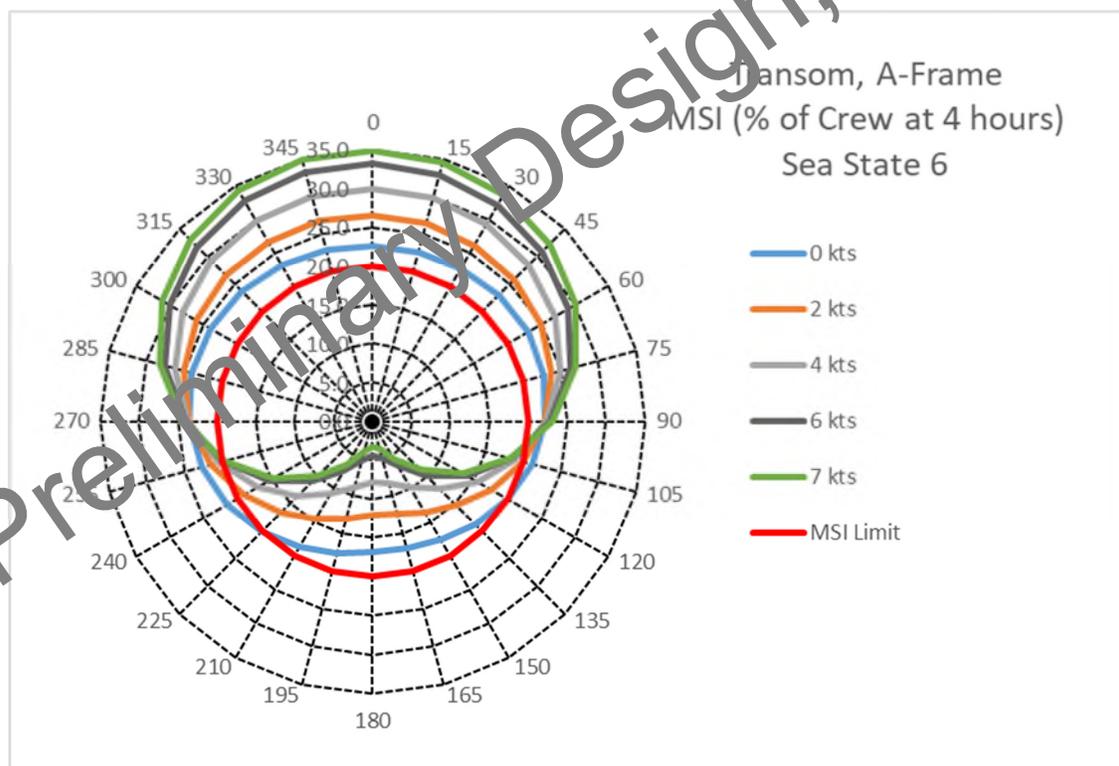


Figure 4-12: Sea State 6 MSI Polar Plot for Key Location 2

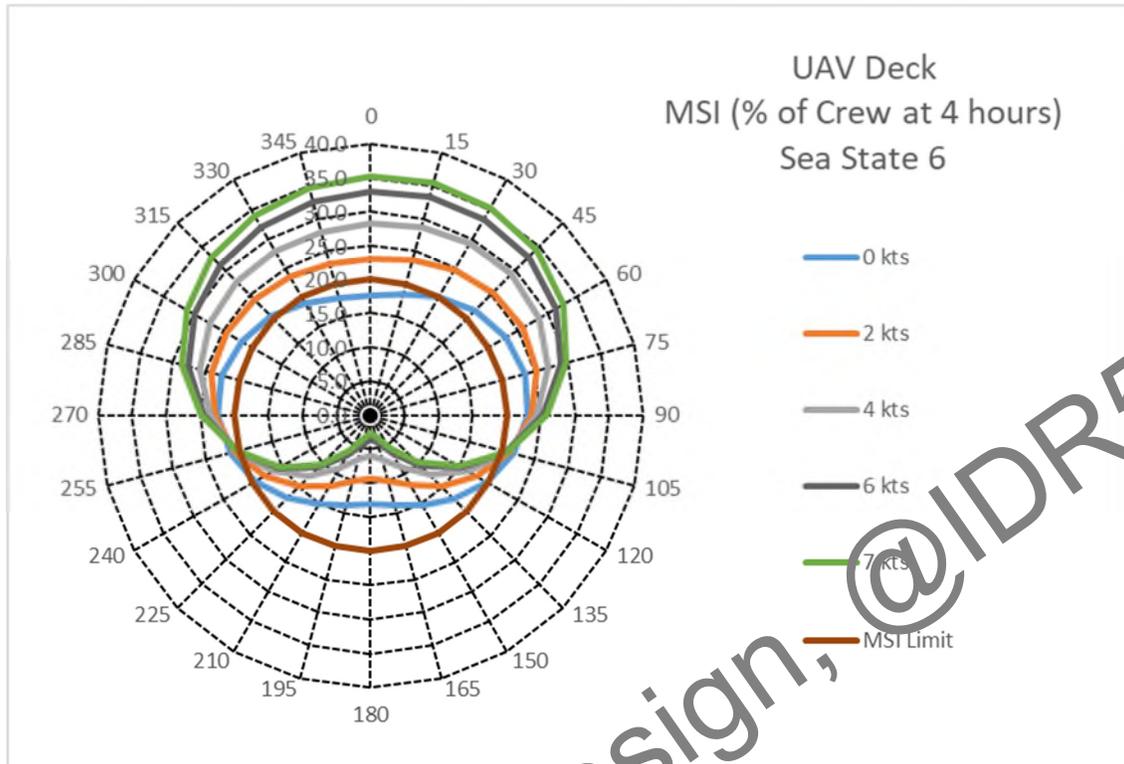


Figure 4-13: Sea State 6 MSI Polar Plot for Key Location 4

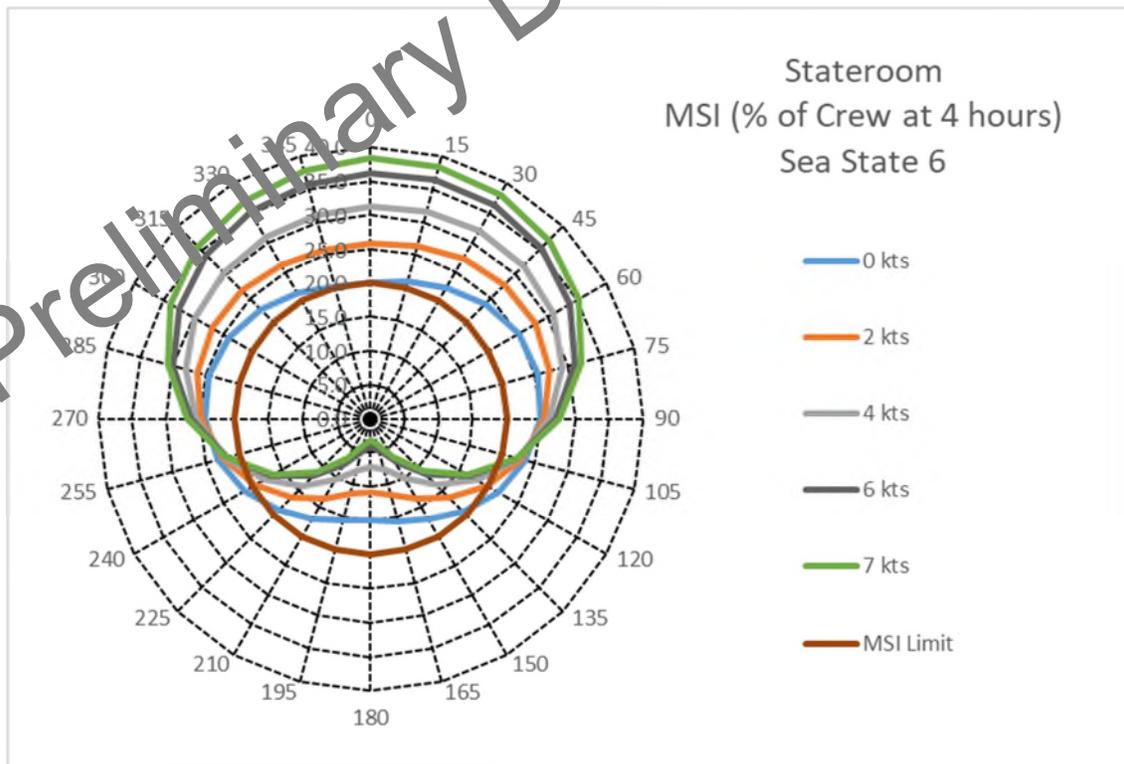


Figure 4-14: Sea State 6 MSI Polar Plot for Coring, Aft

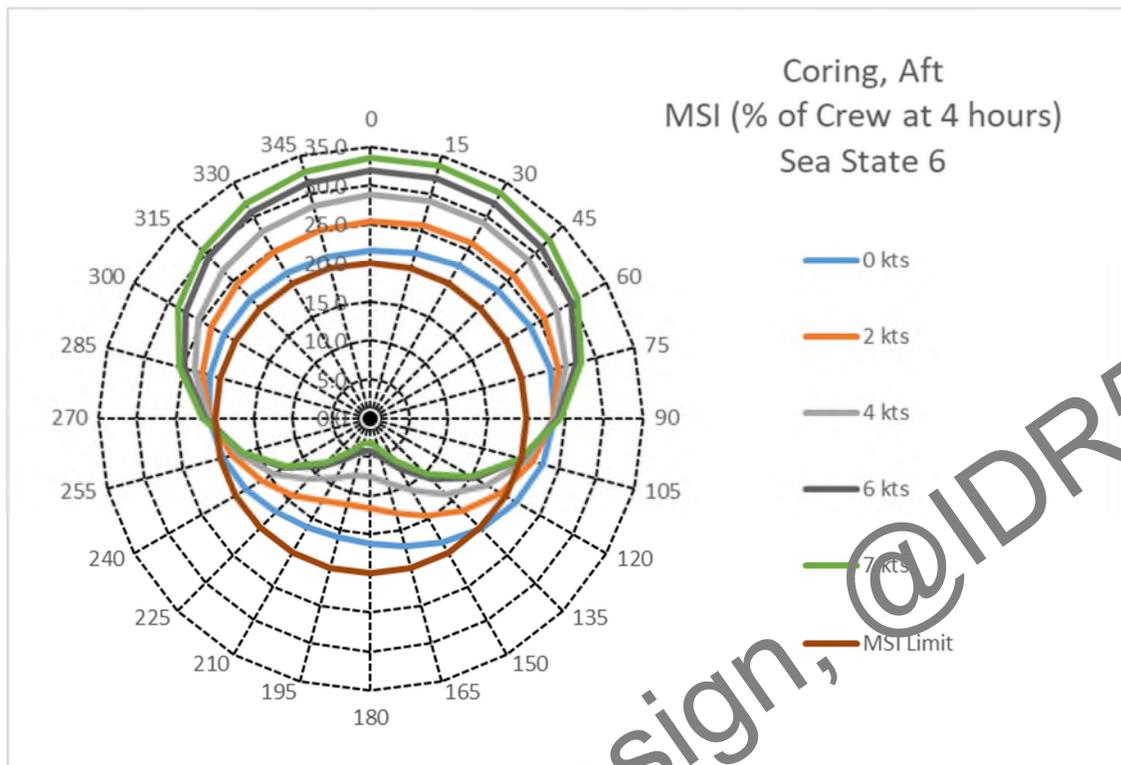


Figure 4-15: Sea State 6 MSI Polar Plot for ROV

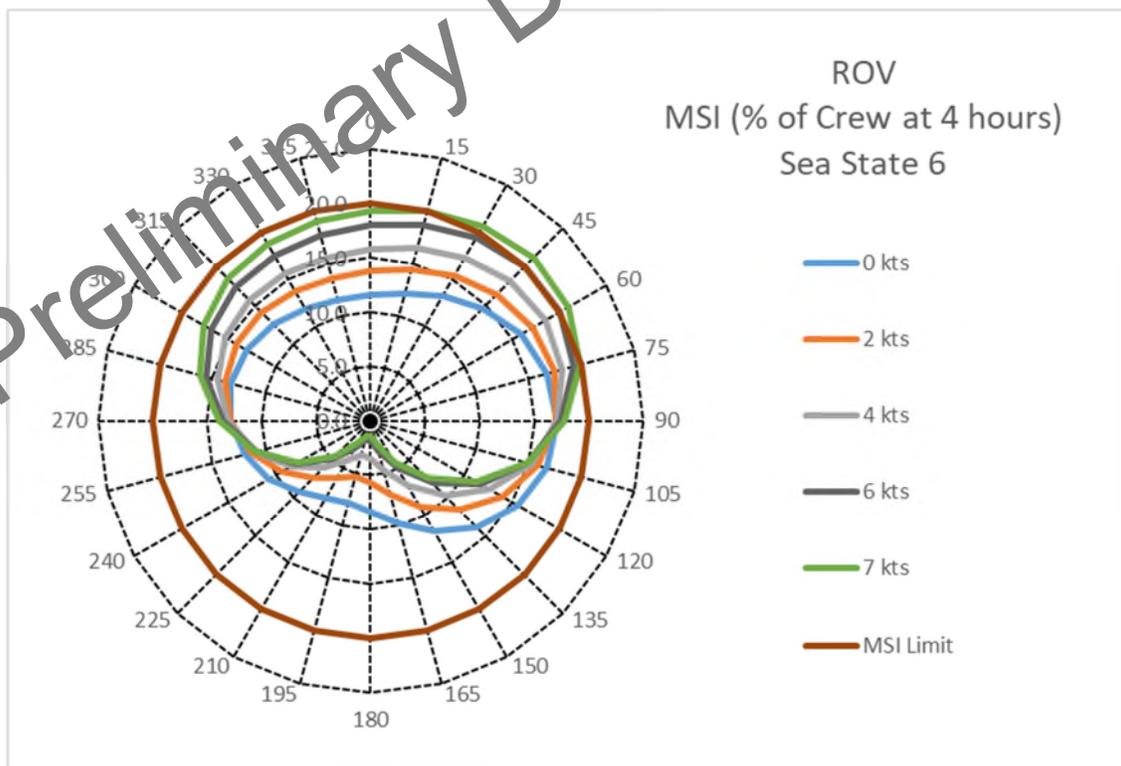


Figure 4-16: Sea State 6 MSI Polar Plot for Mooring, Fwd

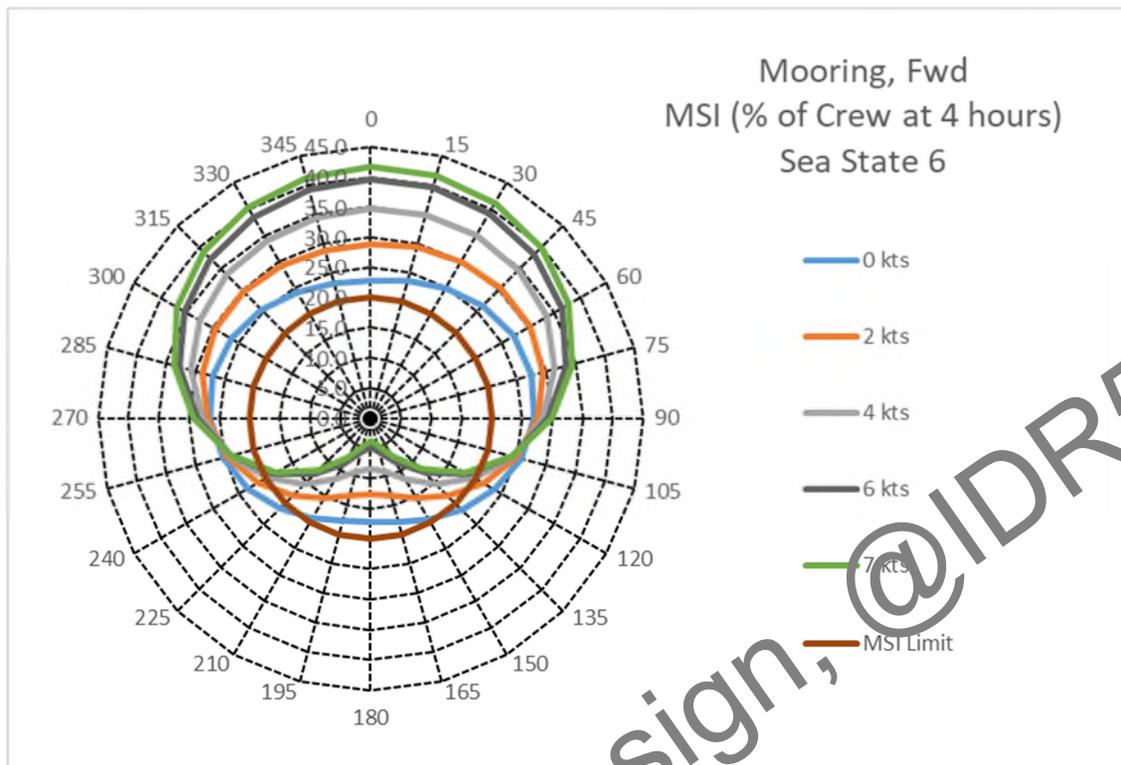
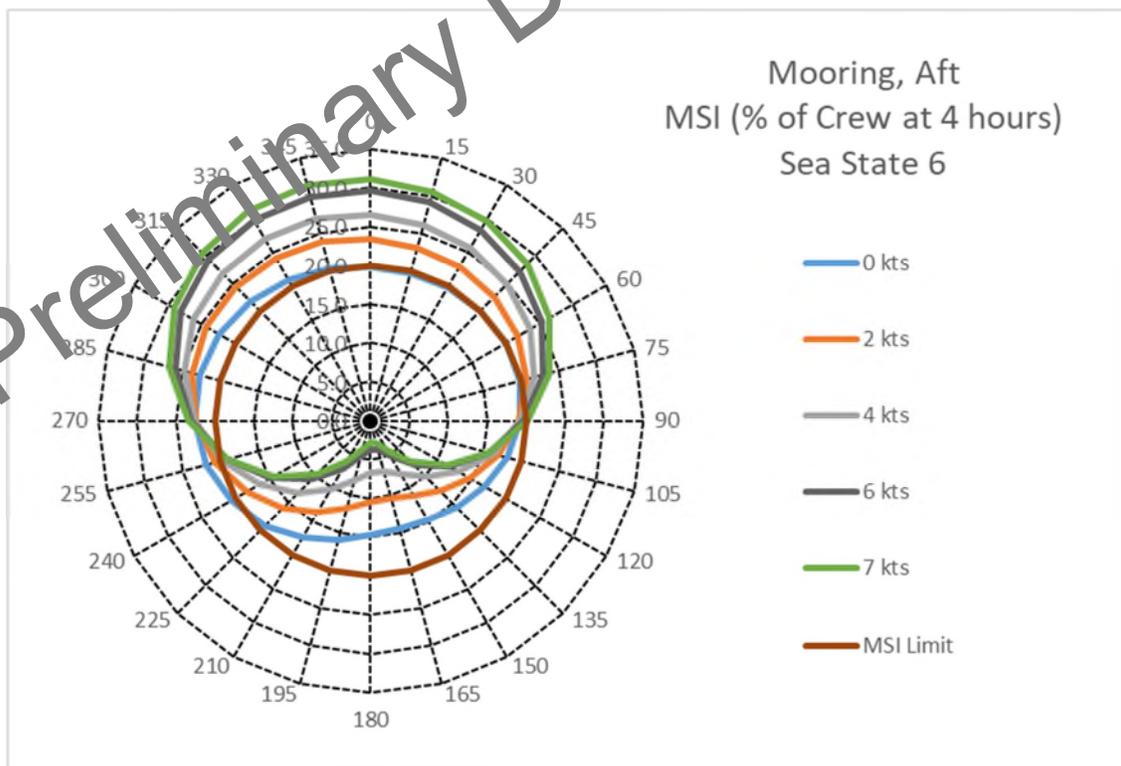


Figure 4-17: Sea State 6 MSI Polar Plot for Mooring, Aft

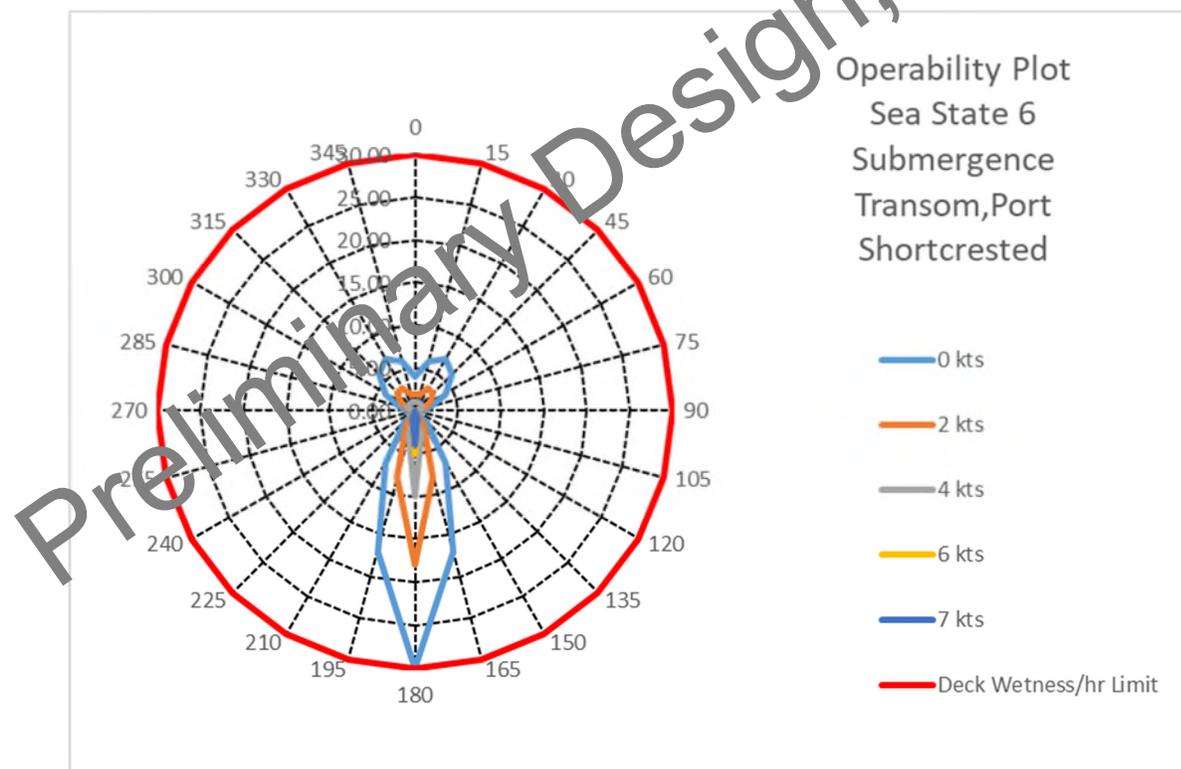


#### 4.4.4 Submergence

Though not required by the ARV P-Spec, Reference (1), three locations were selected to analyze wetness-on-deck incidences for the vessel while underway. For this analysis, NATO STANAG 4154, Reference (4), recommends a limit of 30 incidences per hour. The Aviation Deck, Lab Van area, and the Main Deck near Transom A-Frame were selected, representing the forward-most and aft-most weather deck key locations respectively. The incidences of deck wetness were analyzed at these points in Sea States 4 through 6. While the Aviation Deck was analyzed in support of structural integration of aviation capabilities, it was not expected to see wetness at 84.5 ft above baseline.

The analysis performed in VisualSMP showed that the possibility of wetness events exists only at location #1 “Main Deck near Transom A-Frame”. The only near exceedance of the STANAG 4154 recommended criteria value occurs at a heading of 180 degrees and a speed of 0 knots (station-keeping operation) in Sea State 6, shown in Figure 4-18, where the number of incidences per hour is 30. The predicted operability for deck wetness across all headings and speeds in Sea State 6 is 100% since the number of incidences per hour just meets the criteria.

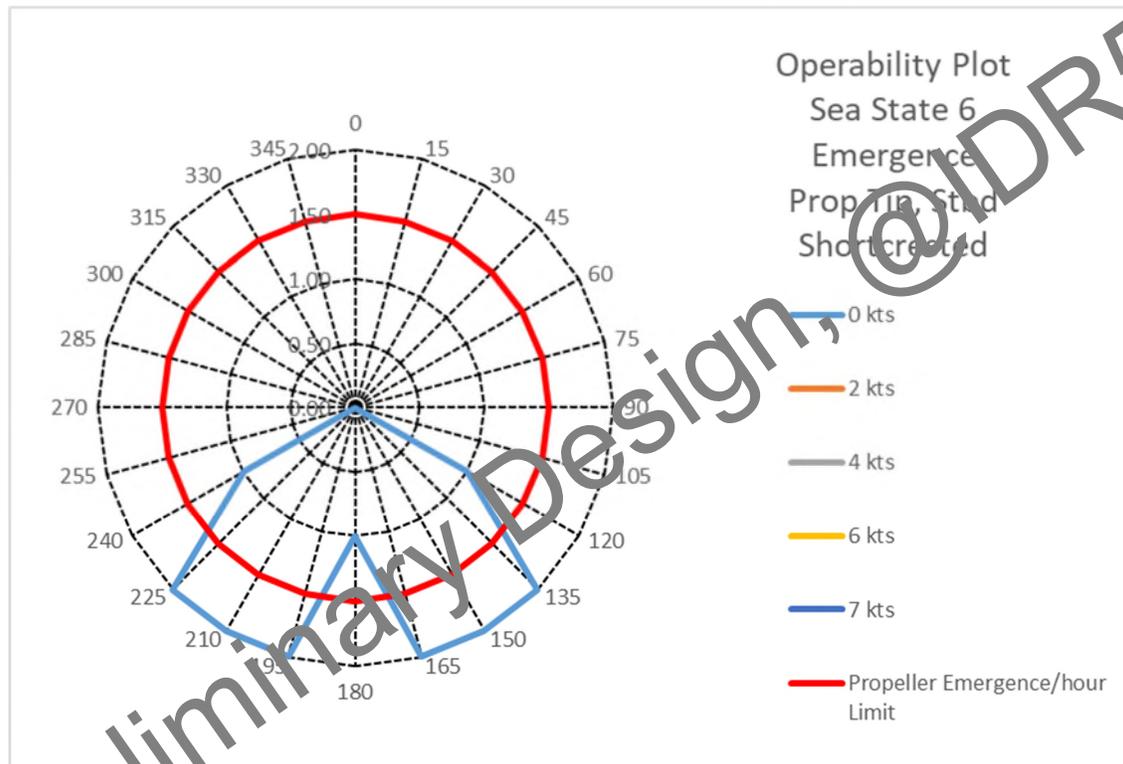
Figure 4-18: Submergence in Sea State 6 at Key Location #1



### 4.4.5 Propeller Emergence

While propeller emergence is not required by the ARV P-Spec, Reference (1), the emergence of the propellers' tip was analyzed using recommended limits from NATO STANAG 4154, Reference (4) for Sea States 4 to 6 at  $\frac{1}{4}$  of propeller radius from the tip. The ARV tractor azimuth arrangement is beneficial to preventing propeller tip emergence. Results show in sea state 6 and a speed of 0 knots (station-keeping operations), headings from 135 degrees to 225 degrees show the propeller emergence criteria just exceeds the 1.5 emergences per hour limit, as shown in Figure 4-19.

Figure 4-19:  $\frac{1}{4}$  Propeller Tip Emergence



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## 5. Conclusions

The seakeeping analysis for the Full Load, Delivery condition demonstrates the ARV meets the requirements outlined in Reference (1) in all sea states analyzed. The operability is 100% for Sea States 4 and 5, and 64% for Sea State 6. Zero speed operability within +/- 45 degrees of best heading was confirmed for Sea States 4 through 6.

Sea State 7 and 8 were analyzed using a proposed System Safety Criteria. The ARV stays within these criteria for all assessed speed/heading combinations in Sea State 7 and 8, which demonstrates that the ARV will be able to maintain safe operation during high sea states.

Reference (1) does not provide a recommended limit for MII and MSI; therefore, these responses were compared against the recommended limits provided in STANAG 4154, Reference (4). MII and MSI responses were analyzed for Sea States 4, 5, and 6. Additionally, the operability for these responses were analyzed separately from the other seakeeping responses. At Sea State 4, the ARV meets STANAG 4154 MII and MSI values for 100% of speed heading combinations. At Sea State 5 and 6, the ARV meets STANAG 4154 MII for 100% of speed heading combinations, while the best operating speed for MSI is observed at 2 knots for both sea states. With a broad range of speed and heading combinations displaying acceptable MSI responses, the ARV is considered to provide adequate operability across the design sea state range.

An additional assessment of deck wetness and propeller emergence against STANAG 4154 criteria do not predict restrictions to the ARV operability across the Sea State 4 through 6. However, it is recommended to minimize zero speed operations in direct following seas in Sea State 6 when conducting A-frame operations. Additionally, Sea State 6 showed propeller emergence exceeding the limit for seas +/- 135 degrees off the stern; propeller emergence incidences were not observed in the remaining headings analyzed.

ARV Seakeeping characteristics will be confirmed experimentally via model testing during the Stage 4 model test program. During the Final Design phase, survivability seakeeping performance will be confirmed using higher order computational tools or additional model testing to confirm that no capsize events are predicted within a range of safe operable speed and heading combinations for ARV in Sea States 7 and 8.

## 6. References

- (1) ASC Research Vessel Replacement Program, ARV Performance Specifications, Rev (-); Glosten; 30 November 2021
- (2) 5E1-100-D001 Hull Lines, Rev P1, Antarctic Research Vessel (ARV).
- (3) 5E1-096-R001 Design Weight Estimate, Rev P2, Antarctic Research Vessel (ARV).
- (4) NATO Standardization Agreement (STANAG) 4154, "Common Procedures for Seakeeping in the Ship Design Process", Edition 3, North Atlantic Treaty Organization, December 2000.
- (5) "Motion-Induced Interruptions as Ship Operability Criteria", Graham, R., Naval Engineers Journal, March 1990
- (6) "Motion Sickness Incidence as a Function of Vertical Sinusoidal Motion", McCauley, M.E. and O'Hanlon, J.F., Aerospace Medicine, April 1974
- (7) "Technical Report 1733-2, Motion Sickness Incidence: Exploratory Studies of Habituation, Pitch and Roll, and the Refinement of a Mathematical Model", McCauley, M.E., et al., Office of Naval Research, April 1976
- (8) Seakeeping: Ship Behavior in Rough Weather, Lloyd, Adrian R.J.M., Lloyd, 1998

Preliminary Design, @DR5

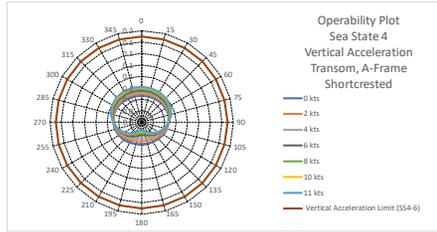
## 7. Appendix: ARV Seakeeping Analysis with ART DR4

(1) ARV Seakeeping Analysis with ART DR4\_5E1-079-R101 Rev P3

Preliminary Design, @IDR5

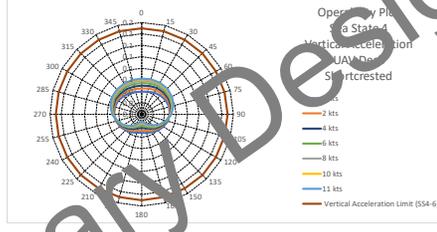
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	0	0.0466	0.0467	0.0472	0.0480	0.0485	0.0483	0.0475	0.0459	0.0438	0.0415	0.0394	0.0381	0.0379	0.0390	0.0411	0.0436	0.0461	0.0483	0.0497	0.0502	0.0500	0.0491	0.0481	0.0471	0 kts
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	2	0.0500	0.0499	0.0502	0.0504	0.0501	0.0491	0.0472	0.0444	0.0412	0.0379	0.0351	0.0333	0.0330	0.0342	0.0367	0.0400	0.0435	0.0468	0.0493	0.0510	0.0518	0.0517	0.0511	0.0504	2 kts
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	4	0.0528	0.0527	0.0527	0.0525	0.0516	0.0498	0.0469	0.0432	0.0388	0.0345	0.0308	0.0284	0.0279	0.0293	0.0324	0.0364	0.0410	0.0454	0.0491	0.0518	0.0534	0.0539	0.0537	0.0532	4 kts
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	6	0.0554	0.0552	0.0551	0.0546	0.0532	0.0507	0.0469	0.0421	0.0366	0.0312	0.0266	0.0235	0.0227	0.0244	0.0281	0.0331	0.0387	0.0443	0.0490	0.0527	0.0550	0.0560	0.0561	0.0558	6 kts
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	8	0.0581	0.0578	0.0575	0.0567	0.0549	0.0517	0.0471	0.0414	0.0350	0.0287	0.0232	0.0195	0.0184	0.0203	0.0246	0.0304	0.0370	0.0435	0.0492	0.0537	0.0567	0.0582	0.0586	0.0584	8 kts
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	10	0.0608	0.0605	0.0603	0.0599	0.0587	0.0559	0.0476	0.0411	0.0339	0.0269	0.0206	0.0164	0.0151	0.0172	0.0219	0.0284	0.0358	0.0431	0.0497	0.0549	0.0585	0.0604	0.0611	0.0610	10 kts
FID_SS4	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	8.2	11	0.0620	0.0617	0.0612	0.0600	0.0579	0.0535	0.0479	0.0411	0.0338	0.0261	0.0196	0.0152	0.0137	0.0159	0.0209	0.0277	0.0354	0.0431	0.0500	0.0555	0.0593	0.0615	0.0623	0.0623	11 kts
Limit							Vertical Acceleration Limit (SS4-6)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	

Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Vertical Acceleration	Vertical Acceleration
	Transom, A-Frame	Transom, A-Frame
	Shortcrested	Shortcrested



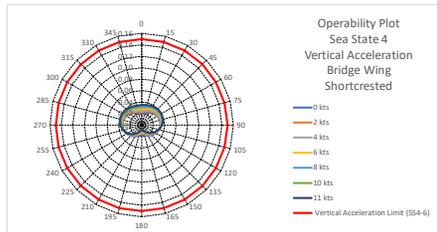
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	0	0.0393	0.0407	0.0434	0.0463	0.0486	0.0496	0.0491	0.0471	0.0439	0.0402	0.0365	0.0338	0.0325	0.0337	0.0357	0.0397	0.0433	0.0463	0.0483	0.0483	0.0470	0.0447	0.0419	0.0398	0 kts	
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	2	0.0440	0.0461	0.0482	0.0501	0.0515	0.0514	0.0496	0.0464	0.0421	0.0374	0.0330	0.0298	0.0281	0.0295	0.0317	0.0347	0.0377	0.0417	0.0457	0.0485	0.0498	0.0497	0.0484	0.0465	0.0451	2 kts
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	4	0.0500	0.0511	0.0526	0.0539	0.0542	0.0530	0.0501	0.0457	0.0403	0.0346	0.0295	0.0257	0.0241	0.0257	0.0296	0.0347	0.0402	0.0452	0.0490	0.0514	0.0523	0.0519	0.0508	0.0500	4 kts	
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	6	0.0545	0.0554	0.0565	0.0571	0.0566	0.0544	0.0505	0.0452	0.0388	0.0322	0.0263	0.0220	0.0204	0.0220	0.0267	0.0326	0.0389	0.0448	0.0496	0.0529	0.0546	0.0550	0.0546	0.0542	6 kts	
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	8	0.0581	0.0589	0.0597	0.0598	0.0586	0.0557	0.0510	0.0447	0.0375	0.0302	0.0235	0.0189	0.0171	0.0193	0.0244	0.0310	0.0380	0.0446	0.0502	0.0542	0.0567	0.0578	0.0578	0.0578	8 kts	
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	10	0.0610	0.0617	0.0623	0.0621	0.0604	0.0568	0.0514	0.0445	0.0366	0.0285	0.0214	0.0166	0.0145	0.0170	0.0225	0.0296	0.0373	0.0446	0.0508	0.0555	0.0586	0.0601	0.0605	0.0606	10 kts	
FID_SS4	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	11	0.0621	0.0628	0.0633	0.0630	0.0611	0.0573	0.0516	0.0444	0.0362	0.0281	0.0206	0.0153	0.0134	0.0160	0.0218	0.0291	0.0370	0.0446	0.0511	0.0561	0.0594	0.0611	0.0616	0.0617	11 kts	
Limit							Vertical Acceleration Limit (SS4-6)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Vertical Acceleration	Vertical Acceleration
	UAV Deck	UAV Deck
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	0	0.0201	0.0218	0.0251	0.0286	0.0314	0.0330	0.0330	0.0316	0.0288	0.0251	0.0212	0.0183	0.0174	0.0192	0.0229	0.0270	0.0306	0.0330	0.0339	0.0331	0.0310	0.0276	0.0239	0.0209	0 kts
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	2	0.0245	0.0245	0.0275	0.0306	0.0329	0.0340	0.0334	0.0298	0.0238	0.0196	0.0163	0.0154	0.0174	0.0214	0.0260	0.0300	0.0329	0.0342	0.0340	0.0323	0.0294	0.0260	0.0234	2 kts	
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	4	0.0296	0.0272	0.0309	0.0327	0.0345	0.0350	0.0339	0.0319	0.0274	0.0227	0.0180	0.0144	0.0133	0.0156	0.0201	0.0250	0.0295	0.0329	0.0347	0.0350	0.0337	0.0312	0.0283	0.0260	4 kts
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	6	0.0284	0.0299	0.0324	0.0348	0.0362	0.0361	0.0345	0.0313	0.0269	0.0217	0.0166	0.0127	0.0116	0.0142	0.0189	0.0243	0.0292	0.0330	0.0353	0.0361	0.0353	0.0332	0.0307	0.0287	6 kts
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	8	0.0311	0.0325	0.0348	0.0368	0.0377	0.0372	0.0350	0.0314	0.0265	0.0210	0.0156	0.0115	0.0103	0.0130	0.0181	0.0237	0.0290	0.0333	0.0361	0.0373	0.0369	0.0353	0.0331	0.0314	8 kts
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	10	0.0336	0.0349	0.0369	0.0386	0.0392	0.0382	0.0356	0.0315	0.0263	0.0204	0.0147	0.0103	0.0092	0.0121	0.0174	0.0233	0.0289	0.0336	0.0369	0.0385	0.0386	0.0374	0.0355	0.0339	10 kts
FID_SS4	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	8.2	11	0.0347	0.0359	0.0379	0.0394	0.0398	0.0387	0.0359	0.0316	0.0262	0.0201	0.0143	0.0099	0.0088	0.0117	0.0171	0.0231	0.0289	0.0338	0.0373	0.0392	0.0394	0.0383	0.0365	0.0350	11 kts
Limit							Vertical Acceleration Limit (SS4-6)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	

Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Vertical Acceleration	Vertical Acceleration
	Bridge Wing	Bridge Wing
	Shortcrested	Shortcrested

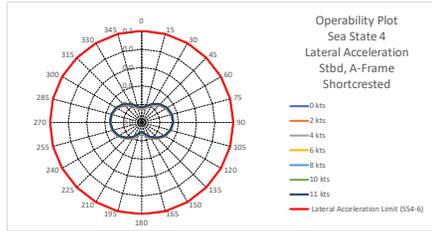






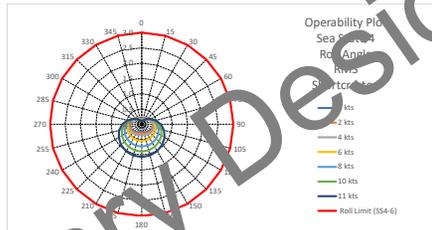
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	0	0.0069	0.0081	0.0102	0.0133	0.0154	0.0168	0.0171	0.0165	0.0150	0.0126	0.0099	0.0073	0.0051	0.0037	0.0029	0.0025	0.0024	0.0150	0.0165	0.0171	0.0168	0.0154	0.0133	0.0102	0.0081	0 kts
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	2	0.0072	0.0084	0.0108	0.0135	0.0155	0.0169	0.0172	0.0165	0.0149	0.0125	0.0097	0.0071	0.0050	0.0036	0.0028	0.0025	0.0025	0.0149	0.0165	0.0172	0.0169	0.0156	0.0135	0.0108	0.0084	2 kts
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	4	0.0074	0.0086	0.0111	0.0137	0.0157	0.0169	0.0172	0.0164	0.0148	0.0124	0.0096	0.0069	0.0050	0.0036	0.0028	0.0025	0.0025	0.0148	0.0164	0.0172	0.0169	0.0157	0.0137	0.0111	0.0086	4 kts
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	6	0.0077	0.0088	0.0113	0.0138	0.0158	0.0170	0.0172	0.0164	0.0147	0.0122	0.0094	0.0067	0.0050	0.0036	0.0028	0.0025	0.0025	0.0147	0.0164	0.0172	0.0170	0.0158	0.0138	0.0113	0.0088	6 kts
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	8	0.0079	0.0090	0.0114	0.0140	0.0159	0.0170	0.0172	0.0163	0.0145	0.0121	0.0092	0.0065	0.0050	0.0036	0.0028	0.0025	0.0025	0.0145	0.0163	0.0172	0.0170	0.0159	0.0140	0.0114	0.0090	8 kts
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	10	0.0081	0.0092	0.0116	0.0141	0.0160	0.0171	0.0172	0.0163	0.0144	0.0119	0.0090	0.0063	0.0051	0.0036	0.0028	0.0025	0.0025	0.0144	0.0163	0.0172	0.0171	0.0160	0.0141	0.0116	0.0092	10 kts
FID_SS4	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	8.2	11	0.0082	0.0093	0.0117	0.0142	0.0161	0.0171	0.0172	0.0163	0.0144	0.0119	0.0089	0.0063	0.0050	0.0036	0.0028	0.0025	0.0025	0.0144	0.0163	0.0172	0.0171	0.0161	0.0142	0.0117	0.0093	11 kts
Limit				Lateral Acceleration Limit (SS4-6)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	

Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Lateral Acceleration	Lateral Acceleration
	Stbd, A-Frame	Stbd, A-Frame
	Shortcrested	Shortcrested



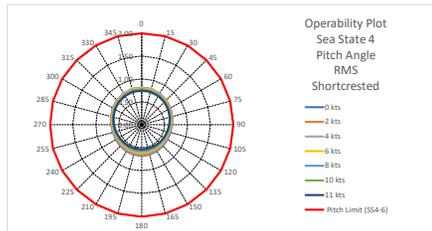
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	0	0.1950	0.2110	0.2490	0.2940	0.3340	0.3640	0.3800	0.3790	0.3620	0.3320	0.2970	0.2680	0.2570	0.2680	0.297	0.3320	0.3620	0.3790	0.3800	0.3640	0.3340	0.2940	0.2490	0.2110	0.1950	0 kts
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	2	0.1720	0.1890	0.2290	0.2780	0.3240	0.3630	0.3880	0.3960	0.3870	0.3640	0.3340	0.3080	0.300	0.309	0.339	0.3640	0.3870	0.3960	0.3880	0.3630	0.3340	0.2780	0.2290	0.1890	0.1720	2 kts
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	4	0.1520	0.1700	0.2130	0.2650	0.3190	0.3670	0.4040	0.4230	0.4290	0.4070	0.3830	0.3510	0.340	0.350	0.4070	0.4230	0.4290	0.4040	0.3670	0.3190	0.2650	0.2130	0.1700	0.1520	4 kts	
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	6	0.1360	0.1550	0.2000	0.2580	0.3190	0.3780	0.4320	0.4750	0.5050	0.5240	0.5340	0.5380	0.540	0.5380	0.5340	0.5240	0.5050	0.4750	0.4320	0.3780	0.3190	0.2580	0.2000	0.1550	0.1360	6 kts
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	8	0.1210	0.1410	0.1890	0.2510	0.3220	0.4060	0.4970	0.5750	0.6320	0.6730	0.7040	0.7230	0.7290	0.7290	0.7040	0.6730	0.6320	0.5750	0.4970	0.4060	0.3220	0.2510	0.1890	0.1410	0.1210	8 kts
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	10	0.1090	0.1290	0.1790	0.2480	0.3330	0.4410	0.5590	0.6630	0.7440	0.8070	0.8840	0.8950	0.8840	0.8540	0.8070	0.7440	0.6630	0.5590	0.4410	0.3330	0.2480	0.1790	0.1290	0.1090	10 kts	
FID_SS4	ROLL	ANGLE	RMS	SHORTCRESTED	8.2	11	0.1035	0.1240	0.1750	0.2470	0.3465	0.4785	0.6255	0.7600	0.8670	0.9505	1.0135	1.0540	1.0690	1.0540	1.0135	0.9505	0.8670	0.7600	0.6255	0.4785	0.3465	0.2470	0.1750	0.1240	0.1035	11 kts
Limit				Roll Limit (SS4-6)			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Roll Angle	Roll Angle
	RMS	RMS
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	0	0.8120	0.8050	0.7870	0.7590	0.7260	0.6920	0.6640	0.6470	0.6440	0.6510	0.6630	0.6740	0.6770	0.6740	0.6630	0.6510	0.6440	0.6470	0.6640	0.6920	0.7260	0.7590	0.7870	0.8050	0.8120	0 kts
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	2	0.7180	0.7110	0.7090	0.7600	0.7240	0.6870	0.6570	0.6380	0.6320	0.6370	0.6470	0.6550	0.6580	0.6550	0.6470	0.6370	0.6320	0.6380	0.6570	0.6870	0.7240	0.7600	0.7900	0.8110	0.8110	2 kts
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	4	0.6060	0.6060	0.7850	0.7530	0.7160	0.6790	0.6470	0.6260	0.6170	0.6190	0.6260	0.6310	0.6330	0.6310	0.6260	0.6190	0.6170	0.6260	0.6470	0.6790	0.7160	0.7530	0.7850	0.8060	0.8060	4 kts
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	6	0.5010	0.7940	0.7720	0.7410	0.7040	0.6670	0.6350	0.6120	0.6000	0.5980	0.6010	0.6040	0.6050	0.6040	0.6010	0.5980	0.6000	0.6040	0.6350	0.6670	0.7040	0.7410	0.7720	0.7940	0.7940	6 kts
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	8	0.7830	0.7750	0.7550	0.7250	0.6910	0.6550	0.6220	0.5980	0.5830	0.5770	0.5760	0.5760	0.5760	0.5760	0.5760	0.5770	0.5830	0.5980	0.6220	0.6550	0.6910	0.7250	0.7550	0.7750	0.7830	8 kts
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	10	0.7610	0.7540	0.7350	0.7080	0.6760	0.6420	0.6100	0.5850	0.5680	0.5590	0.5540	0.5500	0.5510	0.5500	0.5510	0.5540	0.5680	0.5850	0.6100	0.6420	0.6760	0.7080	0.7350	0.7540	0.7610	10 kts
FID_SS4	PITCH	ANGLE	RMS	SHORTCRESTED	8.2	11	0.7490	0.7425	0.7245	0.6990	0.6685	0.6360	0.6045	0.5790	0.5610	0.5500	0.5435	0.5395	0.5380	0.5395	0.5435	0.5500	0.5610	0.5790	0.6045	0.6360	0.6685	0.6990	0.7245	0.7425	0.7490	11 kts
Limit				Pitch Limit (SS4-6)			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

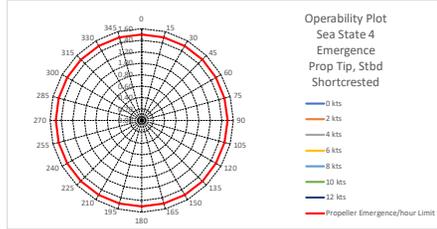
Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Pitch Angle	Pitch Angle
	RMS	RMS
	Shortcrested	Shortcrested





FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 kts
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8 kts
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10 kts
FLD_SS4	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	8.2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12 kts
Limit				Propeller Emergence/hour Limit			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	

Chart Title	Operability Plot	Operability Plot
	Sea State 4	Sea State 4
	Emergence	Emergence
	Prop Tip, Stbd	Prop Tip, Stbd
	Shortcrested	Shortcrested



Preliminary Design, @IDR5



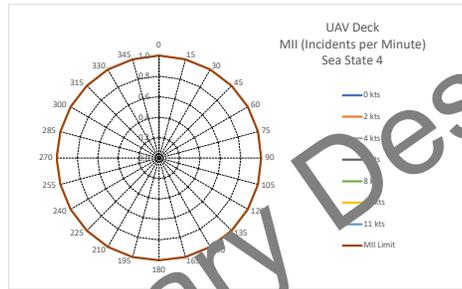
LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	0	1.29	1.44	1.77	2.12	2.40	2.56	2.57	2.45	2.19	1.83	1.43	1.07	0.91	1.07	1.43	1.83	2.19	2.45	2.57	2.56	2.40	2.12	1.77	1.44	0 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	2	1.31	1.46	1.80	2.15	2.43	2.59	2.60	2.47	2.20	1.84	1.44	1.08	0.92	1.08	1.44	1.84	2.20	2.47	2.60	2.59	2.43	2.15	1.80	1.46	2 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	4	1.34	1.49	1.82	2.17	2.45	2.61	2.62	2.49	2.22	1.86	1.46	1.11	0.95	1.11	1.46	1.86	2.22	2.49	2.62	2.61	2.45	2.17	1.82	1.49	4 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	6	1.36	1.51	1.84	2.20	2.47	2.63	2.65	2.52	2.27	1.94	1.58	1.29	1.16	1.29	1.58	1.94	2.27	2.52	2.65	2.63	2.47	2.20	1.84	1.51	6 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	8	1.39	1.53	1.87	2.22	2.50	2.66	2.70	2.60	2.39	2.10	1.81	1.59	1.51	1.59	1.81	2.10	2.39	2.60	2.70	2.66	2.50	2.22	1.87	1.53	8 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	10	1.42	1.56	1.89	2.24	2.53	2.70	2.74	2.66	2.48	2.24	2.01	1.84	1.78	1.84	2.01	2.24	2.48	2.66	2.74	2.70	2.53	2.24	1.89	1.56	10 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	11	1.44	1.58	1.91	2.26	2.55	2.73	2.80	2.77	2.65	2.47	2.31	2.20	2.16	2.20	2.31	2.47	2.65	2.77	2.80	2.73	2.55	2.26	1.91	1.58	11 kts	
<b>ZERO CROSSING PERIODS</b>																																
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	0	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	7.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	0 kts
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	2	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	8.00	7.00	7.00	7.00	7.00	8.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	2 kts
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	4	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	4 kts
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	6	7.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	6 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	8	7.00	7.00	7.00	8.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	8.00	8.00	8.00	7.00	7.00	8 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	10	7.00	7.00	7.00	7.00	8.00	8.00	8.00	8.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	10.00	10.00	8.00	8.00	8.00	8.00	7.00	7.00	10 kts	
FLD_SS4	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	8.2	11	6.50	7.00	7.00	7.00	8.00	8.00	8.00	8.00	9.00	10.50	11.50	11.50	11.50	11.50	11.50	10.50	9.00	8.00	8.00	8.00	8.00	7.00	7.00	7.00	11 kts	

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	10	11	Mill Limit
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	10	11
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Chart Title  
 MII (Incidents per Minute)  
 Sea State 4  
 UAV Deck  
 MII (Incidents per Minute)  
 Sea State 4



Preliminary Design, @IDRPS











LATERAL FORCES

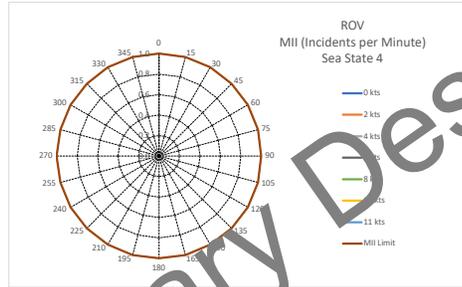
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	0	1.33	1.43	1.69	1.98	2.24	2.40	2.45	2.37	2.19	1.91	1.60	1.33	1.22	1.33	1.60	1.91	2.19	2.37	2.45	2.40	2.24	1.98	1.69	1.43	0 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	2	1.34	1.44	1.70	1.99	2.24	2.40	2.44	2.37	2.18	1.92	1.61	1.35	1.24	1.35	1.61	1.92	2.18	2.37	2.44	2.40	2.24	1.99	1.70	1.44	2 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	4	1.35	1.45	1.71	1.99	2.24	2.40	2.44	2.37	2.19	1.93	1.63	1.37	1.27	1.37	1.63	1.93	2.19	2.37	2.44	2.40	2.24	1.99	1.71	1.45	4 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	6	1.36	1.46	1.71	2.00	2.24	2.40	2.45	2.38	2.22	1.98	1.71	1.49	1.41	1.49	1.71	1.98	2.22	2.38	2.45	2.40	2.24	2.00	1.71	1.46	6 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	8	1.37	1.47	1.72	2.01	2.25	2.41	2.48	2.44	2.30	2.09	1.88	1.71	1.64	1.71	1.88	2.09	2.30	2.44	2.48	2.41	2.25	2.01	1.72	1.47	8 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	10	1.38	1.48	1.73	2.01	2.26	2.42	2.50	2.47	2.37	2.21	2.04	1.92	1.87	1.92	2.04	2.21	2.37	2.47	2.50	2.42	2.26	2.01	1.73	1.48	10 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	11	1.39	1.49	1.74	2.02	2.27	2.45	2.56	2.58	2.53	2.42	2.31	2.24	2.21	2.24	2.31	2.42	2.53	2.58	2.56	2.45	2.27	2.02	1.74	1.49	11 kts

ZERO CROSSING PERIODS																																
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	0	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	0 kts	
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	2	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	2 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	4	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	7.00	4 kts
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	6	7.00	7.00	7.00	8.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	8.00	8.00	8.00	8.00	7.00	6 kts	
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	8	7.00	7.00	7.00	7.00	8.00	8.00	8.00	9.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	8.00	7.00	7.00	7.00	8 kts	
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	10	7.00	7.00	7.00	7.00	8.00	8.00	8.00	9.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	10.00	10.00	9.00	8.00	8.00	8.00	7.00	7.00	7.00	10 kts	
FLD_SS4	LATERAL	ACCELERATION	ROV	SHORTCRESTED	8.2	11	6.50	6.50	7.00	7.00	7.50	8.00	8.00	9.00	10.00	10.50	11.50	13.00	13.00	13.00	13.00	11.50	10.50	10.00	9.00	8.00	8.00	7.50	7.00	7.00	6.50	11 kts

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	10	11	Mill Limit
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	10	11
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Chart Title	ROV
MII (Incidents per Minute) Sea State 4	MII (Incidents per Minute) Sea State 4



Preliminary Design, @IDRIS

LATERAL FORCES

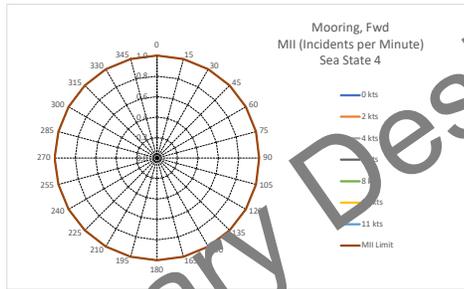
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	0	1.48	1.61	1.91	2.24	2.50	2.64	2.63	2.49	2.22	1.86	1.46	1.12	0.97	1.12	1.46	1.86	2.22	2.49	2.63	2.64	2.50	2.24	1.91	1.61	0 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	2	1.51	1.65	1.95	2.28	2.53	2.66	2.65	2.50	2.22	1.85	1.45	1.10	0.94	1.10	1.45	1.85	2.22	2.50	2.65	2.66	2.53	2.28	1.95	1.65	2 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	4	1.54	1.68	1.98	2.31	2.56	2.68	2.66	2.50	2.22	1.84	1.44	1.09	0.94	1.09	1.44	1.84	2.22	2.50	2.66	2.68	2.56	2.31	1.98	1.68	4 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	6	1.57	1.71	2.01	2.33	2.58	2.70	2.68	2.52	2.25	1.90	1.53	1.23	1.11	1.23	1.53	1.90	2.25	2.52	2.68	2.70	2.58	2.33	2.01	1.71	6 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	8	1.61	1.74	2.04	2.36	2.61	2.73	2.73	2.59	2.34	2.03	1.73	1.51	1.42	1.51	1.73	2.03	2.34	2.59	2.73	2.73	2.61	2.36	2.04	1.74	8 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	10	1.64	1.77	2.07	2.39	2.64	2.76	2.76	2.63	2.41	2.15	1.90	1.73	1.67	1.73	1.90	2.15	2.41	2.63	2.76	2.76	2.64	2.39	2.07	1.77	10 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	11	1.66	1.79	2.09	2.41	2.66	2.79	2.82	2.73	2.56	2.36	2.18	2.07	2.03	2.07	2.18	2.36	2.56	2.73	2.82	2.79	2.66	2.41	2.09	1.79	11 kts

ZERO CROSSING PERIODS																																	
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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			
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	0	7.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	7.00	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	0 kts	
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	2	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	7.00	2 kts
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	4	7.00	7.00	7.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	7.00	4 kts	
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	6	7.00	7.00	7.00	7.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	7.00	6 kts	
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	8	6.00	7.00	7.00	7.00	7.00	8.00	8.00	8.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	8.00	7.00	8 kts	
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	10	6.00	6.00	7.00	7.00	7.00	8.00	8.00	8.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	10.00	8.00	7.00	10 kts	
FLD_S54	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	8.2	11	6.00	6.00	6.50	7.00	7.00	7.50	8.00	8.00	9.00	10.50	11.50	11.50	11.50	11.50	11.50	11.50	10.50	9.00	8.00	8.00	7.50	7.00	7.00	6.50	6.00	11 kts	

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	10	11	Mill Limit	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	10	11
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Chart Title  
 MII (Incidents per Minute)  
 Sea State 4  
 Mooring, Fwd  
 MII (Incidents per Minute)  
 Sea State 4



Preliminary Design, @IDRIS

LATERAL FORCES

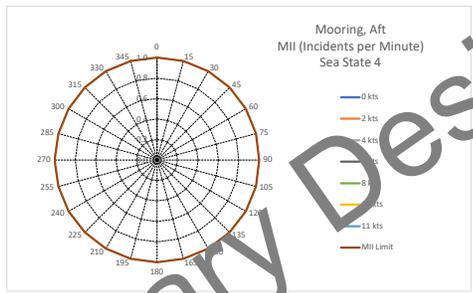
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	0	1.68	1.78	2.03	2.32	2.57	2.72	2.76	2.67	2.47	2.18	1.87	1.60	1.49	1.60	1.87	2.18	2.47	2.67	2.76	2.72	2.57	2.32	2.03	1.78	0 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	2	1.70	1.80	2.04	2.32	2.57	2.72	2.75	2.66	2.46	2.17	1.86	1.60	1.49	1.60	1.86	2.17	2.46	2.66	2.75	2.72	2.57	2.32	2.04	1.80	2 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	4	1.72	1.81	2.05	2.33	2.57	2.72	2.74	2.65	2.45	2.17	1.87	1.61	1.51	1.61	1.87	2.17	2.45	2.65	2.74	2.72	2.57	2.33	2.05	1.81	4 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	6	1.73	1.82	2.06	2.34	2.57	2.71	2.74	2.65	2.46	2.21	1.93	1.71	1.62	1.71	1.93	2.21	2.46	2.65	2.74	2.71	2.57	2.34	2.06	1.82	6 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	8	1.74	1.84	2.07	2.35	2.58	2.72	2.76	2.69	2.53	2.30	2.07	1.89	1.82	1.89	2.07	2.30	2.53	2.69	2.76	2.72	2.58	2.35	2.07	1.84	8 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	10	1.76	1.85	2.09	2.36	2.59	2.73	2.77	2.72	2.58	2.39	2.21	2.08	2.03	2.08	2.21	2.39	2.58	2.72	2.77	2.73	2.59	2.36	2.09	1.85	10 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	11	1.77	1.86	2.10	2.37	2.60	2.75	2.82	2.81	2.72	2.59	2.46	2.38	2.35	2.38	2.46	2.59	2.72	2.81	2.82	2.75	2.60	2.37	2.10	1.86	11 kts

ZERO CROSSING PERIODS																																
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	0	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	0 kts	
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	2	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	2 kts
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	4	7.00	7.00	7.00	7.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	10.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	7.00	7.00	4 kts	
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	6	7.00	7.00	7.00	7.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	8.00	8.00	8.00	7.00	7.00	6 kts	
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	8	6.00	7.00	7.00	7.00	7.00	8.00	8.00	9.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	7.00	7.00	7.00	8 kts		
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	10	6.00	6.00	7.00	7.00	7.00	8.00	8.00	9.00	10.00	10.00	12.00	12.00	12.00	12.00	12.00	10.00	10.00	9.00	8.00	8.00	7.00	7.00	7.00	10 kts		
FLD_SS4	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	8.2	11	5.50	6.00	6.50	7.00	7.00	7.50	8.00	9.00	10.50	11.00	12.00	13.00	13.00	13.00	12.00	11.00	10.50	9.00	8.00	7.50	7.00	7.00	6.50	6.00	11 kts	

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	10	11	Mill Limit																												
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	10	11	Mill Limit																												
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

Chart Title  
 MII (Incidents per Minute)  
 Sea State 4  
 Mooring, Aft  
 Mooring, Aft  
 MII (Incidents per Minute)  
 Sea State 4



Preliminary Design, @IDRPS

Motion induced Interruption Analysis

Table of Constants

g = 9.81 m/s²

User Input Cell Ranges

VERTICAL VELOCITY (m/sec)

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and 34 velocity values (0-345).

VERTICAL ACCELERATION

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, and 34 acceleration values (0-11).

Table with columns: We (Wave Energy) and 34 numerical values.

Table with columns: Mu(MSI) (Motion Sickness Index) and 34 numerical values.

Table with columns: Abs(sdbldot) (Absolute Standard Deviation) and 34 numerical values.

Table with columns: x for ERF eq and 34 numerical values.

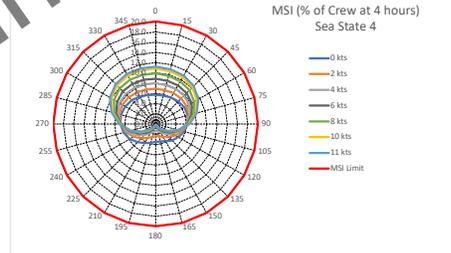
Table with columns: FLD\_S54 MSI (Motion Sickness Index) and 34 numerical values.

Chart Title

MSI (% of Crew at 4 hours) Sea State 4 Transom, A-Frame

MSI (% of Crew at 4 hours) Sea State 4 Transom, A-Frame

MSI (% of Crew at 4 hours) Sea State 4 Transom, A-Frame







VERTICAL VELOCITY (m/sec)

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and columns for wave heights 0 to 345. Rows include FLD\_S54 VERTICAL VELOCITY for Stateroom and SHORTCRESTED.

VERTICAL ACCELERATION

Table with columns: FLD\_S54 VERTICAL ACCELERATION, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and columns for wave heights 0 to 345.

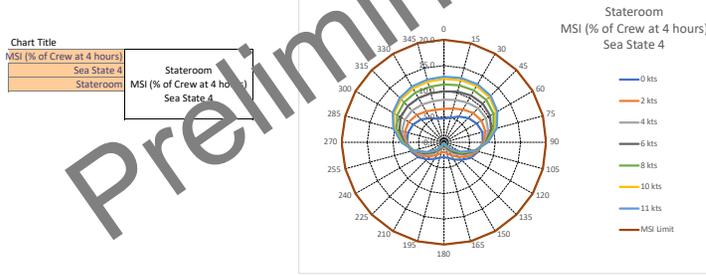
Table with columns: We (0-11) and columns for wave heights 0 to 345. Values range from approximately 0.79 to 0.96.

Table with columns: Mu(MSI) (0-11) and columns for wave heights 0 to 345. Values range from approximately -0.80 to -0.88.

Table with columns: Abs(sdbldot) (0-11) and columns for wave heights 0 to 345. Values range from approximately 0.33 to 0.52.

Table with columns: x for ERF eq (0-11) and columns for wave heights 0 to 345. Values range from approximately -1.67 to -1.13.

Table with columns: FLD\_S54 MSI, Stateroom, and ShortCrested. Values range from 4.6655 to 12.8153. Includes an MSI Limit row.





VERTICAL VELOCITY (m/sec)

Table with 32 columns for wave heights (0 to 345) and 14 rows for different file names and motion types (Vertical Velocity).

VERTICAL ACCELERATION

Table with 32 columns for wave heights (0 to 345) and 14 rows for different file names and motion types (Vertical Acceleration).

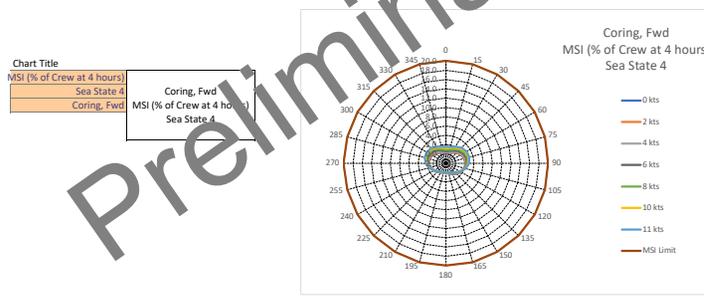
Table with 32 columns for wave heights (0 to 345) and 14 rows for different wave directions (We).

Table with 32 columns for wave heights (0 to 345) and 14 rows for different motion directions (Mu(MSI)).

Table with 32 columns for wave heights (0 to 345) and 14 rows for different absolute values (Abs(s3dbldot)).

Table with 32 columns for wave heights (0 to 345) and 14 rows for different x for ERF eq values.

Table with 32 columns for wave heights (0 to 345) and 14 rows for different MSIs (Motion Sickness Index) for various motion types.



Large diagonal watermark text reading 'Preliminary' across the bottom half of the page.



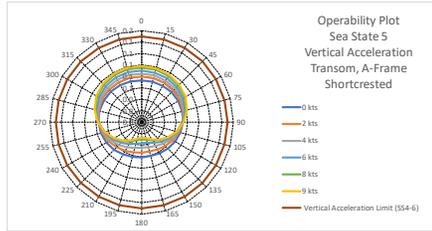






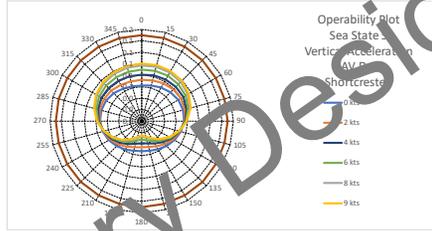
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_S55	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	0	0.0735	0.0734	0.0736	0.0740	0.0740	0.0734	0.0720	0.0699	0.0673	0.0646	0.0623	0.0609	0.0609	0.0623	0.0648	0.0678	0.0708	0.0734	0.0753	0.0762	0.0763	0.0757	0.0748	0.0740	0 kts
FLD_S55	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	2	0.0797	0.0793	0.0790	0.0784	0.0771	0.0749	0.0716	0.0675	0.0630	0.0586	0.0551	0.0529	0.0526	0.0543	0.0575	0.0617	0.0664	0.0710	0.0749	0.0778	0.0796	0.0803	0.0804	0.0800	2 kts
FLD_S55	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	4	0.0851	0.0846	0.0838	0.0825	0.0802	0.0765	0.0715	0.0655	0.0591	0.0530	0.0481	0.0450	0.0443	0.0463	0.0504	0.0560	0.0624	0.0689	0.0748	0.0794	0.0827	0.0846	0.0853	0.0853	4 kts
FLD_S55	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	6	0.0903	0.0896	0.0886	0.0866	0.0833	0.0784	0.0718	0.0641	0.0558	0.0479	0.0415	0.0374	0.0363	0.0386	0.0437	0.0508	0.0590	0.0674	0.0750	0.0813	0.0859	0.0888	0.0901	0.0904	6 kts
FLD_S55	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	8	0.0957	0.0949	0.0935	0.0909	0.0867	0.0806	0.0726	0.0633	0.0534	0.0439	0.0362	0.0311	0.0297	0.0323	0.0383	0.0468	0.0564	0.0665	0.0758	0.0836	0.0894	0.0931	0.0951	0.0958	8 kts
FLD_S55	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	9	0.0985	0.0978	0.0961	0.0937	0.0886	0.0819	0.0731	0.0632	0.0526	0.0425	0.0341	0.0286	0.0271	0.0299	0.0362	0.0451	0.0555	0.0663	0.0764	0.0849	0.0912	0.0954	0.0977	0.0985	9 kts
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot	Operability Plot
	Sea State 5	Sea State 5
	Vertical Acceleration	Vertical Acceleration
	Transom, A-Frame	Transom, A-Frame
	Shortcrested	Shortcrested



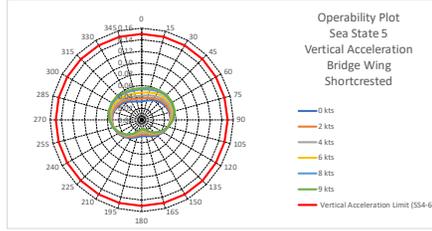
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S55	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	0	0.0623	0.0642	0.0676	0.0712	0.0739	0.0749	0.0739	0.0710	0.0666	0.0616	0.0570	0.0536	0.524	0.0536	0.057	0.0617	0.0664	0.0703	0.0726	0.0730	0.0715	0.0685	0.0651	0.0627	0 kts	
FLD_S55	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	2	0.0719	0.0735	0.0780	0.0780	0.0798	0.0780	0.0748	0.0698	0.0635	0.0569	0.0511	0.0470	0.0455	0.047	0.051	0.0574	0.0637	0.0693	0.0735	0.0758	0.0763	0.0750	0.0731	0.0718	2 kts	
FLD_S55	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	4	0.0812	0.0825	0.0839	0.0848	0.0840	0.0811	0.0759	0.0689	0.0607	0.0525	0.0454	0.0405	0.038	0.04	0.0452	0.0534	0.0612	0.0685	0.0746	0.0787	0.0809	0.0814	0.0810	0.0807	4 kts	
FLD_S55	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	6	0.0896	0.0907	0.0914	0.0910	0.0887	0.0841	0.0772	0.0683	0.0584	0.0486	0.0403	0.0346	0.032	0.033	0.0353	0.0416	0.0499	0.0592	0.0681	0.0758	0.0817	0.0856	0.0876	0.0884	0.0888	6 kts
FLD_S55	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	8	0.0972	0.0979	0.0980	0.0966	0.0931	0.0870	0.0784	0.0680	0.0568	0.0455	0.0360	0.0297	0.0276	0.028	0.0306	0.0377	0.0472	0.0577	0.0680	0.0772	0.0847	0.0900	0.0932	0.0950	0.0962	8 kts
FLD_S55	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	9	0.1004	0.1011	0.1009	0.0991	0.0950	0.0883	0.0791	0.0680	0.0559	0.0442	0.035	0.0276	0.0255	0.0287	0.0362	0.0461	0.0572	0.0682	0.0780	0.0861	0.0920	0.0958	0.0980	0.0994	9 kts	
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15			

Chart Title	Operability Plot	Operability Plot
	Sea State 5	Sea State 5
	Vertical Acceleration	Vertical Acceleration
	UAV Deck	UAV Deck
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	0	0.0326	0.0341	0.0394	0.0444	0.0483	0.0505	0.0504	0.0481	0.0440	0.0386	0.0332	0.0293	0.0285	0.0314	0.0367	0.0426	0.0477	0.0510	0.0521	0.0509	0.0475	0.0426	0.0371	0.0330	0 kts
FLD_S55	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	2	0.0369	0.0394	0.0437	0.0479	0.0510	0.0522	0.0511	0.0478	0.0427	0.0365	0.0304	0.0260	0.0251	0.0283	0.0342	0.0408	0.0466	0.0507	0.0527	0.0523	0.0498	0.0457	0.0410	0.0375	2 kts
FLD_S55	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	2	0.0420	0.0444	0.0482	0.0517	0.0539	0.0541	0.0520	0.0478	0.0417	0.0346	0.0278	0.0229	0.0218	0.0254	0.0319	0.0391	0.0457	0.0507	0.0536	0.0541	0.0524	0.0492	0.0453	0.0424	4 kts
FLD_S55	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	4	0.0474	0.0496	0.0529	0.0567	0.0570	0.0563	0.0532	0.0479	0.0410	0.0331	0.0256	0.0202	0.0191	0.0229	0.0299	0.0378	0.0451	0.0509	0.0547	0.0561	0.0554	0.0530	0.0499	0.0476	6 kts
FLD_S55	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	6	0.0529	0.0548	0.0575	0.0597	0.0602	0.0585	0.0544	0.0483	0.0405	0.0319	0.0238	0.0181	0.0169	0.0210	0.0283	0.0367	0.0447	0.0514	0.0560	0.0584	0.0586	0.0571	0.0547	0.0529	8 kts
FLD_S55	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	9	0.0556	0.0573	0.0598	0.0616	0.0617	0.0596	0.0551	0.0485	0.0404	0.0315	0.0231	0.0171	0.0159	0.0202	0.0277	0.0364	0.0447	0.0517	0.0568	0.0597	0.0603	0.0592	0.0572	0.0555	9 kts
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot	Operability Plot
	Sea State 5	Sea State 5
	Vertical Acceleration	Vertical Acceleration
	Bridge Wing	Bridge Wing
	Shortcrested	Shortcrested





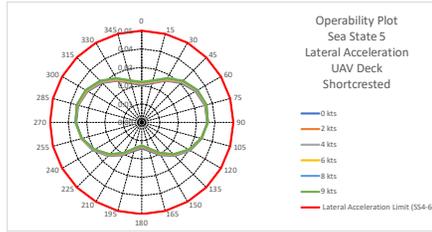
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FID_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	0	0.0304	0.0221	0.0261	0.0305	0.0338	0.0358	0.0358	0.0340	0.0305	0.0258	0.0206	0.0161	0.0142	0.0161	0.0206	0.0258	0.0305	0.0340	0.0358	0.0358	0.0339	0.0305	0.0261	0.0221	0 kts
FID_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	2	0.0207	0.0225	0.0265	0.0300	0.0343	0.0360	0.0359	0.0339	0.0303	0.0255	0.0202	0.0158	0.0137	0.0156	0.0202	0.0255	0.0303	0.0339	0.0359	0.0360	0.0343	0.0309	0.0265	0.0225	2 kts
FID_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	4	0.0211	0.0228	0.0269	0.0313	0.0346	0.0362	0.0360	0.0339	0.0301	0.0252	0.0198	0.0151	0.0131	0.0151	0.0198	0.0252	0.0301	0.0339	0.0360	0.0362	0.0346	0.0313	0.0269	0.0228	4 kts
FID_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	6	0.0215	0.0232	0.0273	0.0316	0.0349	0.0364	0.0361	0.0338	0.0299	0.0249	0.0194	0.0147	0.0127	0.0147	0.0194	0.0249	0.0299	0.0338	0.0361	0.0364	0.0349	0.0316	0.0273	0.0232	6 kts
FID_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	8	0.0218	0.0236	0.0276	0.0319	0.0351	0.0366	0.0361	0.0337	0.0297	0.0247	0.0192	0.0146	0.0126	0.0146	0.0192	0.0247	0.0297	0.0337	0.0361	0.0366	0.0351	0.0319	0.0276	0.0236	8 kts
FID_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	9	0.0220	0.0237	0.0278	0.0321	0.0352	0.0367	0.0361	0.0337	0.0297	0.0245	0.0191	0.0145	0.0125	0.0145	0.0191	0.0245	0.0297	0.0337	0.0361	0.0367	0.0352	0.0321	0.0278	0.0237	9 kts
Limit				Lateral Acceleration Limit (SS4-6)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		

Chart Title

Operability Plot
Sea State 5
Lateral Acceleration
UAV Deck
Shortcrested

Operability Plot

Sea State 5
Lateral Acceleration
UAV Deck
Shortcrested



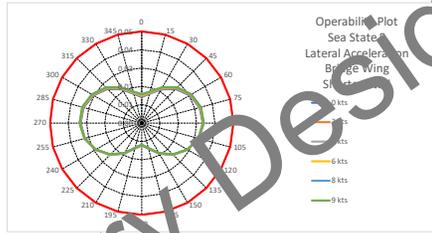
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FID_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	0	0.0143	0.0165	0.0213	0.0264	0.0303	0.0327	0.0333	0.0320	0.0290	0.0245	0.0192	0.0143	0.121	0.0143	0.192	0.0245	0.0290	0.0320	0.0333	0.0327	0.0303	0.0264	0.0213	0.0165	0 kts
FID_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	2	0.0146	0.0168	0.0216	0.0266	0.0306	0.0329	0.0334	0.0321	0.0290	0.0244	0.0191	0.0142	0.120	0.0142	0.191	0.0244	0.0290	0.0321	0.0334	0.0329	0.0306	0.0266	0.0216	0.0168	2 kts
FID_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	4	0.0149	0.0171	0.0219	0.0269	0.0309	0.0332	0.0336	0.0322	0.0290	0.0244	0.0190	0.0141	0.119	0.0141	0.190	0.0244	0.0290	0.0322	0.0336	0.0332	0.0309	0.0269	0.0219	0.0171	4 kts
FID_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	6	0.0153	0.0175	0.0222	0.0272	0.0311	0.0334	0.0338	0.0322	0.0289	0.0243	0.0189	0.0140	0.118	0.0140	0.189	0.0243	0.0289	0.0322	0.0338	0.0334	0.0311	0.0272	0.0222	0.0175	6 kts
FID_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	8	0.0156	0.0177	0.0225	0.0275	0.0313	0.0335	0.0338	0.0322	0.0289	0.0242	0.0188	0.0140	0.117	0.0140	0.188	0.0242	0.0289	0.0322	0.0338	0.0335	0.0313	0.0275	0.0225	0.0177	8 kts
FID_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	9	0.0157	0.0179	0.0226	0.0276	0.0314	0.0336	0.0338	0.0322	0.0289	0.0242	0.0188	0.0139	0.0117	0.0139	0.0188	0.0242	0.0289	0.0322	0.0338	0.0336	0.0314	0.0276	0.0226	0.0179	9 kts
Limit				Lateral Acceleration Limit (SS4-6)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		

Chart Title

Operability Plot
Sea State 5
Lateral Acceleration
Bridge Wing
Shortcrested

Operability Plot

Sea State 5
Lateral Acceleration
Bridge Wing
Shortcrested



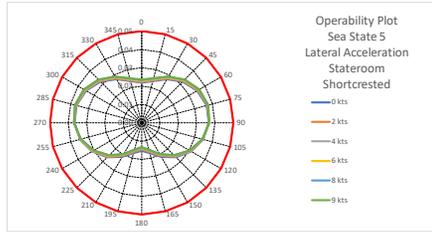
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FID_S55	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	13.1	0	0.0218	0.0277	0.0317	0.0350	0.0368	0.0367	0.0347	0.0312	0.0265	0.0214	0.0170	0.0152	0.0170	0.0214	0.0265	0.0312	0.0347	0.0367	0.0368	0.0350	0.0317	0.0277	0.0218	0 kts	
FID_S55	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	13.1	2	0.0169	0.0191	0.0231	0.0265	0.0300	0.0320	0.0321	0.0300	0.0261	0.0209	0.0165	0.0146	0.0165	0.0209	0.0261	0.0300	0.0321	0.0320	0.0300	0.0265	0.0231	0.0191	0.0169	2 kts	
FID_S55	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	13.1	4	0.0206	0.0228	0.0268	0.0305	0.0337	0.0352	0.0353	0.0337	0.0298	0.0258	0.0204	0.0159	0.0140	0.0159	0.0204	0.0258	0.0307	0.0346	0.0368	0.0372	0.0357	0.0325	0.0282	0.0243	4 kts
FID_S55	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	13.1	6	0.0230	0.0247	0.0286	0.0328	0.0360	0.0374	0.0369	0.0345	0.0305	0.0254	0.0200	0.0154	0.0135	0.0154	0.0200	0.0254	0.0305	0.0345	0.0369	0.0374	0.0360	0.0328	0.0286	0.0247	6 kts
FID_S55	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	13.1	8	0.0234	0.0250	0.0289	0.0331	0.0362	0.0375	0.0369	0.0344	0.0302	0.0251	0.0197	0.0152	0.0133	0.0152	0.0197	0.0251	0.0302	0.0344	0.0369	0.0375	0.0362	0.0331	0.0289	0.0250	8 kts
FID_S55	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	13.1	9	0.0236	0.0252	0.0291	0.0333	0.0363	0.0376	0.0369	0.0343	0.0302	0.0250	0.0195	0.0150	0.0132	0.0150	0.0195	0.0250	0.0302	0.0343	0.0369	0.0376	0.0363	0.0333	0.0291	0.0252	9 kts
Limit				Lateral Acceleration Limit (SS4-6)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		

Chart Title

Operability Plot
Sea State 5
Lateral Acceleration
Stateroom
Shortcrested

Operability Plot

Sea State 5
Lateral Acceleration
Stateroom
Shortcrested

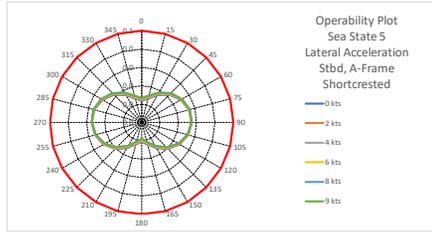


Preliminary Design, CIDR5

File Name	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	13.1	0	0.0118	0.0135	0.0173	0.0214	0.0246	0.0267	0.0273	0.0269	0.0239	0.0204	0.0162	0.0123	0.0106	0.0123	0.0162	0.0204	0.0239	0.0263	0.0273	0.0267	0.0246	0.0214	0.0173	0.0135	0.0118
FLD_S55	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	13.1	2	0.0122	0.0139	0.0176	0.0216	0.0248	0.0268	0.0273	0.0262	0.0237	0.0201	0.0158	0.0120	0.0102	0.0120	0.0158	0.0201	0.0237	0.0262	0.0273	0.0268	0.0248	0.0216	0.0176	0.0139	0.0122
FLD_S55	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	13.1	4	0.0126	0.0142	0.0180	0.0219	0.0251	0.0269	0.0273	0.0261	0.0238	0.0199	0.0155	0.0116	0.0099	0.0116	0.0155	0.0199	0.0238	0.0261	0.0273	0.0269	0.0251	0.0219	0.0180	0.0142	0.0126
FLD_S55	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	13.1	6	0.0130	0.0146	0.0183	0.0222	0.0253	0.0270	0.0273	0.0260	0.0234	0.0196	0.0152	0.0112	0.0094	0.0112	0.0152	0.0196	0.0234	0.0260	0.0273	0.0270	0.0253	0.0222	0.0183	0.0146	0.0130
FLD_S55	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	13.1	8	0.0133	0.0149	0.0186	0.0225	0.0255	0.0271	0.0273	0.0259	0.0231	0.0193	0.0149	0.0109	0.0090	0.0109	0.0149	0.0193	0.0231	0.0259	0.0273	0.0271	0.0255	0.0225	0.0186	0.0149	0.0133
FLD_S55	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	13.1	9	0.0134	0.0151	0.0188	0.0226	0.0256	0.0272	0.0273	0.0259	0.0230	0.0192	0.0147	0.0107	0.0089	0.0107	0.0147	0.0192	0.0230	0.0259	0.0273	0.0272	0.0256	0.0226	0.0188	0.0151	0.0134
Limit				Lateral Acceleration Limit (SS4-G)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		

Chart Title	Operability Plot	Operability Plot
	Sea State 5	Sea State 5
	Lateral Acceleration	Lateral Acceleration
	Sbtd, A-Frame	Sbtd, A-Frame
	Shortcrested	Shortcrested

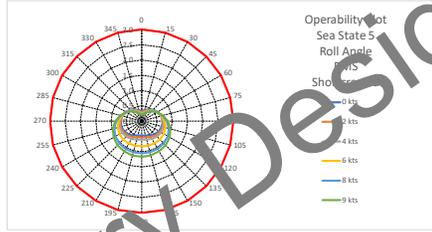
Operability Plot	Sea State 5
Lateral Acceleration	Lateral Acceleration
Sbtd, A-Frame	Sbtd, A-Frame
Shortcrested	Shortcrested



File Name	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S55	ROLL	ANGLE	RMS	SHORTCRESTED	13.1	0	0.3400	0.3710	0.4460	0.5310	0.6050	0.6600	0.6880	0.6880	0.6590	0.6060	0.5430	0.4880	0.4500	0.4880	0.5430	0.6060	0.6590	0.6880	0.6880	0.6600	0.6050	0.5310	0.4460	0.3710	0.3400	
FLD_S55	ROLL	ANGLE	RMS	SHORTCRESTED	13.1	2	0.3060	0.3380	0.4160	0.5090	0.5920	0.6580	0.7000	0.7130	0.6960	0.6530	0.5970	0.5480	0.5000	0.5480	0.5970	0.6530	0.6960	0.7130	0.7000	0.6880	0.6590	0.5920	0.5090	0.4160	0.3380	0.3060
FLD_S55	ROLL	ANGLE	RMS	SHORTCRESTED	13.1	4	0.2770	0.3110	0.3920	0.4920	0.5850	0.6640	0.7210	0.7480	0.7440	0.7120	0.6650	0.6220	0.5800	0.6220	0.6650	0.7120	0.7440	0.7480	0.7210	0.6640	0.5850	0.4920	0.3920	0.3110	0.2770	
FLD_S55	ROLL	ANGLE	RMS	SHORTCRESTED	13.1	6	0.2530	0.2880	0.3730	0.4790	0.5830	0.6770	0.7550	0.8100	0.8390	0.8460	0.8380	0.8270	0.8200	0.8460	0.8390	0.8380	0.8270	0.8200	0.7550	0.6770	0.5830	0.4790	0.3730	0.2880	0.2530	
FLD_S55	ROLL	ANGLE	RMS	SHORTCRESTED	13.1	8	0.2280	0.2640	0.3530	0.4660	0.5840	0.7050	0.8240	0.9220	0.9870	1.0240	1.0440	1.0530	1.0550	1.0530	1.0440	1.0240	0.9870	0.9220	0.8240	0.7050	0.5840	0.4660	0.3530	0.2640	0.2280	
FLD_S55	ROLL	ANGLE	RMS	SHORTCRESTED	13.1	9	0.2175	0.2540	0.3445	0.4620	0.5880	0.7230	0.8600	0.9765	1.0883	1.1110	1.1435	1.1615	1.1670	1.1670	1.1435	1.1110	1.0883	0.9765	0.8600	0.7230	0.5880	0.4620	0.3445	0.2540	0.2175	
Limit				Roll Limit (SS4-G)			3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			

Chart Title	Operability Plot	Operability Plot
	Sea State 5	Sea State 5
	Roll Angle	Roll Angle
	RMS	RMS
	Shortcrested	Shortcrested

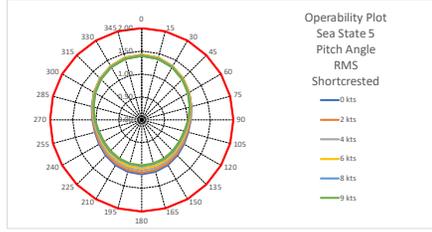
Operability Plot	Sea State 5
Roll Angle	Roll Angle
RMS	RMS
Shortcrested	Shortcrested



File Name	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	PITCH	ANGLE	RMS	SHORTCRESTED	13.1	0	1.1700	1.2560	1.2710	1.1960	1.1250	1.0740	1.0540	1.0680	1.1040	1.1460	1.1770	1.1890	1.1770	1.1460	1.1040	1.0680	1.0540	1.0740	1.1250	1.1960	1.2710	1.2560	1.1700	1.1700	
FLD_S55	PITCH	ANGLE	RMS	SHORTCRESTED	13.1	2	1.4180	1.4940	1.3530	1.2820	1.2010	1.1230	1.0650	1.0390	1.0460	1.0760	1.1130	1.1410	1.1510	1.1410	1.1130	1.0760	1.0460	1.0390	1.0650	1.1230	1.2010	1.2820	1.3530	1.4010	1.4180
FLD_S55	PITCH	ANGLE	RMS	SHORTCRESTED	13.1	4	1.4250	1.4080	1.3570	1.2840	1.1980	1.1160	1.0530	1.0200	1.0430	1.0740	1.0980	1.1070	1.0980	1.0740	1.0430	1.0200	1.0020	1.0300	1.0650	1.1160	1.1980	1.2840	1.3570	1.4080	1.4250
FLD_S55	PITCH	ANGLE	RMS	SHORTCRESTED	13.1	6	1.4200	1.4010	1.3510	1.2760	1.1900	1.1050	1.0380	0.9990	0.9920	1.0080	1.0330	1.0520	1.0590	1.0520	1.0330	1.0080	0.9920	0.9990	1.0380	1.1050	1.1900	1.2760	1.3510	1.4010	1.4200
FLD_S55	PITCH	ANGLE	RMS	SHORTCRESTED	13.1	8	1.4140	1.3860	1.3360	1.2630	1.1770	1.0920	1.0220	0.9780	0.9650	0.9740	0.9920	1.0070	1.0130	1.0070	0.9920	0.9740	0.9650	0.9780	1.0220	1.0920	1.1770	1.2630	1.3360	1.3860	1.4140
FLD_S55	PITCH	ANGLE	RMS	SHORTCRESTED	13.1	9	1.3950	1.3755	1.3265	1.2545	1.1695	1.0840	1.0145	0.9685	0.9520	0.9580	0.9735	0.9865	0.9915	0.9865	0.9735	0.9580	0.9520	0.9685	1.0145	1.0840	1.1695	1.2545	1.3265	1.3755	1.3950
Limit				Pitch Limit (SS4-G)			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		

Chart Title	Operability Plot	Operability Plot
	Sea State 5	Sea State 5
	Pitch Angle	Pitch Angle
	RMS	RMS
	Shortcrested	Shortcrested

Operability Plot	Sea State 5
Pitch Angle	Pitch Angle
RMS	RMS
Shortcrested	Shortcrested

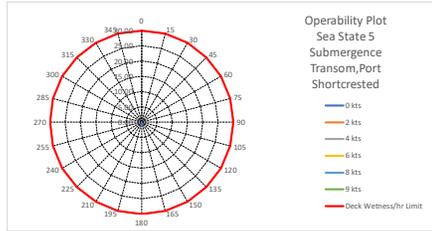


Preliminary Design, @IDR5

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FID_S55	SUBMERGENCE		Transom_Port	SHORTCRESTED	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0 kts
FID_S55	SUBMERGENCE		Transom_Port	SHORTCRESTED	13.1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FID_S55	SUBMERGENCE		Transom_Port	SHORTCRESTED	13.1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FID_S55	SUBMERGENCE		Transom_Port	SHORTCRESTED	13.1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FID_S55	SUBMERGENCE		Transom_Port	SHORTCRESTED	13.1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8 kts
FID_S55	SUBMERGENCE		Transom_Port	SHORTCRESTED	13.1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9 kts
Limit				Deck Wetness/hr Limit			30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

Chart Title	Operability Plot
	Sea State 5
	Submergence
	Transom_Port
	Shortcrested

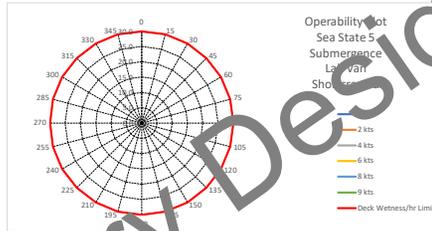
Operability Plot
Sea State 5
Submergence
Transom_Port
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FID_S55	SUBMERGENCE		Lab Van	SHORTCRESTED	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 kts
FID_S55	SUBMERGENCE		Lab Van	SHORTCRESTED	13.1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FID_S55	SUBMERGENCE		Lab Van	SHORTCRESTED	13.1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FID_S55	SUBMERGENCE		Lab Van	SHORTCRESTED	13.1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FID_S55	SUBMERGENCE		Lab Van	SHORTCRESTED	13.1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8 kts
FID_S55	SUBMERGENCE		Lab Van	SHORTCRESTED	13.1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9 kts
Limit				Deck Wetness/hr Limit			30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

Chart Title	Operability Plot
	Sea State 5
	Submergence
	Lab Van
	Shortcrested

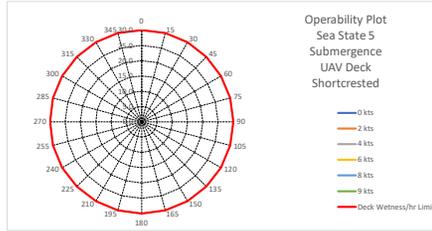
Operability Plot
Sea State 5
Submergence
Lab Van
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FID_S55	SUBMERGENCE		UAV Deck	SHORTCRESTED	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 kts
FID_S55	SUBMERGENCE		UAV Deck	SHORTCRESTED	13.1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FID_S55	SUBMERGENCE		UAV Deck	SHORTCRESTED	13.1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FID_S55	SUBMERGENCE		UAV Deck	SHORTCRESTED	13.1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FID_S55	SUBMERGENCE		UAV Deck	SHORTCRESTED	13.1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8 kts
FID_S55	SUBMERGENCE		UAV Deck	SHORTCRESTED	13.1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9 kts
Limit				Deck Wetness/hr Limit			30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

Chart Title	Operability Plot
	Sea State 5
	Submergence
	UAV Deck
	Shortcrested

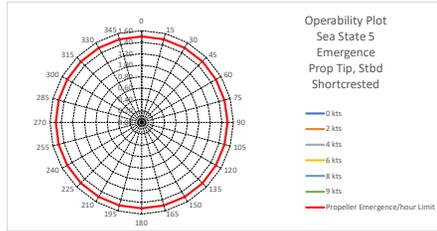
Operability Plot
Sea State 5
Submergence
UAV Deck
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 kts
FLD_S55	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	13.1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FLD_S55	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	13.1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FLD_S55	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	13.1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FLD_S55	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	13.1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8 kts
FLD_S55	EMERGENCE	0 Prop Tip, Stbd		SHORTCRESTED	13.1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9 kts
Limit				Propeller Emergence/Hour Limit			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	

Chart Title	Operability Plot
	Sea State 5
	Emergence
	Prop Tip, Stbd
	Shortcrested

Operability Plot
Sea State 5
Prop Tip, Stbd
Shortcrested



Preliminary Design, @IDR5

Motion Induced Interruption Analysis

- User Input Cell Ranges
- User Input Cell Ranges
- Calculation Cell Ranges

Table of Constants

g =	32.17	ft/s <sup>2</sup>
h =	0.75	ft
h =	2.98	ft
μ =	0.7	
T <sub>f</sub> =	1	Min.

LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	0	2.86	3.01	3.39	3.84	4.24	4.50	4.56	4.43	4.12	3.69	3.20	2.78	2.62	2.78	3.20	3.69	4.12	4.43	4.56	4.50	4.24	3.84	3.39	3.01	0 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	2	2.89	3.04	3.41	3.86	4.25	4.49	4.55	4.41	4.10	3.67	3.19	2.78	2.62	2.78	3.19	3.67	4.10	4.41	4.55	4.49	4.25	3.86	3.41	3.04	2 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	4	2.91	3.06	3.43	3.87	4.25	4.49	4.54	4.40	4.09	3.66	3.19	2.80	2.64	2.80	3.19	3.66	4.09	4.40	4.54	4.49	4.25	3.87	3.43	3.06	4 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	6	2.93	3.08	3.45	3.88	4.26	4.49	4.53	4.40	4.10	3.68	3.24	2.89	2.75	2.89	3.24	3.68	4.10	4.40	4.53	4.49	4.26	3.88	3.45	3.08	6 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	8	2.95	3.10	3.47	3.90	4.27	4.49	4.55	4.43	4.15	3.72	3.38	3.07	2.95	3.07	3.38	3.77	4.15	4.43	4.55	4.49	4.27	3.90	3.47	3.10	8 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	9	2.97	3.11	3.48	3.91	4.28	4.50	4.56	4.44	4.18	3.83	3.47	3.19	3.08	3.19	3.47	3.83	4.18	4.44	4.56	4.50	4.28	3.91	3.48	3.11	9 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1																										

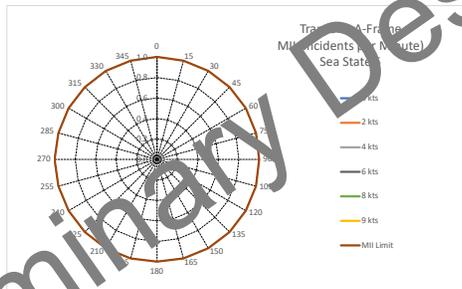
ZERO CROSSING PERIODS

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	0	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	0 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	2	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	2 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	4	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	8.00	8.00	8.00	8.00	4 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	6	7.00	7.00	8.00	8.00	8.00	8.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	9.00	8.00	8.00	8.00	7.00	6 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	8	7.00	7.00	7.00	7.00	8.00	8.00	9.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	9.00	8.00	8.00	7.00	7.00	8 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1	9	7.00	7.00	7.00	7.00	8.00	8.00	9.00	10.00	10.50	11.50	11.50	12.00	12.00	12.00	11.50	11.00	10.00	9.00	8.00	8.00	8.00	7.00	7.00	7.00	9 kts
FLD_S55	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	13.1																										

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345								
Incidents of Tipping Mill Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts
Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345								
Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts

Chart Title  
 MSI (Incidents per Minute)  
 Sea State 5  
 Transom, A-Frame  
 Sea State 5



Preliminary Design

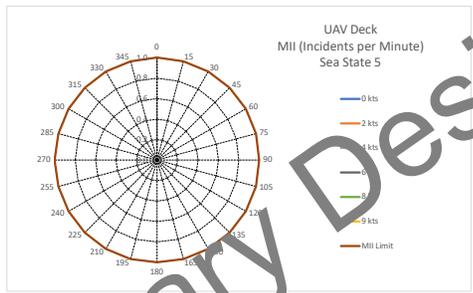
**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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			
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	0	2.06	2.30	2.84	3.42	3.87	4.12	4.15	3.96	3.55	2.99	2.34	1.76	1.50	1.76	2.34	2.99	3.55	3.96	4.15	4.12	3.87	3.42	2.84	2.30	2.06		
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	2	2.11	2.35	2.89	3.46	3.91	4.16	4.18	3.98	3.57	3.00	2.35	1.76	1.50	1.76	2.35	3.00	3.57	3.98	4.18	4.16	3.91	3.46	2.89	2.35	2.11		
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	4	2.15	2.38	2.92	3.49	3.94	4.19	4.21	4.00	3.59	3.02	2.37	1.79	1.54	1.79	2.37	3.02	3.59	4.00	4.21	4.19	3.94	3.49	2.92	2.38	2.15		
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	6	2.18	2.41	2.95	3.52	3.97	4.21	4.24	4.04	3.64	3.10	2.51	2.00	1.78	2.00	2.51	3.10	3.64	4.04	4.24	4.21	3.97	3.52	2.95	2.41	2.18		
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	8	2.22	2.45	2.98	3.55	4.00	4.25	4.29	4.12	3.76	3.28	2.77	2.36	2.19	2.36	2.77	3.28	3.76	4.12	4.29	4.25	4.00	3.55	2.98	2.45	2.22		
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	9	2.24	2.47	3.00	3.57	4.02	4.27	4.32	4.16	3.83	3.38	2.91	2.53	2.39	2.53	2.91	3.38	3.83	4.16	4.32	4.27	4.02	3.57	3.00	2.47	2.24		
<b>ZERO CROSSING PERIODS</b>																																	
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	0	10.00	10.00	10.00	10.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	10.00	10.00	10.00	0 kts
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	2	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	2 kts
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	4	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	4 kts
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	6	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	12.00	12.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	6 kts
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	8	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8 kts
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1	9	8.00	8.00	8.00	8.00	8.50	9.00	9.50	10.00	10.00	10.00	11.00	11.50	11.50	11.00	11.00	10.00	10.00	10.00	10.00	9.00	9.00	8.50	8.00	8.00	8.00	8.00	9 kts
FLD_S55	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	13.1																												

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 UAV Deck  
 MII (Incidents per Minute)  
 Sea State 5



Preliminary Design, @IDRIS

LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	0	1.73	2.00	2.61	3.24	3.75	4.06	4.15	4.01	3.66	3.13	2.50	1.93	1.68	1.53	2.50	3.13	3.66	4.01	4.15	4.06	3.75	3.24	2.61	2.00	0 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	2	1.74	2.02	2.62	3.26	3.77	4.09	4.19	4.05	3.70	3.17	2.56	2.00	1.75	2.00	2.56	3.17	3.70	4.05	4.19	4.09	3.77	3.26	2.62	2.02	2 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	4	1.74	2.02	2.63	3.27	3.79	4.11	4.22	4.09	3.75	3.23	2.63	2.09	1.86	2.09	2.63	3.23	3.75	4.09	4.22	4.11	3.79	3.27	2.63	2.02	4 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	6	1.75	2.03	2.63	3.28	3.80	4.14	4.26	4.15	3.83	3.35	2.80	2.32	2.13	2.32	2.80	3.35	3.83	4.15	4.26	4.14	3.80	3.28	2.63	2.03	6 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	8	1.77	2.04	2.65	3.30	3.83	4.17	4.32	4.25	3.98	3.56	3.08	2.69	2.53	2.69	3.08	3.56	3.98	4.25	4.32	4.17	3.83	3.30	2.65	2.04	8 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	9	1.77	2.05	2.66	3.30	3.84	4.19	4.35	4.30	4.05	3.67	3.23	2.87	2.73	2.87	3.23	3.67	4.05	4.30	4.35	4.19	3.84	3.30	2.66	2.05	9 kts

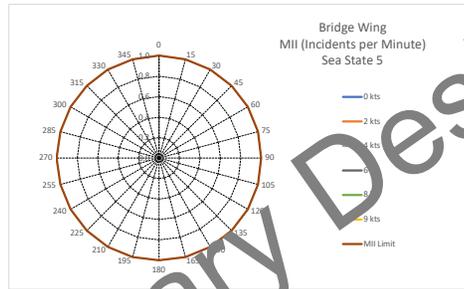
**ZERO CROSSING PERIODS**

FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	0	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	2	10.00	10.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	10.00	10.00	2 kts
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	4	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	4 kts	
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	6	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	6 kts	
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	8	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8 kts	
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1	9	8.00	8.00	8.00	8.50	9.00	9.00	9.50	10.00	10.00	10.00	11.00	11.50	12.00	11.50	11.00	10.00	10.00	9.00	9.00	9.00	8.50	8.00	8.00	8.00	9 kts	
FLD_S55	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	13.1																											

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts	
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts	
Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 Bridge Wing  
 MII (Incidents per Minute)  
 Sea State 5



Preliminary Design, @IDR5



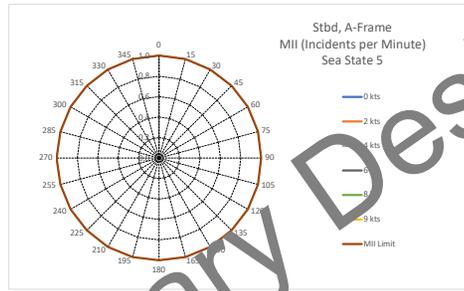
LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	0	1.45	1.69	2.20	2.74	3.17	3.44	3.52	3.40	3.10	2.64	2.10	1.60	1.38	1.60	2.10	2.64	3.10	3.40	3.52	3.44	3.17	2.74	2.20	1.69	0 kts	
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	2	1.48	1.71	2.21	2.75	3.19	3.46	3.54	3.42	3.12	2.66	2.13	1.63	1.41	1.63	2.13	2.66	3.12	3.42	3.54	3.46	3.19	2.75	2.21	1.71	2 kts	
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	4	1.50	1.73	2.23	2.77	3.20	3.47	3.56	3.44	3.14	2.69	2.17	1.69	1.47	1.69	2.17	2.69	3.14	3.44	3.56	3.47	3.20	2.77	2.23	1.73	4 kts	
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	6	1.51	1.74	2.24	2.78	3.21	3.49	3.58	3.48	3.20	2.78	2.30	1.88	1.71	1.88	2.30	2.78	3.20	3.48	3.58	3.49	3.21	2.78	2.24	1.74	6 kts	
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	8	1.53	1.76	2.26	2.79	3.23	3.52	3.63	3.56	3.32	2.96	2.55	2.21	2.08	2.21	2.55	2.96	3.32	3.56	3.63	3.52	3.23	2.79	2.26	1.76	8 kts	
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	9	1.54	1.77	2.27	2.80	3.24	3.53	3.65	3.60	3.39	3.06	2.69	2.39	2.27	2.39	2.69	3.06	3.39	3.60	3.65	3.53	3.24	2.80	2.27	1.77	9 kts	
ZERO CROSSING PERIODS																																
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	0	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	2	10.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	2 kts
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	4	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	4 kts
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	6	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	6 kts
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	8	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	11.00	12.00	12.00	12.00	11.00	10.00	10.00	10.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8 kts
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1	9	8.00	8.00	8.00	8.00	9.00	9.00	9.50	10.00	10.00	10.00	11.00	12.50	12.50	12.50	11.50	11.00	10.00	10.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	9 kts
FLD_S55	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	13.1																											

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																										
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts		

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																										
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts	
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts		

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 Stbd, A-Frame  
 MII (Incidents per Minute)  
 Sea State 5



Preliminary Design, @IDR5

**LATERAL FORCES**

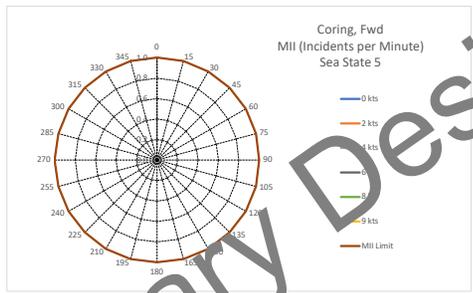
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	0	1.44	1.66	2.15	2.67	3.09	3.36	3.44	3.33	3.04	2.60	2.08	1.60	1.38	1.60	2.08	2.60	3.04	3.33	3.44	3.36	3.09	2.67	2.15	1.66	0 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	2	1.46	1.68	2.17	2.69	3.11	3.37	3.45	3.34	3.05	2.61	2.10	1.62	1.41	1.62	2.10	2.61	3.05	3.34	3.45	3.37	3.11	2.69	2.17	1.68	2 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	4	1.48	1.70	2.18	2.70	3.12	3.38	3.47	3.36	3.07	2.64	2.13	1.67	1.46	1.67	2.13	2.64	3.07	3.36	3.47	3.38	3.12	2.70	2.18	1.70	4 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	6	1.49	1.71	2.19	2.71	3.13	3.40	3.49	3.39	3.12	2.72	2.26	1.86	1.69	1.86	2.26	2.72	3.12	3.39	3.49	3.40	3.13	2.71	2.19	1.71	6 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	8	1.52	1.73	2.21	2.72	3.15	3.42	3.53	3.47	3.24	2.89	2.50	2.17	2.04	2.17	2.50	2.89	3.24	3.47	3.53	3.42	3.15	2.72	2.21	1.73	8 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	9	1.53	1.74	2.22	2.73	3.16	3.43	3.55	3.51	3.30	2.98	2.63	2.34	2.23	2.34	2.63	2.98	3.30	3.51	3.55	3.43	3.16	2.73	2.22	1.74	9 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1																										

ZERO CROSSING PERIODS																																	
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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			
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	0	10.00	10.00	10.00	10.00	10.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts	
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	2	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	4	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4 kts
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	6	8.00	8.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	11.00	11.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	8.00	6 kts	
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	8	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	11.00	12.00	12.00	12.00	11.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	8.00	8.00	8.00	8 kts	
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1	9	8.00	8.00	8.00	8.00	9.00	9.00	9.50	10.00	10.00	10.00	11.00	11.50	12.50	12.50	12.50	11.50	11.00	10.00	10.00	9.00	9.00	9.00	8.00	8.00	8.00	9 kts	
FLD_S55	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	13.1																												

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																														

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 Coring, Fwd  
 MII (Incidents per Minute)  
 Sea State 5



Preliminary Design, @IDR5

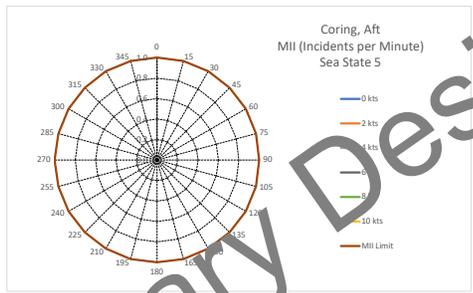
LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	0	2.78	2.92	3.30	3.75	4.15	4.40	4.47	4.34	4.04	3.60	3.12	2.71	2.54	2.71	3.12	3.60	4.04	4.34	4.47	4.40	4.15	3.75	3.30	2.92	2.78	
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	2	2.81	2.95	3.32	3.77	4.15	4.40	4.45	4.32	4.02	3.59	3.11	2.71	2.55	2.71	3.11	3.59	4.02	4.32	4.45	4.40	4.15	3.77	3.32	2.95	2.81	
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	4	2.83	2.98	3.34	3.78	4.16	4.39	4.44	4.31	4.00	3.58	3.11	2.72	2.57	2.72	3.11	3.58	4.00	4.31	4.44	4.39	4.16	3.78	3.34	2.98	2.83	
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	6	2.85	2.99	3.36	3.79	4.16	4.39	4.44	4.30	4.01	3.60	3.17	2.82	2.68	2.82	3.17	3.60	4.01	4.30	4.44	4.39	4.16	3.79	3.36	2.99	2.85	
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	8	2.87	3.02	3.38	3.81	4.17	4.40	4.45	4.34	4.07	3.70	3.31	3.00	2.89	3.00	3.31	3.70	4.07	4.34	4.45	4.40	4.17	3.81	3.38	3.02	2.87	
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	10	2.89	3.04	3.40	3.82	4.18	4.40	4.46	4.37	4.13	3.81	3.48	3.24	3.14	3.24	3.48	3.81	4.13	4.37	4.46	4.40	4.18	3.82	3.40	3.04	2.89	
ZERO CROSSING PERIODS																																
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	0	8.00	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	2	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	4	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	6	7.00	7.00	8.00	8.00	8.00	8.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	8.00	8.00	7.00	7.00	8.00
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	8	7.00	7.00	7.00	8.00	8.00	8.00	9.00	10.00	10.00	11.00	11.00	11.00	12.00	11.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	8.00	7.00	7.00	8.00	8.00
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1	10	7.00	7.00	7.00	7.00	8.00	8.00	9.00	10.00	11.00	12.00	12.00	13.00	13.00	12.00	12.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	7.00	7.00	7.00	8.00
FLD_S55	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	13.1																											

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	10	Mill Limit																												
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	10	Mill Limit																												
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																													

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 Coring, Aft  
 MII (Incidents per Minute)  
 Sea State 5  
 Coring, Aft



Preliminary Design, @IDR5

**LATERAL FORCES**

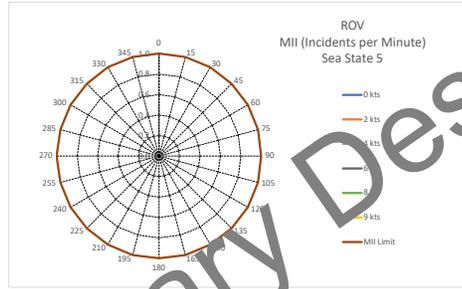
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	0	2.15	2.32	2.72	3.19	3.59	3.86	3.94	3.83	3.55	3.13	2.65	2.23	2.06	2.23	2.65	3.13	3.55	3.83	3.94	3.86	3.59	3.19	2.72	2.32	2.15	0 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	2	2.17	2.34	2.74	3.20	3.60	3.86	3.94	3.83	3.55	3.13	2.66	2.25	2.08	2.25	2.66	3.13	3.55	3.83	3.94	3.86	3.60	3.20	2.74	2.34	2.17	2 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	4	2.19	2.35	2.75	3.21	3.60	3.86	3.94	3.83	3.55	3.14	2.68	2.28	2.12	2.28	2.68	3.14	3.55	3.83	3.94	3.86	3.60	3.21	2.75	2.35	2.19	4 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	6	2.20	2.36	2.76	3.22	3.61	3.86	3.94	3.84	3.58	3.20	2.77	2.41	2.27	2.41	2.77	3.20	3.58	3.84	3.94	3.86	3.61	3.22	2.76	2.36	2.20	6 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	8	2.22	2.38	2.77	3.23	3.62	3.88	3.97	3.90	3.67	3.33	2.95	2.65	2.53	2.65	2.95	3.33	3.67	3.90	3.97	3.88	3.62	3.23	2.77	2.38	2.22	8 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	9	2.23	2.39	2.78	3.24	3.63	3.89	3.99	3.93	3.72	3.40	3.06	2.79	2.68	2.79	3.06	3.40	3.72	3.93	3.99	3.89	3.63	3.24	2.78	2.39	2.23	9 kts

**ZERO CROSSING PERIODS**

FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	0	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	0 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	2	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	2 kts
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	4	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	4 kts	
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	6	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	9.00	9.00	8.00	8.00	8.00	8.00	6 kts	
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	8	7.00	7.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	11.00	11.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	9.00	9.00	8.00	8.00	8.00	8.00	7.00	8 kts	
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1	9	7.00	7.00	8.00	8.00	8.00	9.00	9.50	10.00	10.00	10.00	11.50	11.50	12.50	12.50	11.50	11.50	10.00	10.00	9.00	9.00	8.00	8.00	8.00	8.00	7.00	9 kts	
FLD_S55	LATERAL	ACCELERATION	ROV	SHORTCRESTED	13.1																												

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																										
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	8	9	Mill Limit																										
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000																											



Preliminary Design, @IDR5

**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	0	2.32	2.53	3.02	3.55	3.96	4.18	4.18	3.96	3.54	2.98	2.35	1.80	1.56	1.80	2.35	2.98	3.54	3.96	4.18	4.18	3.96	3.55	3.02	2.53	0 kts
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	2	2.38	2.59	3.08	3.60	4.01	4.21	4.20	3.96	3.53	2.96	2.32	1.76	1.51	1.76	2.32	2.96	3.53	3.96	4.20	4.21	4.01	3.60	3.08	2.59	2 kts
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	4	2.43	2.64	3.12	3.64	4.04	4.24	4.21	3.97	3.53	2.94	2.30	1.74	1.49	1.74	2.30	2.94	3.53	3.97	4.21	4.24	4.04	3.64	3.12	2.64	4 kts
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	6	2.47	2.68	3.16	3.68	4.07	4.26	4.23	3.99	3.55	2.99	2.40	1.90	1.68	1.90	2.40	2.99	3.55	3.99	4.23	4.26	4.07	3.68	3.16	2.68	6 kts
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	8	2.52	2.72	3.20	3.72	4.11	4.30	4.28	4.05	3.65	3.14	2.62	2.21	2.05	2.21	2.62	3.14	3.65	4.05	4.28	4.30	4.11	3.72	3.20	2.72	8 kts
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	9	2.54	2.75	3.22	3.74	4.13	4.32	4.30	4.09	3.70	3.22	2.74	2.37	2.23	2.37	2.74	3.22	3.70	4.09	4.30	4.32	4.13	3.74	3.22	2.75	9 kts

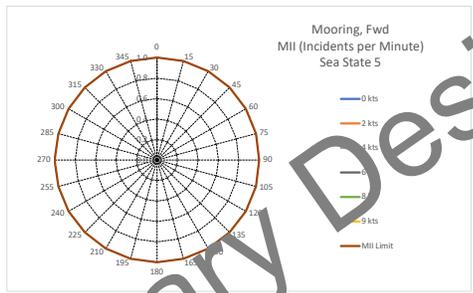
**ZERO CROSSING PERIODS**

FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	0	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	0 kts	
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	2	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	11.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	2 kts
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	4	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	9.00	11.00	9.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	4 kts	
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	6	7.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	6 kts	
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	8	7.00	7.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	10.00	10.00	10.00	10.00	9.00	9.00	8.00	8.00	8.00	8.00	7.00	8 kts	
FLD_S55	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	13.1	9	7.00	7.00	7.50	8.00	8.00	8.50	9.50	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	9.00	8.50	8.00	8.00	7.50	7.00	9 kts	

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts	
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts	
Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 Mooring, Fwd  
 MII (Incidents per Minute)  
 Sea State 5



Preliminary Design, @IDR5

**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	0	2.67	2.82	3.19	3.65	4.04	4.30	4.37	4.24	3.95	3.52	3.04	2.63	2.46	2.63	3.04	3.52	3.95	4.24	4.37	4.30	4.04	3.65	3.19	2.82	0 kts
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	2	2.69	2.84	3.22	3.66	4.05	4.30	4.36	4.23	3.92	3.50	3.03	2.63	2.47	2.63	3.03	3.50	3.92	4.23	4.36	4.30	4.05	3.66	3.22	2.84	2 kts
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	4	2.71	2.86	3.23	3.67	4.05	4.29	4.35	4.22	3.92	3.50	3.03	2.65	2.49	2.65	3.03	3.50	3.92	4.22	4.35	4.29	4.05	3.67	3.23	2.86	4 kts
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	6	2.73	2.88	3.25	3.68	4.06	4.29	4.35	4.22	3.93	3.53	3.10	2.75	2.61	2.75	3.10	3.53	3.93	4.22	4.35	4.29	4.06	3.68	3.25	2.88	6 kts
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	8	2.75	2.90	3.27	3.70	4.07	4.30	4.36	4.26	3.99	3.63	3.24	2.94	2.82	2.94	3.24	3.63	3.99	4.26	4.36	4.30	4.07	3.70	3.27	2.90	8 kts
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	9	2.76	2.91	3.28	3.71	4.08	4.30	4.37	4.28	4.03	3.69	3.33	3.06	2.96	3.06	3.33	3.69	4.03	4.28	4.37	4.30	4.08	3.71	3.28	2.91	9 kts

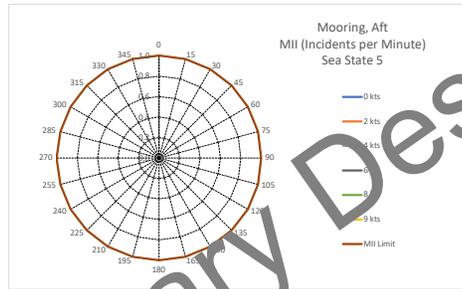
**ZERO CROSSING PERIODS**

FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	0	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	0 kts	
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	2	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	8.00	8.00	8.00	8.00	8.00	8.00	2 kts
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	4	8.00	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	8.00	8.00	8.00	8.00	8.00	4 kts	
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	6	7.00	7.00	8.00	8.00	8.00	8.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	9.00	8.00	8.00	8.00	8.00	7.00	6 kts		
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	8	7.00	7.00	7.00	8.00	8.00	8.00	9.00	10.00	10.00	11.00	11.00	11.00	12.00	11.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	8.00	8.00	7.00	7.00	8 kts		
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1	9	7.00	7.00	7.00	8.00	8.00	8.00	9.00	10.00	10.50	11.50	11.50	12.00	12.50	11.00	11.50	11.50	10.50	10.00	9.00	8.00	8.00	8.00	8.00	7.00	7.00	9 kts		
FLD_S55	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	13.1																													

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts
Mill Limit		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8 kts
	9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9 kts

Chart Title  
 MII (Incidents per Minute)  
 Sea State 5  
 Mooring, Aft  
 MII (Incidents per Minute)  
 Mooring, Aft  
 Sea State 5



Preliminary Design, @IDR5

Motion Induced Interruption Analysis

Table of Constants

g = 9.81 m/s²

User Input Cell Ranges

VERTICAL VELOCITY (m/sec)

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and data columns 0-345. Rows include FLD\_S55 VERTICAL VELOCITY Transom, A-Frame SHORTCRESTED 13.1.

VERTICAL ACCELERATION

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and data columns 0-345. Rows include FLD\_S55 VERTICAL ACCELERATION Transom, A-Frame SHORTCRESTED 13.1.

Table with columns: We and data columns 0-345. Rows include We 0, We 2, We 4, We 6, We 8, We 9.

Table with columns: Mu(MSI) and data columns 0-345. Rows include Mu(MSI) 0, Mu(MSI) 2, Mu(MSI) 4, Mu(MSI) 6, Mu(MSI) 8, Mu(MSI) 9.

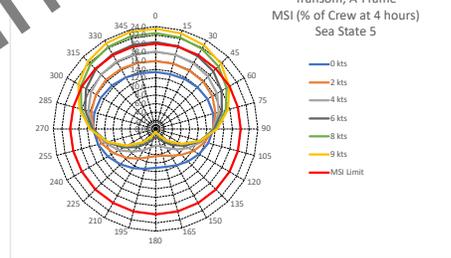
Table with columns: Abs(s3dbldot) and data columns 0-345. Rows include Abs(s3dbldot) 0, Abs(s3dbldot) 2, Abs(s3dbldot) 4, Abs(s3dbldot) 6, Abs(s3dbldot) 8, Abs(s3dbldot) 9.

Table with columns: x for ERF eq and data columns 0-345. Rows include x for ERF eq 0, x for ERF eq 2, x for ERF eq 4, x for ERF eq 6, x for ERF eq 8, x for ERF eq 9.

Table with columns: FLD\_S55 MSI, Transom, A-Frame SHORTCRESTED 13.1, and data columns 0-345. Rows include FLD\_S55 MSI 0, FLD\_S55 MSI 2, FLD\_S55 MSI 4, FLD\_S55 MSI 6, FLD\_S55 MSI 8, FLD\_S55 MSI 9.

Chart Title

MSI (% of Crew at 4 hours) Sea State 5 Transom, A-Frame MSI (% of Crew at 4 hours) Sea State 5



VERTICAL VELOCITY (m/sec)

Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: FLD\_S55, Motion Direction: VERTICAL, Motion Type: VELOCITY, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show velocity values for different wave heights and headings.

VERTICAL ACCELERATION

Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: FLD\_S55, Motion Direction: VERTICAL, Motion Type: ACCELERATION, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show acceleration values.

Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: We, Motion Direction: VERTICAL, Motion Type: VELOCITY, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show velocity values for 'We'.

Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: Mu(MSI), Motion Direction: VERTICAL, Motion Type: VELOCITY, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show velocity values for 'Mu(MSI)'.

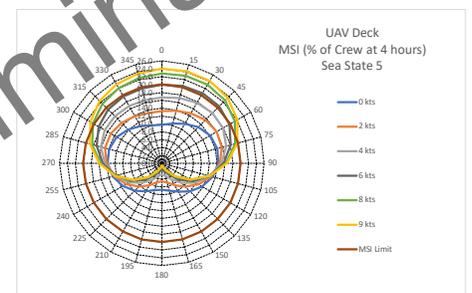
Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: Abs(s3db|d0t), Motion Direction: VERTICAL, Motion Type: VELOCITY, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show velocity values for absolute values.

Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: x for ERF eq, Motion Direction: VERTICAL, Motion Type: VELOCITY, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show velocity values for ERF equation.

Table with 27 columns (Speed/Heading 0-345) and 10 rows (FileNames: FLD\_S55, Motion Direction: VERTICAL, Motion Type: VELOCITY, Wave Type: SHORTCRESTED, Wave Height: 13.1). Rows 0-9 show velocity values for FLD\_S55.

Chart Title: MSI (% of Crew at 4 hours)

Legend: Sea State 5, UAV Deck, MSI (% of Crew at 4 hours), UAV Deck, MSI (% of Crew at 4 hours), Sea State 5.



Preliminary DESIGN











VERTICAL VELOCITY (m/sec)

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and 24 columns of numerical data (0-240). Rows include FLD\_S55 VERTICAL VELOCITY for various wave heights (0, 2, 4, 6, 8, 9 m).

VERTICAL ACCELERATION

Table with columns: FLD\_S55, VERTICAL, ACCELERATION, ROV, SHORTCRESTED, 13.1, and 24 columns of numerical data (0-240). Rows include FLD\_S55 VERTICAL ACCELERATION for various wave heights (0, 2, 4, 6, 8, 9 m).

Table with columns: We, 0-9, and 24 columns of numerical data (0-240). Rows include We 0-9 for various wave heights (0, 2, 4, 6, 8, 9 m).

Table with columns: Mu(MSI), 0-9, and 24 columns of numerical data (0-240). Rows include Mu(MSI) 0-9 for various wave heights (0, 2, 4, 6, 8, 9 m).

Table with columns: Abs(s3dbldot), 0-9, and 24 columns of numerical data (0-240). Rows include Abs(s3dbldot) 0-9 for various wave heights (0, 2, 4, 6, 8, 9 m).

Table with columns: x for ERF eq, 0-9, and 24 columns of numerical data (0-240). Rows include x for ERF eq 0-9 for various wave heights (0, 2, 4, 6, 8, 9 m).

Table with columns: FLD\_S55, MSI, ROV, SHORTCRESTED, 13.1, and 24 columns of numerical data (0-240). Rows include FLD\_S55 MSI for various wave heights (0, 2, 4, 6, 8, 9 m).

MSI Limit table with 24 columns of numerical data (0-240).

Chart Title

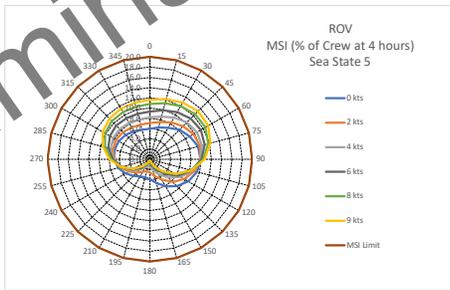
MSI (% of Crew at 4 hours)

Sea State 5

ROV

MSI (% of Crew at 4 hours)

Sea State 5



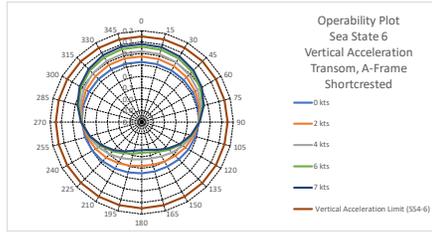




FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	0	0.1052	0.1048	0.1045	0.1041	0.1034	0.1020	0.1001	0.0975	0.0946	0.0919	0.0898	0.0886	0.0888	0.0905	0.0931	0.0962	0.0994	0.1023	0.1045	0.1059	0.1065	0.1065	0.1061	0.1057	0 kts
FLD_SS6	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	2	0.1149	0.1141	0.1129	0.1111	0.1083	0.1044	0.0996	0.0940	0.0882	0.0830	0.0789	0.0766	0.0764	0.0784	0.0822	0.0872	0.0929	0.0987	0.1040	0.1084	0.1116	0.1137	0.1148	0.1151	2 kts
FLD_SS6	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	4	0.1236	0.1226	0.1207	0.1177	0.1132	0.1071	0.0996	0.0912	0.0826	0.0748	0.0668	0.0651	0.0645	0.0669	0.0719	0.0789	0.0872	0.0958	0.1041	0.1112	0.1167	0.1205	0.1227	0.1237	4 kts
FLD_SS6	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	6	0.1322	0.1310	0.1285	0.1244	0.1184	0.1103	0.1004	0.0893	0.0780	0.0676	0.0594	0.0544	0.0532	0.0561	0.0625	0.0715	0.0823	0.0938	0.1048	0.1144	0.1220	0.1274	0.1306	0.1321	6 kts
FLD_SS6	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	7	0.1367	0.1354	0.1326	0.1280	0.1213	0.1122	0.1012	0.0889	0.0763	0.0647	0.0556	0.0500	0.0486	0.0517	0.0586	0.0686	0.0805	0.0933	0.1056	0.1163	0.1249	0.1310	0.1347	0.1365	7 kts
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot
	Sea State 6
	Vertical Acceleration
	Transom, A-Frame
	Shortcrested

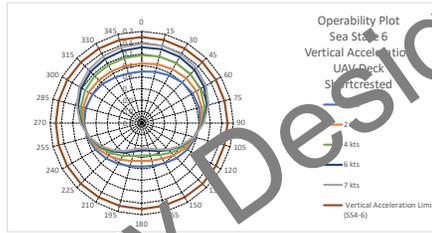
Operability Plot
Sea State 6
Vertical Acceleration
Transom, A-Frame
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_SS6	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	0	0.0896	0.0920	0.0959	0.1000	0.1028	0.1035	0.1018	0.0978	0.0923	0.0864	0.0811	0.0775	0.764	0.078	0.821	0.0876	0.0932	0.0978	0.1006	0.1011	0.1011	0.0994	0.0960	0.0922	0.0897	0 kts
FLD_SS6	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	2	0.1040	0.1059	0.1084	0.1103	0.1105	0.1082	0.1033	0.0962	0.0878	0.0795	0.0724	0.0678	0.664	0.0688	0.73	0.0812	0.0890	0.0962	0.1019	0.1053	0.1065	0.1059	0.1044	0.1035	2 kts	
FLD_SS6	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	4	0.1183	0.1198	0.1209	0.1208	0.1183	0.1132	0.1052	0.0951	0.0839	0.0730	0.0642	0.0584	0.571	0.059	0.652	0.0753	0.0854	0.0952	0.1036	0.1100	0.1140	0.1160	0.1167	0.1172	4 kts	
FLD_SS6	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	6	0.1320	0.1330	0.1329	0.1309	0.1261	0.1182	0.1074	0.0945	0.0806	0.0675	0.0568	0.0500	0.441	0.051	0.594	0.0714	0.0815	0.0917	0.1008	0.1084	0.1149	0.1216	0.1259	0.1286	0.1304	6 kts
FLD_SS6	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	7	0.1383	0.1392	0.1385	0.1356	0.1298	0.1207	0.1087	0.0945	0.0794	0.0652	0.0537	0.0464	0.041	0.041	0.0566	0.0682	0.0814	0.0948	0.1071	0.1174	0.1253	0.1307	0.1342	0.1366	7 kts	
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15			

Chart Title	Operability Plot
	Sea State 6
	Vertical Acceleration
	UAV Deck
	Shortcrested

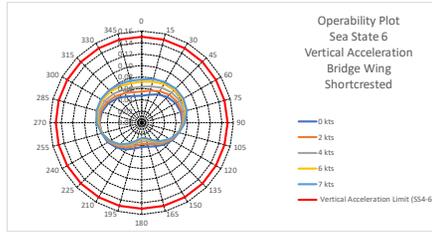
Operability Plot
Sea State 6
Vertical Acceleration
UAV Deck
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_SS6	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	0	0.0470	0.0525	0.0567	0.0632	0.0682	0.0708	0.0705	0.0673	0.0617	0.0547	0.0478	0.0432	0.0426	0.0467	0.0538	0.0614	0.0681	0.0723	0.0735	0.0717	0.0670	0.0603	0.0532	0.0480	0 kts
FLD_SS6	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	2	0.0718	0.0731	0.0733	0.0685	0.0722	0.0734	0.0715	0.0668	0.0598	0.0514	0.0435	0.0382	0.0376	0.0421	0.0499	0.0586	0.0663	0.0717	0.0743	0.0738	0.0705	0.0651	0.0592	0.0550	2 kts
FLD_SS6	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	4	0.0625	0.064	0.0702	0.0745	0.0768	0.0765	0.0731	0.0668	0.0583	0.0486	0.0396	0.0336	0.0328	0.0378	0.0464	0.0560	0.0649	0.0716	0.0755	0.0765	0.0746	0.0706	0.0660	0.0627	4 kts
FLD_SS6	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	6	0.0712	0.0739	0.0777	0.0808	0.0818	0.0799	0.0750	0.0671	0.0572	0.0464	0.0364	0.0297	0.0288	0.0341	0.0434	0.0540	0.0639	0.0719	0.0773	0.0797	0.0793	0.0768	0.0735	0.0711	6 kts
FLD_SS6	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	7	0.0757	0.0783	0.0816	0.0841	0.0844	0.0818	0.0760	0.0675	0.0569	0.0455	0.0350	0.0280	0.0271	0.0326	0.0422	0.0531	0.0636	0.0722	0.0784	0.0816	0.0819	0.0802	0.0775	0.0755	7 kts
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot
	Sea State 6
	Vertical Acceleration
	Bridge Wing
	Shortcrested

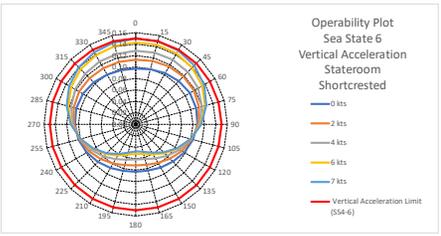
Operability Plot
Sea State 6
Vertical Acceleration
Bridge Wing
Shortcrested



Preliminary Design, @IDR5

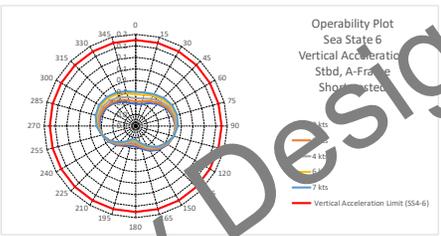
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	0	0.0973	0.0995	0.1030	0.1067	0.1092	0.1095	0.1076	0.1035	0.0981	0.0922	0.0872	0.0838	0.0826	0.0840	0.0878	0.0930	0.0994	0.1031	0.1062	0.1072	0.1059	0.1031	0.0991	0.0974	0 kts
FLD_SS6	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	2	0.1128	0.1144	0.1164	0.1178	0.1178	0.1145	0.1091	0.1017	0.0931	0.0847	0.0777	0.0732	0.0711	0.0737	0.0788	0.0858	0.0937	0.1013	0.1076	0.1118	0.1137	0.1138	0.1125	0.1123	2 kts
FLD_SS6	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	4	0.1281	0.1292	0.1298	0.1289	0.1258	0.1198	0.1111	0.1003	0.0887	0.0776	0.0687	0.0630	0.0612	0.0638	0.0702	0.0792	0.0896	0.1001	0.1094	0.1168	0.1218	0.1247	0.1261	0.1270	4 kts
FLD_SS6	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	6	0.1426	0.1433	0.1426	0.1397	0.1340	0.1251	0.1134	0.0996	0.0850	0.0715	0.0607	0.0537	0.0516	0.0549	0.0627	0.0736	0.0863	0.0995	0.1117	0.1220	0.1299	0.1353	0.1387	0.1410	6 kts
FLD_SS6	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	7	0.1493	0.1498	0.1485	0.1447	0.1379	0.1278	0.1147	0.0995	0.0837	0.0690	0.0573	0.0498	0.0476	0.0511	0.0595	0.0713	0.0851	0.0995	0.1130	0.1246	0.1338	0.1403	0.1447	0.1475	7 kts
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Vertical Acceleration	Vertical Acceleration
	Stateroom	Stateroom
	Shortcrested	Shortcrested



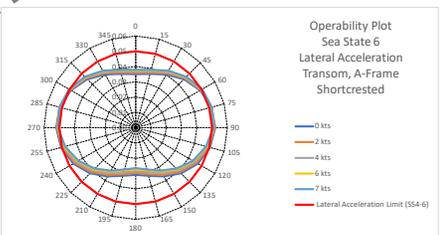
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	19.7	0	0.0380	0.0396	0.0459	0.0541	0.0616	0.0671	0.0697	0.0689	0.0650	0.0584	0.0500	0.0418	0.0362	0.0375	0.0402	0.0473	0.0545	0.0602	0.0633	0.0634	0.0606	0.0552	0.0484	0.0418	0 kts
FLD_SS6	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	19.7	2	0.0428	0.0441	0.0498	0.0573	0.0640	0.0686	0.0701	0.0684	0.0635	0.0560	0.0469	0.0381	0.0322	0.0331	0.0368	0.0449	0.0531	0.0599	0.0641	0.0653	0.0634	0.0589	0.0527	0.0465	2 kts
FLD_SS6	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	19.7	4	0.0485	0.0494	0.0545	0.0612	0.0670	0.0706	0.0711	0.0683	0.0624	0.0539	0.0441	0.0347	0.0285	0.0288	0.034	0.0429	0.0522	0.0600	0.0654	0.0677	0.0669	0.0633	0.0578	0.0520	4 kts
FLD_SS6	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	19.7	6	0.0554	0.0562	0.0605	0.0662	0.0709	0.0733	0.0728	0.0686	0.0618	0.0522	0.0417	0.0319	0.0254	0.0252	0.031	0.0414	0.0517	0.0606	0.0671	0.0707	0.0710	0.0684	0.0638	0.0586	6 kts
FLD_SS6	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	19.7	7	0.0595	0.0601	0.0640	0.0691	0.0732	0.0749	0.0736	0.0690	0.0624	0.0515	0.0407	0.0307	0.0243	0.024	0.0308	0.0409	0.0516	0.0611	0.0682	0.0723	0.0733	0.0713	0.0672	0.0625	7 kts
Limit				Vertical Acceleration Limit (SS4-6)			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Vertical Acceleration	Vertical Acceleration
	Sbtd, A-Frame	Sbtd, A-Frame
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_SS6	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	0	0.0349	0.0363	0.0405	0.0448	0.0489	0.0514	0.0520	0.0504	0.0470	0.0422	0.0369	0.0326	0.0308	0.0326	0.0369	0.0422	0.0470	0.0504	0.0520	0.0514	0.0489	0.0448	0.0401	0.0363	0 kts
FLD_SS6	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	2	0.0359	0.0373	0.0415	0.0455	0.0493	0.0515	0.0517	0.0497	0.0460	0.0410	0.0357	0.0314	0.0297	0.0314	0.0357	0.0410	0.0460	0.0497	0.0517	0.0515	0.0493	0.0455	0.0410	0.0373	2 kts
FLD_SS6	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	4	0.0375	0.0387	0.0428	0.0465	0.0497	0.0516	0.0513	0.0490	0.0449	0.0398	0.0345	0.0302	0.0285	0.0302	0.0345	0.0398	0.0449	0.0490	0.0513	0.0516	0.0497	0.0462	0.0418	0.0382	4 kts
FLD_SS6	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	6	0.0375	0.0387	0.0428	0.0465	0.0497	0.0516	0.0513	0.0490	0.0449	0.0398	0.0345	0.0302	0.0285	0.0302	0.0345	0.0398	0.0449	0.0490	0.0513	0.0516	0.0497	0.0462	0.0418	0.0382	4 kts
FLD_SS6	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	7	0.0378	0.0393	0.0429	0.0471	0.0502	0.0516	0.0508	0.0478	0.0433	0.0378	0.0324	0.0282	0.0266	0.0282	0.0324	0.0378	0.0433	0.0478	0.0508	0.0516	0.0502	0.0471	0.0429	0.0393	7 kts
Limit				Lateral Acceleration Limit (SS4-6)			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		

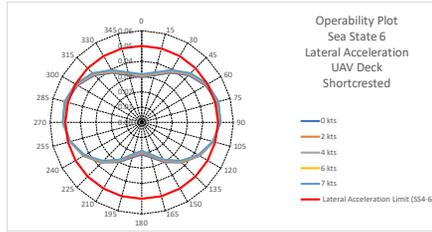
Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Lateral Acceleration	Lateral Acceleration
	Transom, A-Frame	Transom, A-Frame
	Shortcrested	Shortcrested



Preliminary Design, CIDR5

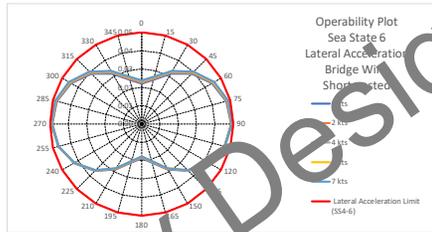
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345			
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	0	0.0395	0.0319	0.0375	0.0436	0.0485	0.0522	0.0512	0.0487	0.0439	0.0372	0.0300	0.0237	0.0210	0.0237	0.0300	0.0373	0.0439	0.0487	0.0512	0.0512	0.0485	0.0436	0.0375	0.0319	0.0250	0 kts	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	2	0.0301	0.0325	0.0381	0.0442	0.0490	0.0515	0.0514	0.0486	0.0438	0.0368	0.0294	0.0229	0.0202	0.0229	0.0294	0.0368	0.0438	0.0486	0.0486	0.0514	0.0515	0.0490	0.0442	0.0381	0.0325	0.0250	2 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	4	0.0306	0.0331	0.0387	0.0447	0.0494	0.0518	0.0513	0.0485	0.0433	0.0364	0.0288	0.0222	0.0194	0.0222	0.0288	0.0364	0.0433	0.0485	0.0513	0.0518	0.0494	0.0447	0.0387	0.0331	0.0250	4 kts	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	6	0.0312	0.0336	0.0392	0.0452	0.0498	0.0520	0.0516	0.0484	0.0430	0.0360	0.0283	0.0217	0.0188	0.0217	0.0283	0.0360	0.0430	0.0484	0.0516	0.0520	0.0498	0.0452	0.0392	0.0336	0.0250	6 kts	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	7	0.0314	0.0339	0.0395	0.0454	0.0500	0.0521	0.0516	0.0484	0.0429	0.0358	0.0281	0.0215	0.0187	0.0215	0.0281	0.0358	0.0429	0.0484	0.0516	0.0521	0.0500	0.0454	0.0395	0.0339	0.0250	7 kts	
Limit							Lateral Acceleration Limit (SS4-6)										0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Lateral Acceleration	Lateral Acceleration
	UAV Deck	UAV Deck
	Shortcrested	Shortcrested



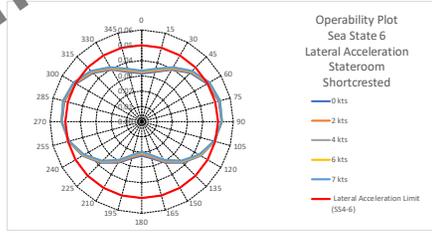
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	0	0.0220	0.0250	0.0317	0.0387	0.0444	0.0479	0.0487	0.0469	0.0425	0.0361	0.0286	0.0218	0.0187	0.0218	0.0286	0.0361	0.0425	0.0469	0.0487	0.0479	0.0444	0.0387	0.0317	0.0250	0 kts	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	2	0.0225	0.0255	0.0322	0.0392	0.0448	0.0482	0.0489	0.0469	0.0424	0.0359	0.0284	0.0214	0.183	0.0214	0.0284	0.0359	0.0424	0.0469	0.0489	0.0482	0.0448	0.0392	0.0322	0.0255	2 kts	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	4	0.0231	0.0261	0.0327	0.0397	0.0452	0.0485	0.0491	0.0470	0.0424	0.0358	0.0281	0.0212	0.180	0.0212	0.0281	0.0358	0.0424	0.0470	0.0491	0.0485	0.0452	0.0397	0.0327	0.0261	4 kts	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	6	0.0236	0.0266	0.0332	0.0401	0.0456	0.0488	0.0493	0.0470	0.0423	0.0356	0.0279	0.0209	0.178	0.0209	0.0279	0.0356	0.0423	0.0470	0.0493	0.0488	0.0456	0.0401	0.0332	0.0266	6 kts	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	7	0.0238	0.0268	0.0334	0.0403	0.0457	0.0489	0.0493	0.0470	0.0423	0.0356	0.0279	0.0209	0.178	0.0209	0.0279	0.0356	0.0423	0.0470	0.0493	0.0489	0.0457	0.0403	0.0334	0.0268	7 kts	
Limit							Lateral Acceleration Limit (SS4-6)										0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Lateral Acceleration	Lateral Acceleration
	Bridge Wing	Bridge Wing
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	0	0.0314	0.0344	0.0403	0.0451	0.0498	0.0523	0.0522	0.0496	0.0446	0.0381	0.0310	0.0248	0.0223	0.0248	0.0310	0.0381	0.0446	0.0496	0.0522	0.0523	0.0498	0.0451	0.0391	0.0337	0 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	2	0.0321	0.0344	0.0395	0.0457	0.0503	0.0526	0.0523	0.0494	0.0443	0.0375	0.0302	0.0240	0.0214	0.0240	0.0302	0.0375	0.0443	0.0494	0.0523	0.0526	0.0503	0.0457	0.0398	0.0344	2 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	4	0.0326	0.0349	0.0403	0.0462	0.0507	0.0529	0.0524	0.0493	0.0440	0.0370	0.0295	0.0232	0.0205	0.0232	0.0295	0.0370	0.0440	0.0493	0.0524	0.0529	0.0507	0.0462	0.0403	0.0349	4 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	6	0.0331	0.0354	0.0407	0.0467	0.0511	0.0531	0.0525	0.0492	0.0438	0.0365	0.0289	0.0225	0.0199	0.0225	0.0289	0.0365	0.0438	0.0492	0.0525	0.0531	0.0511	0.0467	0.0409	0.0355	6 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	7	0.0334	0.0357	0.0411	0.0469	0.0512	0.0532	0.0525	0.0491	0.0435	0.0363	0.0287	0.0223	0.0197	0.0223	0.0287	0.0363	0.0435	0.0491	0.0525	0.0532	0.0512	0.0469	0.0411	0.0357	7 kts
Limit							Lateral Acceleration Limit (SS4-6)										0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05

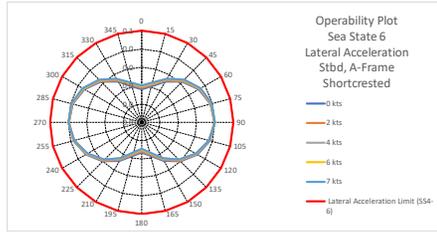
Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Lateral Acceleration	Lateral Acceleration
	Stateroom	Stateroom
	Shortcrested	Shortcrested



Preliminary Design, CIDR5

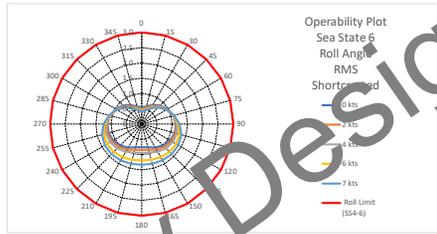
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	0	0.0181	0.0204	0.0257	0.0313	0.0369	0.0398	0.0398	0.0384	0.0351	0.0301	0.0242	0.0188	0.0155	0.0136	0.0242	0.0301	0.0351	0.0384	0.0398	0.0398	0.0369	0.0313	0.0257	0.0204	0.0181
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	2	0.0187	0.0210	0.0262	0.0318	0.0363	0.0391	0.0398	0.0383	0.0348	0.0296	0.0237	0.0183	0.0159	0.0138	0.0237	0.0296	0.0348	0.0383	0.0391	0.0398	0.0363	0.0318	0.0262	0.0210	0.0187
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	4	0.0193	0.0216	0.0267	0.0322	0.0367	0.0393	0.0398	0.0382	0.0345	0.0292	0.0232	0.0177	0.0153	0.0132	0.0232	0.0292	0.0345	0.0382	0.0393	0.0398	0.0367	0.0322	0.0267	0.0216	0.0193
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	6	0.0199	0.0222	0.0273	0.0327	0.0370	0.0395	0.0399	0.0380	0.0342	0.0288	0.0227	0.0172	0.0147	0.0126	0.0227	0.0288	0.0342	0.0380	0.0395	0.0399	0.0370	0.0327	0.0273	0.0222	0.0199
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	7	0.0202	0.0224	0.0275	0.0329	0.0372	0.0396	0.0399	0.0380	0.0341	0.0286	0.0225	0.0169	0.0144	0.0123	0.0225	0.0286	0.0341	0.0380	0.0399	0.0396	0.0372	0.0329	0.0275	0.0224	0.0202
Limit							0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Lateral Acceleration	Lateral Acceleration
	Stbd, A-Frame	Stbd, A-Frame
	Shortcrested	Shortcrested



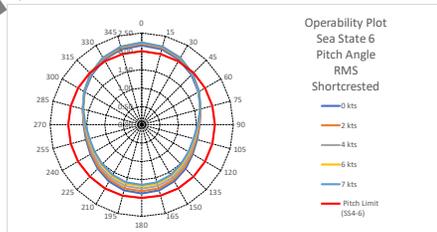
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	ROLL	ANGLE	RMS	SHORTCRESTED	19.7	0	0.5420	0.5940	0.7170	0.8560	0.9810	1.0730	1.1210	1.1210	1.0730	0.9860	0.8820	0.7920	0.7250	0.680	0.655	0.620	0.580	0.540	0.500	0.460	0.420	0.380	0.340	0.300	0.260
FLD_SS6	ROLL	ANGLE	RMS	SHORTCRESTED	19.7	2	0.4960	0.5510	0.6780	0.8250	0.9610	1.0700	1.1370	1.1550	1.1240	1.0510	0.9560	0.8730	0.800	0.745	0.700	0.660	0.620	0.580	0.540	0.500	0.460	0.420	0.380	0.340	0.300
FLD_SS6	ROLL	ANGLE	RMS	SHORTCRESTED	19.7	4	0.4580	0.5140	0.6440	0.7990	0.9480	1.0750	1.1630	1.2030	1.1890	1.1300	1.0460	0.9710	0.900	0.845	0.800	0.760	0.720	0.680	0.640	0.600	0.560	0.520	0.480	0.440	0.400
FLD_SS6	ROLL	ANGLE	RMS	SHORTCRESTED	19.7	6	0.4250	0.4840	0.6180	0.7800	0.9420	1.0890	1.2060	1.2800	1.3060	1.2900	1.2500	1.2100	1.180	1.150	1.120	1.090	1.060	1.030	1.000	0.970	0.940	0.910	0.880	0.850	0.820
FLD_SS6	ROLL	ANGLE	RMS	SHORTCRESTED	19.7	7	0.4080	0.4665	0.6040	0.7700	0.9405	1.1035	1.2450	1.3450	1.3925	1.3950	1.3725	1.3440	1.320	1.300	1.280	1.260	1.240	1.220	1.200	1.180	1.160	1.140	1.120	1.100	1.080
Limit							3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Roll Angle	Roll Angle
	RMS	RMS
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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			
FLD_SS6	PITCH	ANGLE	RMS	SHORTCRESTED	19.7	0	2.1570	1.280	2.046	1.9250	1.7880	1.6620	1.5810	1.5640	1.6100	1.6940	1.7840	1.8490	1.8720	1.8490	1.7840	1.6940	1.6100	1.5640	1.5810	1.6620	1.7880	1.9250	2.0460	2.1280	0 kts		
FLD_SS6	PITCH	ANGLE	RMS	SHORTCRESTED	19.7	2	2.2020	1.1740	2.020	1.9550	1.8040	1.6660	1.5710	1.5400	1.5740	1.6490	1.7300	1.7900	1.8110	1.7900	1.7300	1.6490	1.5740	1.5400	1.5710	1.6660	1.8040	1.9530	2.0820	2.1710	2 kts		
FLD_SS6	PITCH	ANGLE	RMS	SHORTCRESTED	19.7	4	2.2560	1.2280	1.9670	1.8110	1.6640	1.5570	1.5160	1.5350	1.5980	1.6700	1.7430	1.7240	1.7430	1.7240	1.7430	1.7240	1.7430	1.7240	1.7430	1.7240	1.7430	1.7240	1.7430	1.7240	1.7430	1.7240	
FLD_SS6	PITCH	ANGLE	RMS	SHORTCRESTED	19.7	6	2.2360	1.2440	1.9700	1.8100	1.6560	1.5400	1.4850	1.4940	1.5460	1.6080	1.6560	1.6790	1.6560	1.6080	1.5460	1.6080	1.6560	1.6790	1.6560	1.6080	1.5460	1.6080	1.6560	1.8100	1.9700	2.1090	2.2030
FLD_SS6	PITCH	ANGLE	RMS	SHORTCRESTED	19.7	7	2.2340	1.2005	1.9675	1.8065	1.6505	1.5310	1.4710	1.4740	1.5205	1.5785	1.6230	1.6390	1.6230	1.5785	1.5205	1.6230	1.6390	1.6230	1.5785	1.5205	1.6230	1.6390	1.8065	1.9675	2.1065	2.2005	7 kts
Limit							2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			

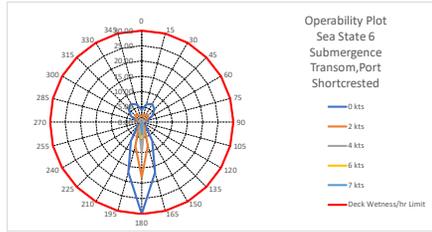
Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Pitch Angle	Pitch Angle
	RMS	RMS
	Shortcrested	Shortcrested



Preliminary Design, OLDR5

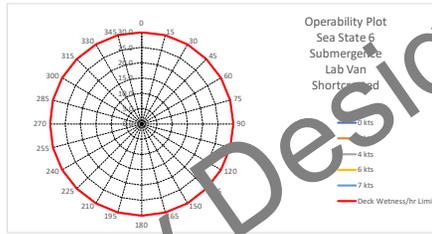
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	SUBMERGENCE		Transom_Port	SHORTCRESTED	19.7	0	4	6	7	6	4	2	1	0	0	2	7	17	30	17	7	2	0	0	1	2	4	6	7	6	0 kts
FLD_SS6	SUBMERGENCE		0 Transom_Port	SHORTCRESTED	19.7	2	2	2	3	3	2	1	0	0	0	2	8	18	8	2	0	0	0	0	0	1	2	3	3	2	2 kts
FLD_SS6	SUBMERGENCE		0 Transom_Port	SHORTCRESTED	19.7	4	1	1	1	1	1	0	0	0	0	0	3	10	3	0	0	0	0	0	0	1	1	1	1	1	4 kts
FLD_SS6	SUBMERGENCE		0 Transom_Port	SHORTCRESTED	19.7	6	0	0	0	0	0	0	0	0	0	0	1	5	1	0	0	0	0	0	0	0	0	0	0	0	6 kts
FLD_SS6	SUBMERGENCE		0 Transom_Port	SHORTCRESTED	19.7	7	0	0	0	0	0	0	0	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	7 kts
Limit						Deck Wetness/hr Limit	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Submergence	Submergence
	Transom_Port	Transom_Port
	Shortcrested	Shortcrested



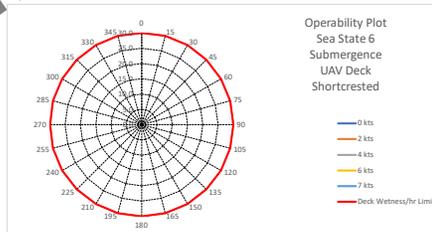
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS6	SUBMERGENCE		Lab_Van	SHORTCRESTED	19.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 kts
FLD_SS6	SUBMERGENCE		0 Lab_Van	SHORTCRESTED	19.7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FLD_SS6	SUBMERGENCE		0 Lab_Van	SHORTCRESTED	19.7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FLD_SS6	SUBMERGENCE		0 Lab_Van	SHORTCRESTED	19.7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FLD_SS6	SUBMERGENCE		0 Lab_Van	SHORTCRESTED	19.7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7 kts
Limit						Deck Wetness/hr Limit	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Submergence	Submergence
	Lab_Van	Lab_Van
	Shortcrested	Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_SS6	SUBMERGENCE		UAV_Deck	SHORTCRESTED	19.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 kts
FLD_SS6	SUBMERGENCE		0 UAV_Deck	SHORTCRESTED	19.7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FLD_SS6	SUBMERGENCE		0 UAV_Deck	SHORTCRESTED	19.7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FLD_SS6	SUBMERGENCE		0 UAV_Deck	SHORTCRESTED	19.7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FLD_SS6	SUBMERGENCE		0 UAV_Deck	SHORTCRESTED	19.7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7 kts
Limit						Deck Wetness/hr Limit	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	

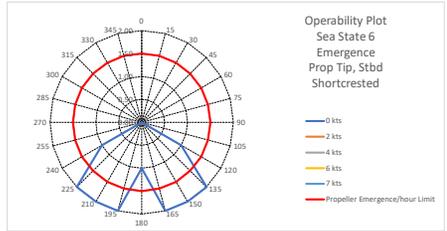
Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Submergence	Submergence
	UAV_Deck	UAV_Deck
	Shortcrested	Shortcrested



Preliminary Design, @IDR5

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_SS6	EMERGENCE	0	Prop Tip, Stbd	SHORTCRESTED	19.7	0	0	0	0	0	0	0	0	0	1	2	2	2	1	2	2	2	1	0	0	0	0	0	0	0	0 kts
FLD_SS6	EMERGENCE	0	Prop Tip, Stbd	SHORTCRESTED	19.7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 kts
FLD_SS6	EMERGENCE	0	Prop Tip, Stbd	SHORTCRESTED	19.7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 kts
FLD_SS6	EMERGENCE	0	Prop Tip, Stbd	SHORTCRESTED	19.7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6 kts
FLD_SS6	EMERGENCE	0	Prop Tip, Stbd	SHORTCRESTED	19.7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7 kts
Limit				Propeller Emergence/hour Limit			1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	

Chart Title	Operability Plot	Operability Plot
	Sea State 6	Sea State 6
	Emergence	Emergence
	Prop Tip, Stbd	Prop Tip, Stbd
	Shortcrested	Shortcrested



Preliminary Design, @IDR5

Motion Induced Interruption Analysis

- User Input Cell Ranges
- User Input Cell Ranges
- Calculation Cell Ranges

Table of Constants

g =	32.17	ft/s <sup>2</sup>
l =	0.75	ft
h =	2.98	ft
μ =	0.7	
T <sub>f</sub> =	1	Min.

LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	0	4.14	4.36	4.91	5.57	6.16	6.54	6.66	6.49	6.06	5.44	4.75	4.16	3.93	4.16	4.75	5.44	6.06	6.49	6.66	6.54	6.16	5.57	4.91	4.36	0 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	2	4.18	4.40	4.94	5.59	6.16	6.54	6.64	6.47	6.04	5.42	4.74	4.17	3.93	4.17	4.74	5.42	6.04	6.47	6.64	6.54	6.16	5.59	4.94	4.40	2 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	4	4.21	4.42	4.96	5.60	6.17	6.53	6.63	6.45	6.02	5.41	4.74	4.18	3.96	4.18	4.74	5.41	6.02	6.45	6.63	6.53	6.17	5.60	4.96	4.42	4 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	6	4.24	4.45	4.98	5.62	6.17	6.53	6.63	6.45	6.04	5.45	4.81	4.29	4.09	4.29	4.81	5.45	6.04	6.45	6.63	6.53	6.17	5.62	4.98	4.45	6 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	7	4.25	4.47	5.00	5.63	6.18	6.54	6.64	6.47	6.07	5.50	4.89	4.40	4.20	4.40	4.89	5.50	6.07	6.47	6.64	6.54	6.18	5.63	5.00	4.47	7 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7																										

ZERO CROSSING PERIODS

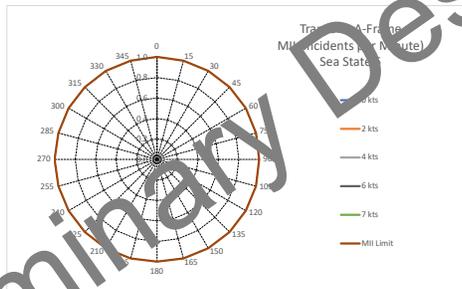
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345			
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	0	9.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	0 kts	
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	2	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	8.00	2 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	4	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	9.00	8.00	8.00	4 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	6	7.50	7.50	8.00	8.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	9.00	8.00	8.00	6 kts	
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7	7	7.50	7.50	8.00	8.00	9.00	10.00	10.00	10.50	11.00	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	10.50	10.00	10.00	9.00	8.00	8.00	7.50	7 kts
FLD_S56	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	19.7																											

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345							
Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MI Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345						
Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MI Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Chart Title

MI (Incidents per Minute)	Transom, A-Frame
Sea State 6	Transom, A-Frame
MI (Incidents per Minute)	Sea State 6



Preliminary Design

LATERAL FORCES

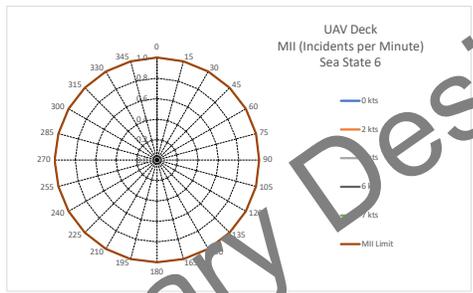
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	0	3.08	3.43	4.22	5.07	5.74	6.13	6.18	5.90	5.31	4.48	3.53	2.68	2.30	2.68	3.53	4.48	5.31	5.90	6.18	6.13	5.74	5.07	4.22	3.43	0 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	2	3.15	3.50	4.28	5.12	5.78	6.16	6.21	5.92	5.33	4.50	3.54	2.68	2.30	2.68	3.54	4.50	5.33	5.92	6.21	6.16	5.78	5.12	4.28	3.50	2 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	4	3.20	3.55	4.33	5.16	5.82	6.20	6.25	5.96	5.36	4.53	3.58	2.73	2.36	2.73	3.58	4.53	5.36	5.96	6.25	6.20	5.82	5.16	4.33	3.55	4 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	6	3.25	3.59	4.36	5.19	5.85	6.24	6.29	6.01	5.44	4.64	3.75	2.98	2.65	2.98	3.75	4.64	5.44	6.01	6.29	6.24	5.85	5.19	4.36	3.59	6 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	7	3.28	3.62	4.39	5.22	5.87	6.26	6.32	6.07	5.52	4.75	3.91	3.19	2.89	3.19	3.91	4.75	5.52	6.07	6.32	6.26	5.87	5.22	4.39	3.62	7 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7																										
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7																										

ZERO CROSSING PERIODS																																	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	0	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	4	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4 kts
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	6	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	13.00	13.00	13.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	6 kts	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7	7	9.00	9.00	9.50	9.50	10.00	10.00	10.00	10.00	11.00	11.00	12.50	13.00	13.00	13.00	12.50	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.50	9.50	9.00	7 kts	
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7																												
FLD_S56	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	19.7																												

Incidents of Tipping MII Through the Given Duration of the Task																																	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts	
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts	
Mill Limit							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Incidents of Sliding MSI Through the Given Duration of the Task																																
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 UAV Deck  
 MII (Incidents per Minute)  
 Sea State 6  
 UAV Deck



Preliminary Design, @IDR25

**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	0	2.71	3.11	3.99	4.92	5.68	6.15	6.29	6.08	5.55	4.76	3.84	3.00	2.64	3.00	3.84	4.76	5.55	6.08	6.29	6.15	5.68	4.92	3.99	3.11	2.71	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	2	2.74	3.14	4.01	4.94	5.69	6.17	6.32	6.12	5.60	4.82	3.91	3.09	2.73	3.09	3.91	4.82	5.60	6.12	6.32	6.17	5.69	4.94	4.01	3.14	2.74	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	4	2.75	3.15	4.02	4.95	5.71	6.20	6.36	6.18	5.67	4.91	4.01	3.21	2.86	3.21	4.01	4.91	5.67	6.18	6.36	6.20	5.71	4.95	4.02	3.15	2.75	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	6	2.77	3.16	4.03	4.96	5.73	6.23	6.41	6.26	5.78	5.06	4.22	3.49	3.18	3.49	4.22	5.06	5.78	6.26	6.41	6.23	5.73	4.96	4.03	3.16	2.77	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	7	2.78	3.18	4.05	4.97	5.74	6.25	6.45	6.32	5.87	5.18	4.39	3.70	3.42	3.70	4.39	5.18	5.87	6.32	6.45	6.25	5.74	4.97	4.05	3.18	2.78	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7																											
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7																											

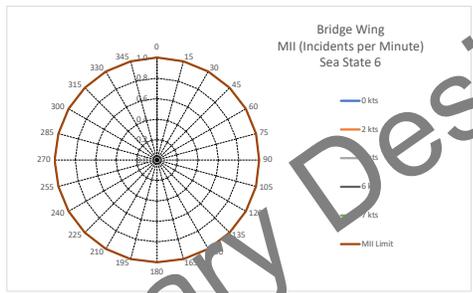
**ZERO CROSSING PERIODS**

FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	0	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts	
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	4	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4 kts
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	6	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	12.00	13.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	6 kts
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	7	9.50	9.50	9.50	10.00	10.00	10.00	10.00	11.00	11.00	11.50	12.50	12.50	13.00	12.50	12.50	11.50	11.00	10.00	10.00	10.00	10.00	10.00	9.50	9.50	7 kts		
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7																												
FLD_S56	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7																												

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts	
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts	
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 Bridge Wing



Preliminary Design, @IDR25

LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	0	3.21	3.55	4.32	5.15	5.80	6.17	6.21	5.91	5.31	4.48	3.53	2.69	2.32	2.69	3.53	4.48	5.31	5.91	6.21	6.17	5.80	5.15	4.32	3.55	0 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	2	3.30	3.63	4.39	5.20	5.84	6.20	6.23	5.93	5.32	4.48	3.53	2.67	2.29	2.67	3.53	4.48	5.32	5.93	6.23	6.20	5.84	5.20	4.39	3.63	2 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	4	3.35	3.68	4.44	5.25	5.88	6.24	6.26	5.95	5.34	4.50	3.55	2.70	2.33	2.70	3.55	4.50	5.34	5.95	6.26	6.24	5.88	5.25	4.44	3.68	4 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	6	3.40	3.73	4.48	5.29	5.92	6.28	6.30	6.00	5.41	4.60	3.70	2.93	2.60	2.93	3.70	4.60	5.41	6.00	6.30	6.28	5.92	5.29	4.48	3.73	6 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	7	3.43	3.76	4.51	5.31	5.94	6.30	6.33	6.05	5.48	4.70	3.85	3.13	2.83	3.13	3.85	4.70	5.48	6.05	6.33	6.30	5.94	5.31	4.51	3.76	7 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7																										
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7																										

**ZERO CROSSING PERIODS**

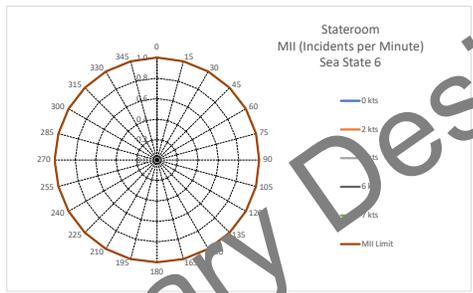
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	0	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	4	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	6	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	13.00	13.00	13.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	6 kts
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	7	9.00	9.00	9.00	9.50	10.00	10.00	10.00	10.00	11.00	11.00	12.00	13.00	13.00	13.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	9.50	9.00	9.00	7 kts	
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7																											
FLD_S56	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7																											

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts	
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 Stateroom

Stateroom  
 MII (Incidents per Minute)  
 Sea State 6



Preliminary Design, @IDR25

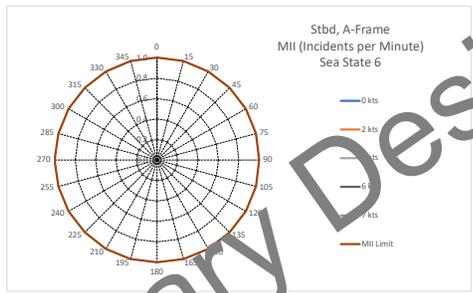
**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	0	2.32	2.66	3.40	4.18	4.83	5.23	5.36	5.18	4.73	4.05	3.26	2.54	2.23	2.54	3.26	4.05	4.73	5.18	5.36	5.23	4.83	4.18	3.40	2.66	0 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	2	2.36	2.69	3.42	4.20	4.84	5.25	5.37	5.20	4.75	4.08	3.30	2.58	2.27	2.58	3.30	4.08	4.75	5.20	5.37	5.25	4.84	4.20	3.42	2.69	2 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	4	2.38	2.71	3.43	4.21	4.85	5.26	5.40	5.23	4.79	4.13	3.36	2.66	2.35	2.66	3.36	4.13	4.79	5.23	5.40	5.26	4.85	4.21	3.43	2.71	4 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	6	2.41	2.73	3.45	4.23	4.87	5.29	5.43	5.29	4.87	4.25	3.52	2.89	2.62	2.89	3.52	4.25	4.87	5.29	5.43	5.29	4.87	4.23	3.45	2.73	6 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	7	2.43	2.75	3.47	4.24	4.88	5.31	5.46	5.34	4.95	4.35	3.67	3.08	2.83	3.08	3.67	4.35	4.95	5.34	5.46	5.31	4.88	4.24	3.47	2.75	7 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7																											
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7																											
<b>ZERO CROSSING PERIODS</b>																																
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	0	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	4	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4 kts
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	6	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	13.00	13.00	13.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	6 kts
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	7	9.50	9.50	9.50	10.00	10.00	10.00	11.00	11.00	11.50	12.50	13.00	13.00	13.00	12.50	11.50	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.50	9.50	7 kts	
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7																											
FLD_SS6	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7																											

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	4	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	4	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts	
<b>Mill Limit</b>	<b>1</b>																																

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	4	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 Stbd, A-Frame  
 MII (Incidents per Minute)  
 Sea State 6



Preliminary Design, @IDR15

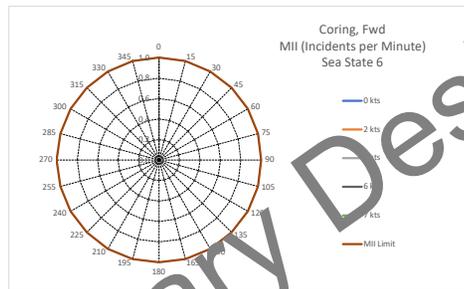
LATERAL FORCES

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
							FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	0	2.29	2.64	3.32	4.08	4.71	5.11	5.23	5.07	4.63	3.99	3.22	2.53	2.23	2.53	3.22	3.99	4.63	5.07	5.23
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	2	2.33	2.64	3.34	4.10	4.72	5.12	5.24	5.08	4.65	4.01	3.25	2.57	2.27	2.57	3.25	4.01	4.65	5.08	5.24	5.12	4.72	4.10	3.34	2.64	2 kts	
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	4	2.35	2.66	3.36	4.11	4.73	5.13	5.26	5.11	4.69	4.05	3.30	2.63	2.34	2.63	3.30	4.05	4.69	5.11	5.26	5.13	4.73	4.11	3.36	2.66	4 kts	
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	6	2.38	2.68	3.37	4.12	4.75	5.15	5.30	5.16	4.76	4.16	3.46	2.85	2.59	2.85	3.46	4.16	4.76	5.16	5.30	5.15	4.75	4.12	3.37	2.68	6 kts	
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	7	2.40	2.70	3.39	4.13	4.76	5.17	5.33	5.21	4.83	4.26	3.60	3.03	2.79	3.03	3.60	4.26	4.83	5.21	5.33	5.17	4.76	4.13	3.39	2.70	7 kts	
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7																											
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7																											

ZERO CROSSING PERIODS																																
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	0	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	4	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	4 kts
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	6	9.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	12.00	13.00	13.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	6 kts
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	7	9.00	9.50	9.50	10.00	10.00	10.00	10.00	11.00	11.00	11.50	12.50	12.50	13.00	12.50	12.50	11.50	11.00	10.00	10.00	10.00	10.00	10.00	9.50	9.50	7 kts	
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7																											
FLD_SS6	LATERAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7																											

Incidents of Tipping MII Through the Given Duration of the Task	0	2	4	6	7																													0 kts
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts	
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts	
																																		2 kts
																																		4 kts
																																		6 kts
																																		7 kts
																																		0 kts
<b>MI Limit</b>	<b>1</b>																																	

Incidents of Sliding MSI Through the Given Duration of the Task	0	2	4	6	7																														
	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		



Preliminary Design, @IDP25

LATERAL FORCES

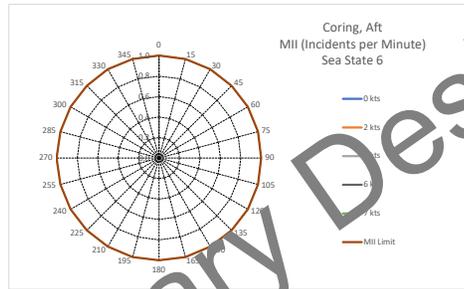
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	0	4.03	4.24	4.79	5.45	6.03	6.41	6.53	6.36	5.94	5.33	4.64	4.06	3.83	4.06	4.64	5.33	5.94	6.36	6.53	6.41	6.03	5.45	4.79	4.24	4.03
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	2	4.07	4.28	4.82	5.47	6.04	6.41	6.51	6.34	5.92	5.31	4.63	4.06	3.83	4.06	4.63	5.31	5.92	6.34	6.51	6.41	6.04	5.47	4.82	4.28	4.07
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	4	4.10	4.31	4.84	5.48	6.04	6.40	6.50	6.33	5.90	5.30	4.63	4.08	3.86	4.08	4.63	5.30	5.90	6.33	6.50	6.40	6.04	5.48	4.84	4.31	4.10
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	6	4.12	4.33	4.86	5.49	6.04	6.40	6.50	6.33	5.92	5.34	4.71	4.19	3.99	4.19	4.71	5.34	5.92	6.33	6.50	6.40	6.04	5.49	4.86	4.33	4.12
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	7	4.14	4.35	4.88	5.50	6.05	6.41	6.51	6.35	5.96	5.40	4.79	4.30	4.11	4.30	4.79	5.40	5.96	6.35	6.51	6.41	6.05	5.50	4.88	4.35	4.14
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7																										
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7																										

ZERO CROSSING PERIODS																																	
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	0	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	0 kts	
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	2	8.00	8.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	9.00	8.00	2 kts
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	4	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	8.00	8.00	4 kts
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	6	8.00	8.00	8.00	8.00	9.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	9.00	8.00	8.00	8.00	6 kts
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7	7	7.50	8.00	8.00	8.00	9.00	10.00	10.00	10.50	11.00	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.00	10.50	10.00	10.00	9.00	8.00	8.00	8.00	7 kts		
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7																												
FLD_S56	LATERAL	ACCELERATION	Coring, Aft	SHORTCRESTED	19.7																												

Incidents of Tipping MII Through the Given Duration of the Task																																	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts
Mill Limit							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Incidents of Sliding MSI Through the Given Duration of the Task																																	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 Coring, Aft  
 MII (Incidents per Minute)  
 Coring, Aft  
 Sea State 6



**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	0	3.20	3.45	4.04	4.74	5.34	5.73	5.87	5.72	5.31	4.70	4.01	3.41	3.16	3.41	4.01	4.70	5.31	5.72	5.87	5.73	5.34	4.74	4.04	3.45	0 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	2	3.23	3.47	4.06	4.74	5.34	5.73	5.86	5.72	5.31	4.71	4.02	3.43	3.19	3.43	4.02	4.71	5.31	5.72	5.86	5.73	5.34	4.74	4.06	3.47	2 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	4	3.25	3.49	4.07	4.75	5.34	5.73	5.86	5.72	5.32	4.73	4.05	3.48	3.24	3.48	4.05	4.73	5.32	5.72	5.86	5.73	5.34	4.75	4.07	3.49	4 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	6	3.27	3.51	4.09	4.76	5.35	5.74	5.88	5.75	5.37	4.80	4.17	3.63	3.41	3.63	4.17	4.80	5.37	5.75	5.88	5.74	5.35	4.76	4.09	3.51	6 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	7	3.29	3.52	4.10	4.77	5.36	5.75	5.90	5.78	5.42	4.88	4.27	3.77	3.56	3.77	4.27	4.88	5.42	5.78	5.90	5.75	5.36	4.77	4.10	3.52	7 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7																											
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7																											

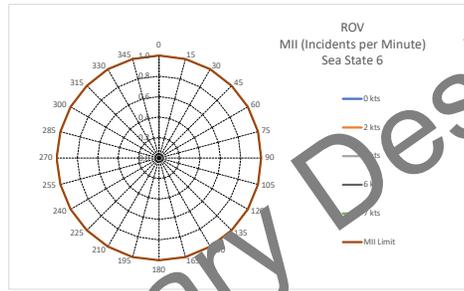
**ZERO CROSSING PERIODS**

FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	0	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	2	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	2 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	4	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	4 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	6	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	8.00	6 kts	
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7	7	8.00	8.00	8.50	9.00	10.00	10.00	10.00	10.50	11.00	11.50	11.50	12.50	12.50	12.50	11.50	11.50	11.00	10.50	10.00	10.00	10.00	9.00	8.50	8.00	7 kts		
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7																												
FLD_S56	LATERAL	ACCELERATION	ROV	SHORTCRESTED	19.7																												

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts	
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts	
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts	
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts	
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 ROV  
 MII (Incidents per Minute)  
 Sea State 6



Preliminary Design, @IDR25

**LATERAL FORCES**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	0	3.36	3.69	4.41	5.18	5.79	6.13	6.14	5.83	5.23	4.41	3.50	2.69	2.34	2.69	3.50	4.41	5.23	5.83	6.14	6.13	5.79	5.18	4.41	3.69	0 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	2	3.47	3.78	4.48	5.24	5.84	6.16	6.16	5.83	5.22	4.38	3.46	2.63	2.27	2.63	3.46	4.38	5.22	5.83	6.16	6.16	5.84	5.24	4.48	3.78	2 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	4	3.54	3.84	4.54	5.30	5.89	6.20	6.18	5.85	5.22	4.38	3.45	2.62	2.26	2.62	3.45	4.38	5.22	5.85	6.18	6.20	5.89	5.30	4.54	3.84	4 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	6	3.60	3.90	4.59	5.34	5.92	6.23	6.21	5.88	5.26	4.45	3.56	2.80	2.48	2.80	3.56	4.45	5.26	5.88	6.21	6.23	5.92	5.34	4.59	3.90	6 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	7	3.63	3.93	4.62	5.37	5.94	6.25	6.24	5.92	5.32	4.54	3.69	2.98	2.69	2.98	3.69	4.54	5.32	5.92	6.24	6.25	5.94	5.37	4.62	3.93	7 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7																											
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7																											

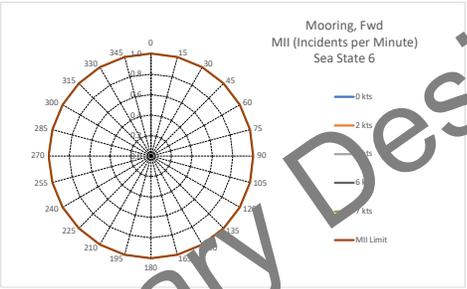
**ZERO CROSSING PERIODS**

FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	0	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	0 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	2 kts
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	4	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	12.00	12.00	12.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	4 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	6	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	12.00	13.00	13.00	13.00	12.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.00	9.00	6 kts	
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7	7	8.50	8.50	9.00	9.50	10.00	10.00	10.00	10.00	11.00	11.00	11.50	13.00	13.00	13.00	11.50	11.00	11.00	10.00	10.00	10.00	10.00	9.50	9.00	8.50	7 kts		
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7																												
FLD_S56	LATERAL	ACCELERATION	Mooring, Fwd	SHORTCRESTED	19.7																												

Incidents of Tipping MII Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts		
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts		
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts		
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts		
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts		
	Mill Limit	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Incidents of Sliding MSI Through the Given Duration of the Task	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0 kts			
	2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2 kts		
	4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4 kts		
	6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6 kts		
	7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7 kts		

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 Mooring, Fwd  
 Mooring, Fwd  
 MII (Incidents per Minute)  
 Sea State 6



Preliminary Design, @IDR25

LATERAL FORCES

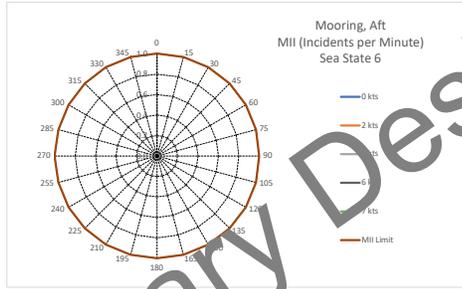
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	0	3.88	4.10	4.65	5.32	5.90	6.29	6.40	6.24	5.82	5.21	4.53	3.95	3.71	3.55	4.53	5.21	5.82	6.24	6.40	6.29	5.90	5.32	4.65	4.10	3.88
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	2	3.92	4.14	4.68	5.33	5.91	6.28	6.39	6.23	5.81	5.20	4.52	3.95	3.72	3.55	4.52	5.20	5.81	6.23	6.39	6.28	5.91	5.33	4.68	4.14	3.92
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	4	3.95	4.16	4.70	5.34	5.91	6.27	6.38	6.22	5.80	5.20	4.53	3.97	3.75	3.57	4.53	5.20	5.80	6.22	6.38	6.27	5.91	5.34	4.70	4.16	3.95
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	6	3.97	4.18	4.72	5.36	5.91	6.27	6.38	6.22	5.82	5.24	4.61	4.09	3.89	4.09	4.61	5.24	5.82	6.22	6.38	6.27	5.91	5.36	4.72	4.18	3.97
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	7	3.99	4.20	4.73	5.37	5.92	6.28	6.39	6.25	5.86	5.30	4.70	4.20	4.01	4.20	4.70	5.30	5.86	6.25	6.39	6.28	5.92	5.37	4.73	4.20	3.99
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7																										
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7																										

ZERO CROSSING PERIODS																																												
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	0	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	2	8.00	9.00	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	4	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	6	8.00	8.00	8.00	8.00	9.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
FLD_S56	LATERAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	7	8.00	8.00	8.00	8.00	9.00	10.00	10.00	10.50	11.00	11.50	11.50	11.50	12.50	11.50	11.50	11.50	11.00	10.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Incidents of Tipping MII Through the Given Duration of the Task																																											
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
<b>Mill Limit</b>						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			

Incidents of Sliding MSI Through the Given Duration of the Task																																										
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

Chart Title  
 MII (Incidents per Minute)  
 Sea State 6  
 Mooring, Aft



Preliminary Design, @IDR25

Motion Induced Interruption Analysis

Table of Constants

g = 9.81 m/s<sup>2</sup>

User Input Cell Ranges

VERTICAL VELOCITY (m/sec)

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and a grid of values for various wave heights (0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180, 195, 210, 225, 240, 255, 270, 285, 300, 315, 330, 345) and 0 kts.

VERTICAL ACCELERATION

Table with columns: FileName, Motion Direction, Motion Type, POI, Wave Type, Wave Height, Speed/Heading, and a grid of values for various wave heights and 0 kts.

Table with columns: We, Mu(MSI), and a grid of values for various wave heights and 0 kts.

Table with columns: Mu(MSI) and a grid of values for various wave heights and 0 kts.

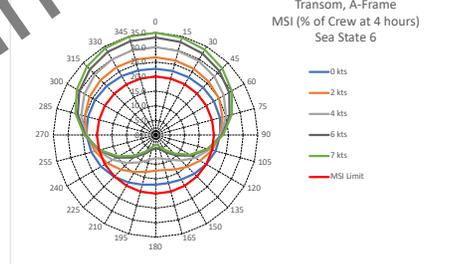
Table with columns: Abs(s3dbldot) and a grid of values for various wave heights and 0 kts.

Table with columns: x for ERF eq and a grid of values for various wave heights and 0 kts.

Table with columns: FLD\_S56, MSI, Transom, A-Frame, SHORTCRESTED, and a grid of values for various wave heights and 0 kts.

Chart Title

MSI (% of Crew at 4 hours) Sea State 6 Transom, A-Frame MSI (% of Crew at 4 hours) Sea State 6





**VERTICAL VELOCITY (m/sec)**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	VERTICAL	VELOCITY	Bridge Wing	SHORTCRESTED	19.7	0	0.66	0.70	0.77	0.84	0.89	0.92	0.91	0.86	0.80	0.72	0.65	0.61	0.62	0.67	0.75	0.84	0.91	0.96	0.96	0.94	0.88	0.80	0.72	0.66	0 kts
FLD_S56	VERTICAL	VELOCITY	Bridge Wing	SHORTCRESTED	19.7	2	0.73	0.77	0.83	0.89	0.93	0.94	0.91	0.86	0.78	0.69	0.61	0.56	0.57	0.63	0.71	0.82	0.90	0.95	0.97	0.96	0.91	0.84	0.76	0.73	2 kts
FLD_S56	VERTICAL	VELOCITY	Bridge Wing	SHORTCRESTED	19.7	4	0.80	0.84	0.89	0.94	0.97	0.96	0.92	0.85	0.76	0.66	0.57	0.52	0.53	0.60	0.69	0.80	0.89	0.95	0.95	0.90	0.82	0.74	0.70	4 kts	
FLD_S56	VERTICAL	VELOCITY	Bridge Wing	SHORTCRESTED	19.7	6	0.88	0.92	0.96	1.00	1.01	0.99	0.93	0.85	0.74	0.63	0.54	0.48	0.50	0.56	0.66	0.78	0.88	0.95	1.00	1.01	0.99	0.95	0.91	0.88	6 kts
FLD_S56	VERTICAL	VELOCITY	Bridge Wing	SHORTCRESTED	19.7	7	0.92	0.95	0.99	1.02	1.03	1.00	0.94	0.85	0.74	0.62	0.52	0.47	0.48	0.55	0.65	0.77	0.87	0.96	1.01	1.03	1.02	0.98	0.95	0.92	7 kts

**VERTICAL ACCELERATION**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	0	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.05	0 kts
FLD_S56	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	2	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.04	0.04	0.04	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.05	2 kts
FLD_S56	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	4	0.06	0.07	0.07	0.07	0.08	0.08	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.08	0.08	0.07	0.07	0.06	4 kts
FLD_S56	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	6	0.07	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.06	6 kts
FLD_S56	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	19.7	7	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.07	0.06	7 kts

We	0	0.7010	0.7084	0.7234	0.7384	0.7503	0.7590	0.7639	0.7645	0.7601	0.7477	0.7252	0.6972	0.6797	0.6835	0.6997	0.7168	0.7307	0.7412	0.7480	0.75	0.7507	0.7437	0.7289	0.7100							
We	2	0.7328	0.7380	0.7477	0.7571	0.7643	0.7686	0.7693	0.7658	0.7556	0.7355	0.7028	0.6642	0.6430	0.6524	0.6776	0.7028	0.7227	0.7378	0.7488	0.7522	0.7595	0.7576	0.7495	0.7382							
We	4	0.7624	0.7656	0.7713	0.7766	0.7798	0.7803	0.7774	0.7698	0.7542	0.7264	0.6824	0.6309	0.6050	0.6221	0.6577	0.6912	0.7174	0.7333	0.7402	0.7433	0.7463	0.7404	0.7276	0.7102	0.6747						
We	6	0.7899	0.7919	0.7949	0.7967	0.7966	0.7936	0.7873	0.7757	0.7555	0.7208	0.6651	0.5998	0.5693	0.5947	0.6410	0.6825	0.7141	0.7341	0.7493	0.7585	0.7729	0.7835	0.7898	0.7918	0.7905						
We	7	0.8036	0.8050	0.8066	0.8069	0.8053	0.8009	0.7930	0.7797	0.7574	0.7193	0.6585	0.5860	0.5535	0.5831	0.6343	0.6701	0.7146	0.7435	0.7625	0.7788	0.7912	0.7993	0.8031	0.8036							

Mu(MSI)	0	-0.7638	-0.7670	-0.7731	-0.7788	-0.7829	-0.7857	-0.7873	-0.7874	-0.7861	-0.7820	-0.7738	-0.7621	-0.7538	-0.7556	-0.7601	-0.7695	-0.7811	-0.7959	-0.8211	-0.8333	-0.8300	-0.8221	-0.8108	-0.7988	-0.7821	-0.7833	-0.7830	-0.7806	-0.7752	-0.7677	
Mu(MSI)	2	-0.7767	-0.7786	-0.7820	-0.7851	-0.7874	-0.7887	-0.7889	-0.7879	-0.7846	-0.7777	-0.7646	-0.7457	-0.7337	-0.7321	-0.7327	-0.7377	-0.7481	-0.7629	-0.7729	-0.7785	-0.7824	-0.7848	-0.7859	-0.7853	-0.7826	-0.7821	-0.7834	-0.7830	-0.7806	-0.7752	-0.7677
Mu(MSI)	4	-0.7868	-0.7878	-0.7895	-0.7910	-0.7919	-0.7921	-0.7913	-0.7890	-0.7842	-0.7743	-0.7551	-0.7262	-0.7085	-0.7069	-0.7061	-0.7072	-0.7152	-0.7292	-0.7407	-0.7479	-0.7512	-0.7526	-0.7528	-0.7523	-0.7497	-0.7491	-0.7500	-0.7494	-0.7482	-0.7475	-0.7475
Mu(MSI)	6	-0.7947	-0.7952	-0.7959	-0.7964	-0.7964	-0.7956	-0.7940	-0.7908	-0.7846	-0.7721	-0.7462	-0.7047	-0.6801	-0.6804	-0.6811	-0.6891	-0.7045	-0.7252	-0.7497	-0.7791	-0.7855	-0.7900	-0.7929	-0.7946	-0.7952	-0.7948					
Mu(MSI)	7	-0.7981	-0.7984	-0.7988	-0.7989	-0.7985	-0.7974	-0.7955	-0.7919	-0.7852	-0.7715	-0.7426	-0.6940	-0.6659	-0.6691	-0.6749	-0.6837	-0.7047	-0.7292	-0.7596	-0.7798	-0.7868	-0.7916	-0.7950	-0.7970	-0.7980	-0.7981					

Abs(sdb dot)	0	0.3679	0.3960	0.4441	0.4944	0.5338	0.5542	0.5518	0.5268	0.4829	0.4279	0.3741	0.3203	0.3338	0.3659	0.4214	0.4819	0.5330	0.5659	0.5756	0.5610	0.5244	0.4723	0.4166	0.3756							
Abs(sdb dot)	2	0.4260	0.4522	0.4945	0.5364	0.5655	0.5745	0.5602	0.5232	0.4679	0.4027	0.3407	0.2907	0.2989	0.3296	0.3909	0.4590	0.5189	0.5615	0.5816	0.5776	0.5516	0.5099	0.4638	0.4304							
Abs(sdb dot)	4	0.4894	0.5134	0.5497	0.5829	0.6015	0.5986	0.5720	0.5229	0.4562	0.3808	0.3102	0.2630	0.2571	0.2958	0.3632	0.4388	0.5077	0.5604	0.5914	0.5986	0.5837	0.5527	0.5165	0.4907							
Abs(sdb dot)	6	0.5575	0.5788	0.6087	0.6327	0.6404	0.6256	0.5867	0.5257	0.4480	0.3631	0.2931	0.2431	0.2321	0.2511	0.3208	0.3998	0.4623	0.5000	0.5629	0.6050	0.6239	0.6209	0.6013	0.5751	0.5564						
Abs(sdb dot)	7	0.5929	0.6127	0.6391	0.6585	0.6607	0.6400	0.5952	0.5285	0.4456	0.3562	0.2745	0.2203	0.2119	0.2552	0.3302	0.4159	0.4977	0.5656	0.6134	0.6384	0.6415	0.6277	0.6063	0.5910							

x for ERF eq	0	-1.6553	-1.5676	-1.4277	-1.2970	-1.2055	-1.1558	-1.1565	-1.2065	-1.1421	-1.0242	-0.9158	-0.8166	-0.7254	-0.7860	-0.6817	-0.5094	-0.3455	-0.2224	-0.1479	-0.1236	-0.1486	-0.2224	-0.1421	-0.1497	-1.6232						
x for ERF eq	2	-1.4638	-1.3944	-1.2897	-1.1927	-1.1296	-1.1091	-1.1361	-1.2108	-1.1346	-1.0285	-0.9295	-0.8369	-0.7491	-0.8240	-0.7034	-0.5328	-0.3709	-0.2522	-0.1763	-0.1510	-0.1763	-0.2522	-0.1763	-0.1843	-1.3569	-1.4477					
x for ERF eq	4	-1.2882	-1.2336	-1.1551	-1.0876	-1.0513	-1.0561	-1.1075	-1.0505	-0.9703	-0.8917	-0.8221	-0.7577	-0.6982	-0.7757	-0.6437	-0.4759	-0.3153	-0.2005	-0.1274	-0.1022	-0.1274	-0.2005	-0.1274	-0.1354	-1.0907	-1.1883	-1.2335	-1.2834			
x for ERF eq	6	-1.1269	-1.0848	-1.0284	-0.9852	-0.9722	-0.9995	-1.0000	-1.0944	-1.0404	-0.9449	-0.8649	-0.7926	-0.7303	-0.8078	-0.6671	-0.5021	-0.3371	-0.2201	-0.1471	-0.1219	-0.1471	-0.2201	-0.1471	-0.1554	-1.0611	-1.0163	-1.0449	-1.0920	-1.1286		
x for ERF eq	7	-1.0515	-1.0150	-0.9683	-0.9357	-0.9329	-0.9708	-1.0538	-1.0000	-0.9137	-0.8377	-0.7673	-0.7022	-0.6419	-0.7211	-0.5761	-0.4081	-0.2431	-0.1261	-0.0531	-0.0279	-0.0531	-0.1261	-0.0531	-0.0615	-0.9873	-0.9377	-0.9922	-1.0275	-1.0551		

FLD_S56	MSI	Bridge Wing	SHORTCRESTED	19.7	0	4.8530	5.8894	7.6507	9.7539	11.4357	12.3792	12.3855	11.3790	9.6210	7.3631	5.3472	3.9795	3.7077	4.6421	6.5871	8.8759	11.0897	12.5448	13.0750	12.5304	11.0904	8.9339	6.7942	5.2099	0 kts
FLD_S56	MSI	Bridge Wing	SHORTCRESTED	19.7	2	7.1232	8.1778	9.9042	11.6401	12.9429	13.3960	12.8001	11.2648	8.9320	6.4302	4.1301	2.7506	2.4630	3.3053	5.2854	7.8851	10.4343	12.3048	13.3392	13.3391	12.2827	10.6466	8.6977	7.3340	2 kts
FLD_S56	MSI	Bridge Wing	SHORTCRESTED	19.7	4	9.5122	10.8899	12.3939	13.6682	14.5099	15.6333	14.4331	11.3069	8.5026	5.5990	3.1219	1.7453	1.4691	2.2971	4.2659	6.9840									

**VERTICAL VELOCITY (m/sec)**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	VERTICAL	VELOCITY	Stateroom	SHORTCRESTED	19.7	0	1.32	1.34	1.36	1.38	1.38	1.37	1.33	1.29	1.24	1.19	1.16	1.14	1.14	1.16	1.19	1.23	1.27	1.30	1.33	1.34	1.34	1.33	1.31	1.31	0 kts
FLD_S56	VERTICAL	VELOCITY	Stateroom	SHORTCRESTED	19.7	2	1.46	1.47	1.48	1.48	1.45	1.41	1.34	1.27	1.19	1.13	1.08	1.06	1.05	1.07	1.11	1.17	1.23	1.29	1.34	1.38	1.41	1.43	1.43	1.44	2 kts
FLD_S56	VERTICAL	VELOCITY	Stateroom	SHORTCRESTED	19.7	4	1.58	1.59	1.59	1.57	1.52	1.45	1.35	1.25	1.15	1.06	1.00	0.96	0.96	1.04	1.11	1.19	1.27	1.35	1.42	1.48	1.52	1.54	1.57	4 kts	
FLD_S56	VERTICAL	VELOCITY	Stateroom	SHORTCRESTED	19.7	6	1.70	1.71	1.69	1.65	1.58	1.48	1.36	1.23	1.10	1.00	0.92	0.88	0.87	0.90	0.96	1.05	1.15	1.26	1.37	1.46	1.54	1.60	1.65	1.68	6 kts
FLD_S56	VERTICAL	VELOCITY	Stateroom	SHORTCRESTED	19.7	7	1.75	1.75	1.74	1.69	1.61	1.50	1.37	1.23	1.09	0.97	0.88	0.83	0.83	0.86	0.93	1.02	1.13	1.25	1.37	1.48	1.57	1.64	1.69	1.73	7 kts

**VERTICAL ACCELERATION**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S56	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	0	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.10	0.10	0.10	0 kts
FLD_S56	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	2	0.11	0.11	0.12	0.12	0.12	0.11	0.11	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.08	0.09	0.09	0.10	0.11	0.11	0.11	0.11	0.11	0.11	2 kts
FLD_S56	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	4	0.13	0.13	0.13	0.13	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.06	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.12	0.13	0.13	0.13	4 kts
FLD_S56	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	6	0.14	0.14	0.14	0.14	0.13	0.13	0.11	0.10	0.09	0.07	0.06	0.05	0.05	0.05	0.06	0.07	0.09	0.10	0.11	0.12	0.13	0.14	0.14	0.14	6 kts
FLD_S56	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	19.7	7	0.15	0.15	0.15	0.14	0.14	0.13	0.11	0.10	0.08	0.07	0.06	0.05	0.05	0.05	0.06	0.07	0.09	0.10	0.11	0.12	0.13	0.14	0.14	0.15	7 kts

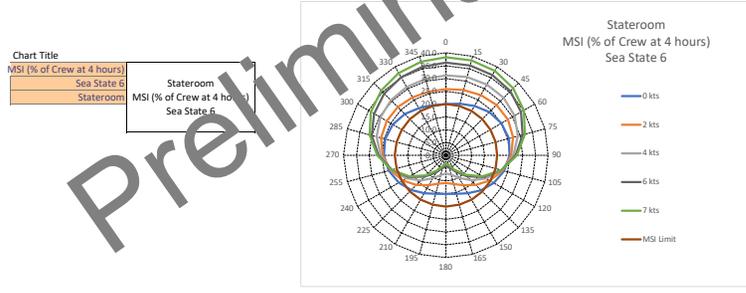
We	0	0.7243	0.7292	0.7420	0.7586	0.7743	0.7861	0.7917	0.7893	0.7781	0.7594	0.7375	0.7184	0.7085	0.7110	0.7245	0.7431	0.7616	0.7757	0.7831	0.78	0.7751	0.7612	0.7443	0.7299		
We	2	0.7603	0.7634	0.7719	0.7826	0.7922	0.7979	0.7966	0.7868	0.7666	0.7379	0.7065	0.6804	0.6680	0.6735	0.6941	0.7219	0.7495	0.7719	0.7865	0.7827	0.7914	0.7839	0.7732	0.7640		
We	4	0.7932	0.7952	0.8004	0.8068	0.8114	0.8116	0.8047	0.7877	0.7588	0.7191	0.6762	0.6411	0.6233	0.6351	0.6650	0.7033	0.7407	0.7666	0.7786	0.7766	0.7813	0.8048	0.8088	0.8068	0.8010	0.7955
We	6	0.8228	0.8238	0.8268	0.8299	0.8307	0.8268	0.8152	0.7925	0.7555	0.7046	0.6486	0.6014	0.5830	0.5964	0.6393	0.6891	0.7444	0.8015	0.8185	0.8269	0.8289	0.8270	0.8240			
We	7	0.8365	0.8372	0.8393	0.8411	0.8404	0.8348	0.8213	0.7964	0.7561	0.7003	0.6379	0.5859	0.5644	0.5830	0.6295	0.69	0.7363	0.7856	0.8071	0.8260	0.8361	0.8398	0.8394	0.8374		

Mu(MSI)	0	-0.7735	-0.7754	-0.7801	-0.7856	-0.7904	-0.7936	-0.7951	-0.7945	-0.7915	-0.7858	-0.7784	-0.7711	-0.7670	-0.7680	-0.7721	-0.7794	-0.7904	-0.8041	-0.8119	-0.8128	-0.7908	-0.7928	-0.7928	-0.7906	-0.7864	-0.7808	-0.7756
Mu(MSI)	2	-0.7861	-0.7871	-0.7897	-0.7927	-0.7953	-0.7967	-0.7964	-0.7938	-0.7881	-0.7786	-0.7662	-0.7541	-0.7478	-0.746	-0.7507	-0.7581	-0.7826	-0.7937	-0.7938	-0.7954	-0.7951	-0.7931	-0.7901	-0.7873			
Mu(MSI)	4	-0.7955	-0.7960	-0.7973	-0.7988	-0.7999	-0.7999	-0.7983	-0.7941	-0.7857	-0.7714	-0.7520	-0.7325	-0.7225	-0.7286	-0.7421	-0.7654	-0.7796	-0.7895	-0.7954	-0.7984	-0.7993	-0.7988	-0.7975	-0.7961			
Mu(MSI)	6	-0.8024	-0.8026	-0.8032	-0.8038	-0.8039	-0.8032	-0.8007	-0.7953	-0.7846	-0.7654	-0.7370	-0.7066	-0.6916	-0.703	-0.7214	-0.7583	-0.7780	-0.7904	-0.7976	-0.8015	-0.8032	-0.8036	-0.8032	-0.8026			
Mu(MSI)	7	-0.8050	-0.8052	-0.8056	-0.8059	-0.8058	-0.8047	-0.8020	-0.7963	-0.7848	-0.7635	-0.7305	-0.6940	-0.6758	-0.691	-0.72	-0.7633	-0.7780	-0.7913	-0.7989	-0.8030	-0.8050	-0.8057	-0.8056	-0.8052			

Abs(s3dbldot)	0	0.7619	0.7786	0.8062	0.8350	0.8543	0.8575	0.8423	0.8106	0.7678	0.7222	0.6826	0.65	0.6464	0.6579	0.6874	0.7276	0.7704	0.8073	0.8315	0.8389	0.8293	0.8070	0.7808	0.7627
Abs(s3dbldot)	2	0.8828	0.8955	0.9113	0.9219	0.9187	0.8966	0.8545	0.7961	0.7289	0.6630	0.6067	0.5733	0.5645	0.5771	0.6166	0.6718	0.7338	0.7932	0.8421	0.8750	0.8903	0.8908	0.8836	0.8787
Abs(s3dbldot)	4	1.0028	1.0117	1.0162	1.0095	0.9847	0.9378	0.8698	0.7856	0.6943	0.6078	0.5380	0.4930	0.4789	0.4993	0.5496	0.6203	0.7017	0.7835	0.8566	0.9142	0.9535	0.9759	0.9868	0.9942
Abs(s3dbldot)	6	1.1163	1.1217	1.1159	1.0935	1.0488	0.9796	0.8877	0.7796	0.6657	0.5597	0.48	0.4207	0.4043	0.4295	0.4904	0.5761	0.6758	0.7787	0.8744	0.9551	1.0165	1.0589	1.0860	1.1040
Abs(s3dbldot)	7	1.1687	1.1724	1.1622	1.1328	1.0795	1.0002	0.8977	0.7789	0.6550	0.5401	0.448	0.39	0.3726	0.4002	0.4659	0.5582	0.6663	0.7786	0.8846	0.9758	1.0472	1.0994	1.1325	1.1548

x for ERF eq	0	-0.8407	-0.8125	-0.7629	-0.7110	-0.6742	-0.6619	-0.6776	-0.7210	-0.7741	-0.8380	-0.9079	-0.9684	-1.0097	-1.0354	-1.0135	-0.9523	-0.8733	-0.7961	-0.7346	-0.6975	-0.6879	-0.7058	-0.7459	-0.7957	-0.8342
x for ERF eq	2	-0.6492	-0.6313	-0.6099	-0.5857	-0.5830	-0.6060	-0.6590	-0.7238	-0.8099	-0.9020	-1.0020	-1.1026	-1.1983	-1.2363	-1.1995	-1.1036	-0.9799	-0.8588	-0.7565	-0.6814	-0.6377	-0.6221	-0.6384	-0.6513	
x for ERF eq	4	-0.4874	-0.4765	-0.4685	-0.4718	-0.4962	-0.5490	-0.6348	-0.7660	-0.9112	-1.0722	-1.2273	-1.4158	-1.4721	-1.4112	-1.2636	-1.0856	-0.9148	-0.7703	-0.6588	-0.5326	-0.5086	-0.4999	-0.4952		
x for ERF eq	6	-0.3538	-0.3481	-0.3521	-0.3727	-0.4175	-0.4937	-0.6171	-0.7789	-0.9895	-1.1958	-1.4453	-1.6527	-1.7336	-1.6375	-1.4241	-1.1821	-0.9597	-0.7748	-0.6310	-0.5254	-0.4534	-0.4081	-0.3816	-0.3653	
x for ERF eq	7	-0.2973	-0.2935	-0.3020	-0.3290	-0.3817	-0.4629	-0.5912	-0.7677	-0.9767	-1.2393	-1.5239	-1.7668	-1.8617	-1.7444	-1.4951	-1.2213	-0.9751	-0.7726	-0.6150	-0.4983	-0.4166	-0.3631	-0.3302	-0.3098	

FLD_S56	MSI	Stateroom	SHORTCRESTED	19.7	0	20.0576	20.8448	22.3098	23.8662	25.0197	25.4141	25.8105	23.5647	21.5721	19.2913	17.1565	15.6648	15.0454	15.5720	17.0439	19.1403	21.3159	23.1574	24.2800	24.5819	24.0215	22.8211	21.3257	20.2384	0 kts	
FLD_S56	MSI	Stateroom	SHORTCRESTED	19.7	2	25.8256	26.3933	27.2091	27.8791	27.9702	27.2055	25.3889	22.9354	19.7359	16.3985	13.5374	11.5380	10.8422	11.5102	13.5426	16.3776	19.5519	22.5038	24.7899	26.2529	26.8288	26.6868	26.1680	25.7571	2 kts	
FLD_S56	MSI	Stateroom	SHORTCRESTED	19.7	4	31.2457	31.6350	31.9235	31.8012	30.73	28.324	24.8134	20.2811	22.5191	18.1008	13.7899	10.1987	7.8443	7.0217	7.9192	10.3560	13.9124	18.0051	22.0841	25.5146	28.0518	29.0848	30.5034	30.8038	30.9679	4 kts
FLD_S56	MSI	Stateroom	SHORTCRESTED	19.7	6	36.1619	36.3694	36.2233	35.4829	33.82	31.124	27.1804	22.3601	16.8682	11.5796	7.3721	4.8762	4.1629	5.0387	7.7080	11.8463	16.8634	21.9511	26.4021	29.9285	32.4744	34.1939	35.1620	35.7488	6 kts	
FLD_S56	MSI	Stateroom	SHORTCRESTED	19.7	7	38.3006	38.4440	38.1219	37.091	35.1600	32.738	27.6932	22.4060	16.4540	10.7890	6.4126	3.8596	3.1246	4.0542	6.7553	11.1099	16.4917	22.0175	26.9138	30.8596	33.8703	35.8258	37.0471	37.8236	7 kts	
	MSI																														
	MSI					MSI Limit	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	



VERTICAL VELOCITY (m/sec)

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	VERTICAL	VELOCITY	Stbd, A-Frame	SHORTCRESTED	19.7	0	0.54	0.56	0.62	0.72	0.82	0.89	0.93	0.92	0.88	0.81	0.71	0.61	0.53	0.51	0.55	0.63	0.71	0.78	0.83	0.83	0.80	0.74	0.67	0.59	0 kts
FLD_S56	VERTICAL	VELOCITY	Stbd, A-Frame	SHORTCRESTED	19.7	2	0.59	0.60	0.66	0.75	0.84	0.90	0.92	0.87	0.79	0.68	0.58	0.50	0.48	0.52	0.60	0.70	0.78	0.83	0.85	0.83	0.78	0.70	0.63	0.52	2 kts
FLD_S56	VERTICAL	VELOCITY	Stbd, A-Frame	SHORTCRESTED	19.7	4	0.64	0.65	0.71	0.79	0.87	0.92	0.94	0.92	0.86	0.77	0.66	0.55	0.47	0.44	0.49	0.58	0.68	0.77	0.84	0.87	0.86	0.82	0.75	0.68	4 kts
FLD_S56	VERTICAL	VELOCITY	Stbd, A-Frame	SHORTCRESTED	19.7	6	0.71	0.72	0.77	0.84	0.91	0.95	0.96	0.93	0.86	0.76	0.64	0.53	0.44	0.42	0.46	0.56	0.67	0.77	0.85	0.89	0.89	0.86	0.81	0.75	6 kts
FLD_S56	VERTICAL	VELOCITY	Stbd, A-Frame	SHORTCRESTED	19.7	7	0.75	0.75	0.80	0.87	0.93	0.96	0.96	0.93	0.85	0.75	0.63	0.52	0.43	0.41	0.46	0.56	0.67	0.78	0.86	0.90	0.89	0.89	0.84	0.78	7 kts

VERTICAL ACCELERATION

FLD_S56	VERTICAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	0	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.04	0.04	0.04	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.04	0 kts	
FLD_S56	VERTICAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	2	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.06	0.06	0.05	0.04	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.06	0.06	0.05	0.05	2 kts
FLD_S56	VERTICAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	4	0.05	0.05	0.05	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.05	4 kts
FLD_S56	VERTICAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	6	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.06	6 kts
FLD_S56	VERTICAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	19.7	7	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.06	7 kts

We	0	0.6880	0.7001	0.7211	0.7353	0.7410	0.7410	0.7379	0.7318	0.7229	0.7101	0.6933	0.6740	0.6552	0.6822	0.7139	0.7378	0.7494	0.7520	0.7517	0.74	0.7393	0.7282	0.7136	0.6969								
We	2	0.7147	0.7222	0.7367	0.7453	0.7472	0.7440	0.7375	0.7280	0.7151	0.6974	0.6737	0.6466	0.6321	0.6527	0.6966	0.7305	0.7482	0.7557	0.7520	0.7514	0.7444	0.7341	0.7220									
We	4	0.7401	0.7439	0.7529	0.7570	0.7555	0.7492	0.7397	0.7267	0.7095	0.6862	0.6555	0.6198	0.5978	0.6236	0.6814	0.7257	0.7494	0.7568	0.7568	0.7669	0.7654	0.7614	0.7547	0.7459								
We	6	0.7672	0.7685	0.7722	0.7719	0.7665	0.7574	0.7444	0.7277	0.7062	0.6776	0.6397	0.5948	0.5650	0.6026	0.6688	0.7233	0.7494	0.7577	0.7580	0.7797	0.7811	0.7800	0.7767	0.7714								
We	7	0.7820	0.7825	0.7838	0.7812	0.7738	0.7628	0.7481	0.7295	0.7057	0.6743	0.6328	0.5837	0.5501	0.5831	0.6631	0.7351	0.7545	0.7577	0.7581	0.7813	0.7869	0.7897	0.7903	0.7886	0.7852							

Mu(MSI)	0	-0.7578	-0.7634	-0.7722	-0.7776	-0.7797	-0.7797	-0.7786	-0.7763	-0.7728	-0.7677	-0.7603	-0.7509	-0.7463	-0.7558	-0.7685	-0.7895	-0.8191	-0.8466	-0.8719	-0.8838	-0.7838	-0.7818	-0.7791	-0.7750	-0.7692	-0.7619						
Mu(MSI)	2	-0.7696	-0.7726	-0.7781	-0.7812	-0.7819	-0.7807	-0.7784	-0.7749	-0.7698	-0.7622	-0.7507	-0.7358	-0.7269	-0.7344	-0.7518	-0.7771	-0.8222	-0.8747	-0.9247	-0.9722	-0.7847	-0.7852	-0.7848	-0.7832	-0.7809	-0.7772	-0.7726					
Mu(MSI)	4	-0.7794	-0.7807	-0.7837	-0.7851	-0.7846	-0.7825	-0.7792	-0.7744	-0.7674	-0.7570	-0.7409	-0.7188	-0.7031	-0.7111	-0.7346	-0.7744	-0.8226	-0.8762	-0.9277	-0.9766	-0.7852	-0.7828	-0.7827	-0.7865	-0.7844	-0.7814						
Mu(MSI)	6	-0.7883	-0.7887	-0.7898	-0.7897	-0.7881	-0.7852	-0.7809	-0.7748	-0.7660	-0.7527	-0.7317	-0.7009	-0.6764	-0.7071	-0.7522	-0.8031	-0.8536	-0.9031	-0.9504	-0.9948	-0.7884	-0.7884	-0.7908	-0.7919	-0.7923	-0.7920	-0.7911	-0.7895				
Mu(MSI)	7	-0.7925	-0.7927	-0.7930	-0.7923	-0.7902	-0.7869	-0.7821	-0.7755	-0.7658	-0.7510	-0.7274	-0.6922	-0.6627	-0.6919	-0.7469	-0.7978	-0.8483	-0.8986	-0.9469	-0.9918	-0.7896	-0.7924	-0.7939	-0.7946	-0.7948	-0.7943	-0.7934					

Abs(s3dbldot)	0	0.2979	0.3102	0.3596	0.4234	0.4825	0.5252	0.5452	0.5397	0.5090	0.4570	0.3917	0.3101	0.2832	0.2791	0.3143	0.3702	0.4269	0.4712	0.4955	0.4964	0.4742	0.4324	0.3789	0.3271							
Abs(s3dbldot)	2	0.3350	0.3452	0.3901	0.4483	0.5011	0.5367	0.5491	0.5356	0.4973	0.4383	0.3672	0.2988	0.2518	0.2485	0.2884	0.3513	0.4160	0.4689	0.5019	0.5112	0.4966	0.4613	0.4126	0.3637							
Abs(s3dbldot)	4	0.3793	0.3870	0.4270	0.4791	0.5248	0.5527	0.5567	0.5347	0.4882	0.4219	0.3450	0.2716	0.2231	0.2210	0.2660	0.3359	0.4086	0.4701	0.5121	0.5303	0.5239	0.4956	0.4523	0.4069							
Abs(s3dbldot)	6	0.4338	0.4396	0.4737	0.5180	0.5550	0.5738	0.5683	0.5372	0.4821	0.4087	0.3291	0.2494	0.1990	0.1983	0.2481	0.3243	0.4044	0.4745	0.5256	0.5532	0.5359	0.5358	0.4993	0.4591							
Abs(s3dbldot)	7	0.4654	0.4704	0.5013	0.5411	0.5732	0.5867	0.5761	0.5399	0.4805	0.4036	0.3181	0.2404	0.1893	0.1892	0.2410	0.3200	0.4037	0.4780	0.5337	0.5662	0.5737	0.5582	0.5259	0.4890							

x for ERF eq	0	-1.8996	-1.8415	-1.6992	-1.4683	-1.3213	-1.2291	-1.1913	-1.2080	-1.1101	-1.0071	-0.9000	-0.7881	-0.6710	-0.5488	-0.4215	-0.2902	-0.1547	-0.0156	0.1246	0.2649	0.4052	0.5455	0.6858	0.8261	0.9664	1.1067	1.2470	1.3873	1.5276	1.6679	
x for ERF eq	2	-1.7426	-1.7026	-1.5558	-1.3972	-1.2747	-1.2030	-1.1840	-1.2108	-1.1299	-1.0331	-0.9260	-0.8149	-0.6990	-0.5828	-0.4615	-0.3402	-0.2189	-0.0976	0.0235	0.1638	0.3041	0.4444	0.5847	0.7250	0.8653	1.0056	1.1459	1.2862	1.4265	1.5668	
x for ERF eq	4	-1.5834	-1.5580	-1.4437	-1.3154	-1.2177	-1.1667	-1.1671	-1.2029	-1.1299	-1.0399	-0.9399	-0.8326	-0.7203	-0.6076	-0.4901	-0.3724	-0.2547	-0.1370	-0.0193	0.0984	0.2387	0.3790	0.5193	0.6596	0.8000	0.9403	1.0806	1.2209	1.3612	1.5015	
x for ERF eq	6	-1.4152	-1.3998	-1.3160	-1.2192	-1.1482	-1.1192	-1.1661	-1.1061	-1.0061	-0.9061	-0.8061	-0.7061	-0.6061	-0.5061	-0.4061	-0.3061	-0.2061	-0.1061	0.0061	0.1061	0.2061	0.3061	0.4061	0.5061	0.6061	0.7061	0.8061	0.9061	1.0061	1.1061	1.2061
x for ERF eq	7	-1.3282	-1.3164	-1.2464	-1.1651	-1.1079	-1.0902	-1.1227	-1.0617	-0.9617	-0.8617	-0.7617	-0.6617	-0.5617	-0.4617	-0.3617	-0.2617	-0.1617	-0.0617	0.0383	0.1383	0.2383	0.3383	0.4383	0.5383	0.6383	0.7383	0.8383	0.9383	1.0383	1.1383	1.2383

FLD_S56	MSI	Stbd, A-Frame	SHORTCRESTED	19.7	0	2.9023	3.2634	4.8202	7.0680	9.3043	10.9698	13.1975	15.3525	10.0582	7.9379	5.5483	3.4688	2.3996	2.4357	3.4962	5.3517	7.3459	9.0263	10.0005	9.9671	8.9412	7.2723	5.3742	3.6963	0 kts
FLD_S56	MSI	Stbd, A-Frame	SHORTCRESTED	19.7	2	4.0728	4.4752	6.0290	8.1394	10.1547	12.4440	14.8889	17.1370	9.4532	7.0554	4.5787	2.5758	1.5639	1.6299	2.7522	4.6898	6.9754	8.9751	10.3377	10.6742	10.0395	8.5547	6.7306	4.9451	2 kts
FLD_S56	MSI	Stbd, A-Frame	SHORTCRESTED	19.7	4	5.0977	6.0036	7.3967	9.4136	11.7058	14.1547	17.1467	19.8007	8.9857	6.4164	3.7661	1.8108	0.8989	1.0427	2.1111	4.2142	6.7836	9.0914	10.8431	11.5485	11.8823	10.1488	8.3797	6.6786	4 kts
FLD_S56	MSI	Stbd, A-Frame	SHORTCRESTED	19.7	6	7.8541</																								

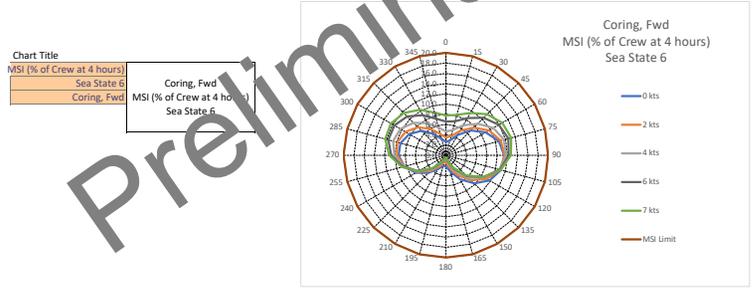
VERTICAL VELOCITY (m/sec)

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S56	VERTICAL	VELOCITY	Coring, Fwd	SHORTCRESTED	19.7	0	0.52	0.54	0.61	0.71	0.81	0.88	0.92	0.92	0.88	0.80	0.70	0.60	0.52	0.50	0.53	0.61	0.70	0.76	0.80	0.81	0.78	0.72	0.64	0.56	0 kts
FLD_S56	VERTICAL	VELOCITY	Coring, Fwd	SHORTCRESTED	19.7	2	0.56	0.57	0.64	0.74	0.83	0.89	0.92	0.91	0.86	0.78	0.67	0.57	0.49	0.46	0.50	0.58	0.68	0.76	0.81	0.82	0.80	0.74	0.67	0.60	2 kts
FLD_S56	VERTICAL	VELOCITY	Coring, Fwd	SHORTCRESTED	19.7	4	0.60	0.62	0.68	0.77	0.85	0.91	0.93	0.91	0.85	0.76	0.65	0.54	0.45	0.43	0.47	0.56	0.67	0.75	0.81	0.84	0.82	0.78	0.71	0.64	4 kts
FLD_S56	VERTICAL	VELOCITY	Coring, Fwd	SHORTCRESTED	19.7	6	0.66	0.67	0.73	0.81	0.89	0.93	0.95	0.92	0.85	0.75	0.63	0.52	0.43	0.40	0.45	0.55	0.66	0.75	0.82	0.86	0.86	0.82	0.76	0.70	6 kts
FLD_S56	VERTICAL	VELOCITY	Coring, Fwd	SHORTCRESTED	19.7	7	0.70	0.71	0.77	0.84	0.91	0.95	0.95	0.92	0.85	0.74	0.62	0.51	0.42	0.39	0.44	0.54	0.65	0.76	0.83	0.87	0.87	0.84	0.79	0.73	7 kts

VERTICAL ACCELERATION

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	VERTICAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	0	0.04	0.04	0.04	0.05	0.06	0.07	0.07	0.07	0.06	0.06	0.05	0.04	0.04	0.03	0.04	0.05	0.05	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0 kts	
FLD_S56	VERTICAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	2	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.06	0.06	0.05	0.04	0.03	0.03	0.04	0.04	0.04	0.05	0.06	0.06	0.06	0.06	0.05	0.04	2 kts	
FLD_S56	VERTICAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	4	0.04	0.05	0.05	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.06	0.05	0.05	4 kts	
FLD_S56	VERTICAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	6	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.02	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.06	0.06	0.05	6 kts	
FLD_S56	VERTICAL	ACCELERATION	Coring, Fwd	SHORTCRESTED	19.7	7	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.06	0.05	0.04	0.03	0.02	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.06	0.06	0.06	7 kts

We	0	0.6856	0.6979	0.7192	0.7327	0.7382	0.7387	0.7358	0.7303	0.7217	0.7097	0.6930	0.6733	0.6618	0.6755	0.7067	0.7312	0.7435	0.7477	0.7468	0.74	0.7354	0.7249	0.7105	0.6945					
We	2	0.7092	0.7177	0.7330	0.7421	0.7440	0.7414	0.7354	0.7263	0.7139	0.6967	0.6738	0.6465	0.6294	0.6478	0.6915	0.7254	0.7432	0.7506	0.7525	0.7483	0.7469	0.7397	0.7296	0.7166					
We	4	0.7317	0.7373	0.7479	0.7529	0.7518	0.7461	0.7371	0.7248	0.7082	0.6859	0.6557	0.6201	0.5958	0.6196	0.6780	0.7223	0.7450	0.7496	0.7495	0.7465	0.7416	0.7359	0.7259	0.7185	0.7085				
We	6	0.7586	0.7609	0.7664	0.7674	0.7628	0.7540	0.7416	0.7258	0.7048	0.6768	0.6395	0.5949	0.5637	0.5927	0.6664	0.7208	0.7437	0.7531	0.7704	0.7741	0.7753	0.7739	0.7700	0.7655					
We	7	0.7740	0.7753	0.7780	0.7766	0.7699	0.7595	0.7453	0.7274	0.7041	0.6735	0.6325	0.5837	0.5489	0.5804	0.6616	0.7085	0.7312	0.7391	0.7516	0.7591	0.7660	0.7713	0.7738	0.7721	0.7686				
Ms(MSI)	0	-0.7567	-0.7624	-0.7714	-0.7767	-0.7787	-0.7789	-0.7778	-0.7758	-0.7725	-0.7676	-0.7602	-0.7505	-0.7445	-0.7517	-0.7651	-0.7820	-0.7925	-0.7951	-0.7951	-0.7920	-0.7820	-0.7817	-0.7802	-0.7777	-0.7737	-0.7679	-0.7608		
Ms(MSI)	2	-0.7673	-0.7708	-0.7768	-0.7801	-0.7807	-0.7798	-0.7777	-0.7742	-0.7693	-0.7619	-0.7508	-0.7357	-0.7252	-0.7355	-0.7594	-0.7781	-0.7905	-0.7930	-0.7930	-0.7880	-0.7836	-0.7831	-0.7817	-0.7792	-0.7755	-0.7704			
Ms(MSI)	4	-0.7763	-0.7784	-0.7821	-0.7838	-0.7834	-0.7815	-0.7783	-0.7737	-0.7669	-0.7568	-0.7411	-0.7190	-0.7017	-0.7186	-0.7429	-0.7722	-0.7811	-0.7848	-0.7862	-0.7865	-0.7860	-0.7847	-0.7823	-0.7788					
Ms(MSI)	6	-0.7856	-0.7863	-0.7880	-0.7883	-0.7869	-0.7841	-0.7799	-0.7740	-0.7654	-0.7523	-0.7315	-0.7009	-0.6752	-0.6993	-0.7299	-0.7722	-0.7824	-0.7870	-0.7892	-0.7903	-0.7907	-0.7903	-0.7891	-0.7871					
Ms(MSI)	7	-0.7903	-0.7906	-0.7914	-0.7910	-0.7891	-0.7859	-0.7812	-0.7747	-0.7652	-0.7506	-0.7272	-0.6921	-0.6616	-0.6886	-0.7209	-0.7720	-0.7832	-0.7883	-0.7909	-0.7924	-0.7930	-0.7931	-0.7926	-0.7913					
Abs(sdbldot)	0	0.2857	0.3006	0.3514	0.4156	0.4749	0.5182	0.5389	0.5341	0.5041	0.4526	0.3870	0.3191	0.2743	0.2673	0.3012	0.3564	0.4125	0.4559	0.4793	0.4796	0.4572	0.4156	0.3629	0.3127					
Abs(sdbldot)	2	0.3146	0.3282	0.3764	0.4368	0.4912	0.5282	0.5418	0.5296	0.4922	0.4340	0.3628	0.2921	0.2439	0.2379	0.2765	0.3386	0.4022	0.4535	0.4847	0.4922	0.4761	0.4397	0.3904	0.3416					
Abs(sdbldot)	4	0.3508	0.3626	0.4075	0.4653	0.5122	0.5424	0.5485	0.5282	0.4830	0.4177	0.3410	0.2660	0.2112	0.2118	0.2556	0.3245	0.3956	0.4548	0.4939	0.5092	0.5002	0.4694	0.4240	0.3774					
Abs(sdbldot)	6	0.3995	0.4096	0.4494	0.4989	0.5401	0.5621	0.5593	0.5303	0.4769	0.4045	0.3315	0.2541	0.2051	0.2051	0.2451	0.3103	0.3822	0.4592	0.5069	0.5306	0.5295	0.5058	0.4662	0.4240					
Abs(sdbldot)	7	0.4295	0.4387	0.4755	0.5209	0.5574	0.5745	0.5667	0.5329	0.4752	0.3994	0.3141	0.2353	0.1838	0.1819	0.2328	0.3106	0.3919	0.4629	0.5148	0.5431	0.5465	0.5270	0.4913	0.4523					
x for ERF eq	0	-1.9479	-1.8782	-1.6860	-1.4908	-1.3408	-1.2459	-1.2058	-1.2206	-1.1616	-1.0970	-1.0300	-0.9612	-0.8912	-0.8200	-0.7472	-0.6735	-0.6000	-0.5275	-0.4560	-0.3855	-0.3160	-0.2475	-0.1800	-0.1135	-0.0480	-0.0000			
x for ERF eq	2	-1.8164	-1.7618	-1.5981	-1.4282	-1.2993	-1.2227	-1.2004	-1.2338	-1.2099	-1.1308	-1.0520	-0.9720	-0.8912	-0.8100	-0.7272	-0.6435	-0.5600	-0.4775	-0.3960	-0.3155	-0.2360	-0.1575	-0.0800	-0.0035	-0.0000				
x for ERF eq	4	-1.6758	-1.6347	-1.4988	-1.3546	-1.2471	-1.1897	-1.1856	-1.2280	-1.2050	-1.1150	-1.0250	-0.9350	-0.8450	-0.7550	-0.6650	-0.5750	-0.4850	-0.3950	-0.3050	-0.2150	-0.1250	-0.0350	-0.0000						
x for ERF eq	6	-1.5114	-1.4825	-1.3775	-1.2633	-1.1807	-1.1444	-1.1298	-1.1895	-1.5811	-1.8791	-2.2534	-2.5770	-2.8323	-3.0265	-3.1655	-3.2400	-3.2600	-3.2250	-3.1450	-3.0200	-2.8550	-2.6500	-2.4050	-2.1300	-1.8250	-1.4900	-1.1250		
x for ERF eq	7	-1.4211	-1.3971	-1.3077	-1.2098	-1.1410	-1.1150	-1.1428	-1.2000	-1.4141	-1.5992	-1.9156	-2.3152	-2.6641	-2.9600	-3.2010	-3.3810	-3.5000	-3.5600	-3.5700	-3.5300	-3.4450	-3.3200	-3.1550	-2.9500	-2.7050	-2.4300	-2.1350	-1.8200	
MSI	0	2.6125	3.0247	4.6091	6.8049	8.9564	10.6728	11.9972	11.1223	9.8504	7.7607	5.3816	3.2963	2.1594	2.0999	3.0948	4.8224	6.8215	8.4173	9.2672	9.2125	8.3093	6.7211	4.8144	3.2799	2 kts				
MSI	2	3.4639	3.8999	5.5230	7.6418	9.7131	11.0856	11.4925	10.8878	9.2284	6.9198	4.7117	2.4556	1.4063	1.4122	2.4419	4.2978	6.4978	8.3715	9.5777	9.8759	9.1368	7.2234	4.8084	3.2 kts					
MSI	4	4.6876	5.0718	6.7139	8.7313	10.6719	11.9986	11.7782	10.8116	8.7702	6.2800	3.6416	1.7880	0.8206	0.8584	1.8819	3.8379	6.2989	8.4738	10.0675	10.6794	10.3052	8.9964	7.2215	5.1822	4 kts				
MSI	6	6.5630	6.9999	8.4098	10.3507	11.8713	12.8664	12.9052	8.5198	5.7273	3.0194	1.1923	0.5003	0.5292	1.5379	3.5490	6.2281	8.7029	10.7093	11.6641	11.6368	10.7129	9.0583	7.4079	6 kts					
MSI	7	7.7578	8.1400	9.5571	11.3118	12.6938	13.6661	12.6546	11.0267	8.4557	5.5096	2.8064	1.0407	0.3675	0.4914	1.3957	3.4437	6.2418	8.8856	11.0826	12.2709	12.4456	11.6578	10.2527	8.6214	7 kts				
MSI Limit		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20



VERTICAL VELOCITY (m/sec)

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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											
FLD_S56	VERTICAL	VELOCITY	Coring_Aft	SHORTCRESTED	19.7	0	1.37	1.38	1.39	1.37	1.35	1.34	1.32	1.31	1.29	1.27	1.25	1.22	1.20	1.18	1.17	1.16	1.17	1.19	1.21	1.24	1.27	1.30	1.33	1.36	0 kts										
FLD_S56	VERTICAL	VELOCITY	Coring_Aft	SHORTCRESTED	19.7	2	1.43	1.43	1.43	1.41	1.38	1.35	1.32	1.28	1.24	1.20	1.16	1.12	1.09	1.07	1.07	1.08	1.11	1.15	1.20	1.25	1.30	1.34	1.38	1.41	2 kts										
FLD_S56	VERTICAL	VELOCITY	Coring_Aft	SHORTCRESTED	19.7	4	1.47	1.48	1.47	1.44	1.41	1.36	1.31	1.25	1.18	1.12	1.07	1.02	0.98	0.97	0.98	1.01	1.06	1.12	1.19	1.26	1.32	1.37	1.42	1.45	4 kts										
FLD_S56	VERTICAL	VELOCITY	Coring_Aft	SHORTCRESTED	19.7	6	1.51	1.52	1.51	1.48	1.43	1.37	1.30	1.22	1.13	1.05	0.98	0.92	0.88	0.87	0.89	0.94	1.01	1.09	1.18	1.27	1.34	1.41	1.45	1.49	6 kts										
FLD_S56	VERTICAL	VELOCITY	Coring_Aft	SHORTCRESTED	19.7	7	1.53	1.54	1.53	1.50	1.45	1.38	1.30	1.21	1.11	1.02	0.94	0.87	0.83	0.82	0.85	0.90	0.99	1.08	1.18	1.28	1.36	1.43	1.48	1.51	7 kts										
FLD_S56	VERTICAL	VELOCITY	Coring_Aft	SHORTCRESTED	19.7																																				

VERTICAL ACCELERATION

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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											
FLD_S56	VERTICAL	ACCELERATION	Coring_Aft	SHORTCRESTED	19.7	0	0.10	0.10	0.10	0.10	0.11	0.11	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0 kts										
FLD_S56	VERTICAL	ACCELERATION	Coring_Aft	SHORTCRESTED	19.7	2	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.10	0.10	0.10	0.11	0.11	0.11	2 kts									
FLD_S56	VERTICAL	ACCELERATION	Coring_Aft	SHORTCRESTED	19.7	4	0.12	0.12	0.12	0.12	0.12	0.11	0.10	0.10	0.09	0.09	0.08	0.07	0.07	0.06	0.06	0.07	0.07	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.12	4 kts									
FLD_S56	VERTICAL	ACCELERATION	Coring_Aft	SHORTCRESTED	19.7	6	0.13	0.13	0.13	0.13	0.12	0.11	0.10	0.09	0.08	0.07	0.06	0.06	0.05	0.05	0.06	0.06	0.07	0.08	0.10	0.11	0.11	0.12	0.12	0.13	0.13	6 kts									
FLD_S56	VERTICAL	ACCELERATION	Coring_Aft	SHORTCRESTED	19.7	7	0.13	0.13	0.13	0.13	0.12	0.12	0.11	0.09	0.08	0.07	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.08	0.10	0.11	0.11	0.12	0.12	0.13	0.13	7 kts									
FLD_S56	VERTICAL	ACCELERATION	Coring_Aft	SHORTCRESTED	19.7																																				

We	0	0.7291	0.7325	0.7417	0.7537	0.7654	0.7731	0.7747	0.7693	0.7574	0.7420	0.7262	0.7134	0.7070	0.7090	0.7196	0.7360	0.7536	0.7675	0.7743	0.7711	0.7652	0.7534	0.7412	0.7322
We	2	0.7643	0.7666	0.7728	0.7798	0.7847	0.7846	0.7773	0.7626	0.7419	0.7181	0.6953	0.6779	0.6695	0.6732	0.6891	0.7132	0.7397	0.7627	0.7784	0.7827	0.7855	0.7799	0.7726	0.7665
We	4	0.7977	0.7990	0.8027	0.8056	0.8049	0.7981	0.7830	0.7596	0.7291	0.6952	0.6635	0.6393	0.6231	0.6345	0.6579	0.6923	0.7295	0.7645	0.7883	0.8002	0.8062	0.8062	0.8027	0.7990
We	6	0.8294	0.8301	0.8313	0.8309	0.8257	0.8133	0.7918	0.7606	0.7205	0.6751	0.6318	0.5981	0.5823	0.5925	0.6268	0.6745	0.7245	0.7657	0.7964	0.8165	0.8278	0.8319	0.8320	0.8303
We	7	0.8451	0.8455	0.8456	0.8434	0.8362	0.8216	0.7976	0.7633	0.7190	0.6684	0.6193	0.5806	0.5625	0.5750	0.6151	0.6717	0.7242	0.7707	0.8031	0.8254	0.8386	0.8447	0.8463	0.8457

Mu(MSI)	0	-0.7753	-0.7766	-0.7799	-0.7840	-0.7877	-0.7900	-0.7905	-0.7889	-0.7852	-0.7801	-0.7742	-0.7691	-0.7664	-0.7670	-0.7720	-0.7799	-0.7901	-0.7984	-0.7984	-0.7904	-0.7900	-0.7877	-0.7839	-0.7797	-0.7785				
Mu(MSI)	2	-0.7874	-0.7881	-0.7899	-0.7919	-0.7933	-0.7932	-0.7912	-0.7868	-0.7800	-0.7710	-0.7612	-0.7529	-0.7486	-0.7505	-0.7583	-0.7701	-0.7792	-0.7869	-0.7915	-0.7936	-0.7935	-0.7920	-0.7899	-0.7881					
Mu(MSI)	4	-0.7966	-0.7970	-0.7979	-0.7986	-0.7984	-0.7967	-0.7928	-0.7859	-0.7750	-0.7612	-0.7454	-0.7314	-0.7244	-0.7284	-0.7421	-0.7558	-0.7682	-0.7786	-0.7836	-0.7913	-0.7937	-0.7937	-0.7920	-0.7900					
Mu(MSI)	6	-0.8037	-0.8038	-0.8041	-0.8040	-0.8029	-0.8003	-0.7952	-0.7862	-0.7720	-0.7515	-0.7267	-0.7034	-0.6910	-0.6997	-0.7187	-0.7352	-0.7512	-0.7633	-0.7718	-0.7801	-0.7878	-0.7936	-0.8010	-0.8034	-0.8042	-0.8042	-0.8039		
Mu(MSI)	7	-0.8066	-0.8067	-0.8067	-0.8063	-0.8050	-0.8021	-0.7966	-0.7871	-0.7714	-0.7480	-0.7185	-0.6897	-0.6742	-0.6868	-0.7107	-0.7306	-0.7466	-0.7584	-0.7673	-0.7801	-0.7890	-0.7980	-0.8029	-0.8054	-0.8065	-0.8068	-0.8067		
Mu(MSI)																														

Abs(s3dbldot)	0	0.7986	0.8062	0.8143	0.8218	0.8266	0.8263	0.8189	0.8037	0.7813	0.7537	0.7242	0.6941	0.6761	0.6669	0.6703	0.6842	0.7046	0.7273	0.7485	0.7654	0.7769	0.7838	0.7880	0.7924					
Abs(s3dbldot)	2	0.8709	0.8773	0.8798	0.8789	0.8651	0.8459	0.8158	0.7770	0.7323	0.6857	0.6420	0.6055	0.5832	0.5762	0.5889	0.6179	0.6540	0.7010	0.7445	0.7826	0.8129	0.8349	0.8503	0.8617					
Abs(s3dbldot)	4	0.9264	0.9418	0.9400	0.9285	0.9049	0.8673	0.8164	0.7551	0.6884	0.6226	0.5642	0.5187	0.4921	0.4898	0.5127	0.5567	0.6154	0.6908	0.7453	0.8025	0.8491	0.8838	0.9081	0.9249					
Abs(s3dbldot)	6	1.0006	1.0053	0.9997	0.9807	0.9453	0.8920	0.8220	0.7396	0.6516	0.5664	0.4942	0.4374	0.4075	0.4093	0.4432	0.5034	0.5816	0.6674	0.7516	0.8266	0.8879	0.9338	0.9659	0.9874					
Abs(s3dbldot)	7	1.0347	1.0388	1.0311	1.0084	0.9672	0.9065	0.8277	0.7356	0.6379	0.5440	0.4635	0.3938	0.3724	0.3762	0.4151	0.4827	0.5696	0.6647	0.7578	0.8410	0.9093	0.9609	0.9968	1.0207					
Abs(s3dbldot)																														

x for ERF eq	0	-0.7851	-0.7716	-0.7524	-0.7322	-0.7166	-0.7113	-0.7198	-0.7442	-0.7811	-0.8290	-0.8877	-0.9467	-0.9881	-1.0009	-0.9844	-0.9465	-0.8993	-0.8539	-0.8178	-0.7944	-0.7839	-0.7885	-0.7906						
x for ERF eq	2	-0.6608	-0.6510	-0.6434	-0.6420	-0.6520	-0.6777	-0.7222	-0.7856	-0.8699	-0.9641	-1.0573	-1.1413	-1.1951	-1.2017	-1.1583	-1.0804	-0.9876	-0.8976	-0.8207	-0.7614	-0.7204	-0.6952	-0.6805	-0.6706					
x for ERF eq	4	-0.5590	-0.5518	-0.5517	-0.5632	-0.5917	-0.6419	-0.7174	-0.8095	-0.9062	-1.0063	-1.1098	-1.2172	-1.3634	-1.4381	-1.3489	-1.2156	-1.0676	-0.9298	-0.8144	-0.7249	-0.6601	-0.6165	-0.5892	-0.5715					
x for ERF eq	6	-0.4693	-0.4638	-0.4694	-0.4904	-0.5329	-0.6025	-0.6841	-0.7784	-0.8844	-1.0004	-1.1277	-1.2611	-1.4184	-1.7264	-1.7014	-1.5540	-1.3462	-1.1344	-0.9486	-0.7984	-0.6834	-0.5999	-0.5430	-0.5063	-0.4833				
x for ERF eq	7	-0.4256	-0.4211	-0.4292	-0.4543	-0.5028	-0.5862	-0.6930	-0.8199	-0.9608	-1.1088	-1.2702	-1.5180	-1.7395	-1.8661	-1.8282	-1.6446	-1.3984	-1.1568	-0.9501	-0.7853	-0.6599	-0.5687	-0.5062	-0.4656	-0.4402				
x for ERF eq																														

FLD_S56	MSI	Coring_Aft	SHORTCRESTED	19.7	0	21.6419	22.0447	22.6270	23.2288	23.6951	23.8566	23.5978	22.8716	21.6697	20.1870	18.5650	17.1315	16.1813	15.8791	16.2698	17.1877	18.4196	19.6892	20.6957	21.3652	21.6707	21.6773	21.5405	21.4783	0 kts		
FLD_S56	MSI	Coring_Aft	SHORTCRESTED	19.7	2	25.4507	25.7667	26.0099	26.0528	25.7346	24.9060	23.3869	21.6327	19.3046	16.8221	14.5364	12.6872	11.5945	11.4691	12.3272	14.0263	16.1927	18.4652	20.6148	22.3533	23.5822	24.3520	24.8162	25.1367	2 kts		
FLD_S56	MSI	Coring_Aft	SHORTCRESTED	19.7	4	28.7923	29.0384	29.0423	28.6468	26.9733	23.7178	20.0567	23.6726	20.6538	17.1946	13.8001	10.8262	8.6056	7.4830	7.5644	8.8186	11.2127	14.3071	17.6125	20.7900	23.4462	25.7388	26.8657	27.7631	28.3644	4 kts	
FLD_S56	MSI	Coring_Aft	SHORTCRESTED	19.7	6	31.8946	32.0921	31.8914	31.1366	29.6173	25.3178	24.0736	20.0472	15.5509	11.1751	7.5954	5.2691	4.2360	4.4865	6.0516	8.8632	12.8377	17.1342	21.2473	24.7258	27.4047	29.3350	30.5830	31.3914	6 kts		
FLD_S56	MSI	Coring_Aft	SHORTCRESTED	19.7	7	33.5277	33.6975	33.3902	32.4395	30.7016	25.0567	24.4195	19.9423	14.9627	10.2362	6.4840	4.1031	3.0971	3.3678	4.9583	8.1226	12.3588	17.0965	21.6339	25.4805	28.4578	30.5867	32.0283	32.9709	7 kts		
MSI																																
MSI																																

						MSI Limit	2
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**VERTICAL VELOCITY (m/sec)**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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						
FLD_S56	VERTICAL	VELOCITY	Mooring_Fwd	SHORTCRESTED	19.7	0	1.43	1.45	1.46	1.47	1.47	1.45	1.41	1.37	1.32	1.28	1.25	1.24	1.24	1.25	1.27	1.30	1.34	1.38	1.41	1.43	1.44	1.43	1.43	1.43	0 kts					
FLD_S56	VERTICAL	VELOCITY	Mooring_Fwd	SHORTCRESTED	19.7	2	1.58	1.59	1.59	1.58	1.54	1.49	1.42	1.34	1.27	1.21	1.17	1.14	1.14	1.16	1.19	1.23	1.29	1.36	1.42	1.47	1.51	1.54	1.55	1.57	2 kts					
FLD_S56	VERTICAL	VELOCITY	Mooring_Fwd	SHORTCRESTED	19.7	4	1.72	1.72	1.71	1.67	1.62	1.53	1.43	1.32	1.22	1.14	1.08	1.04	1.04	1.06	1.10	1.17	1.25	1.34	1.43	1.51	1.58	1.63	1.67	1.70	4 kts					
FLD_S56	VERTICAL	VELOCITY	Mooring_Fwd	SHORTCRESTED	19.7	6	1.84	1.84	1.81	1.76	1.68	1.57	1.44	1.30	1.17	1.06	0.99	0.95	0.94	0.96	1.02	1.10	1.20	1.32	1.44	1.55	1.65	1.72	1.78	1.82	6 kts					
FLD_S56	VERTICAL	VELOCITY	Mooring_Fwd	SHORTCRESTED	19.7	7	1.89	1.89	1.86	1.80	1.71	1.59	1.45	1.30	1.15	1.03	0.95	0.90	0.89	0.92	0.98	1.07	1.19	1.31	1.45	1.57	1.68	1.76	1.83	1.87	7 kts					

**VERTICAL ACCELERATION**

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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						
FLD_S56	VERTICAL	ACCELERATION	Mooring_Fwd	SHORTCRESTED	19.7	0	0.11	0.11	0.11	0.11	0.12	0.12	0.11	0.11	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0 kts					
FLD_S56	VERTICAL	ACCELERATION	Mooring_Fwd	SHORTCRESTED	19.7	2	0.12	0.12	0.13	0.13	0.13	0.12	0.12	0.11	0.10	0.09	0.08	0.08	0.08	0.08	0.08	0.09	0.10	0.11	0.11	0.12	0.12	0.12	0.12	0.12	2 kts					
FLD_S56	VERTICAL	ACCELERATION	Mooring_Fwd	SHORTCRESTED	19.7	4	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.12	0.11	0.09	0.08	0.07	0.07	0.07	0.07	0.08	0.09	0.11	0.12	0.12	0.13	0.13	0.14	0.14	4 kts					
FLD_S56	VERTICAL	ACCELERATION	Mooring_Fwd	SHORTCRESTED	19.7	6	0.15	0.15	0.15	0.15	0.15	0.14	0.13	0.12	0.11	0.09	0.08	0.07	0.06	0.06	0.06	0.07	0.08	0.09	0.11	0.12	0.13	0.14	0.15	0.15	6 kts					
FLD_S56	VERTICAL	ACCELERATION	Mooring_Fwd	SHORTCRESTED	19.7	7	0.16	0.16	0.16	0.16	0.15	0.14	0.13	0.12	0.11	0.09	0.07	0.06	0.05	0.05	0.06	0.07	0.09	0.10	0.11	0.13	0.14	0.15	0.16	0.16	7 kts					

We	0	0.7256	0.7305	0.7433	0.7603	0.7764	0.7882	0.7934	0.7901	0.7778	0.7584	0.7367	0.7189	0.7101	0.7136	0.7276	0.7470	0.7662	0.7807	0.7895	0.78	0.7770	0.7630	0.7449	0.7311	
We	2	0.7618	0.7650	0.7736	0.7846	0.7945	0.8000	0.7984	0.7873	0.7658	0.7363	0.7053	0.6806	0.6694	0.6758	0.6965	0.7250	0.7537	0.7768	0.7912	0.785	0.7941	0.7855	0.7745	0.7554	
We	4	0.7949	0.7969	0.8024	0.8090	0.8138	0.8140	0.8064	0.7880	0.7573	0.7167	0.6743	0.6409	0.6266	0.6368	0.6665	0.7058	0.7447	0.7759	0.7899	0.8093	0.8123	0.8091	0.8029	0.7972	
We	6	0.8247	0.8258	0.8290	0.8324	0.8335	0.8293	0.8168	0.7924	0.7535	0.7015	0.6462	0.6021	0.5837	0.5991	0.6397	0.6908	0.7399	0.7778	0.7998	0.8072	0.8236	0.8309	0.8318	0.8291	0.8261
We	7	0.8385	0.8393	0.8416	0.8437	0.8432	0.8374	0.8230	0.7963	0.7540	0.6969	0.6352	0.5854	0.5650	0.5832	0.6294	0.6839	0.7406	0.7911	0.8130	0.8313	0.8403	0.8430	0.8417	0.8396	

Mu(MSI)	0	-0.7740	-0.7758	-0.7805	-0.7861	-0.7910	-0.7942	-0.7956	-0.7947	-0.7914	-0.7855	-0.7781	-0.7713	-0.7677	-0.7659	-0.7651	-0.7659	-0.7681	-0.7718	-0.7761	-0.7811	-0.7922	-0.7940	-0.7937	-0.7911	-0.7867	-0.7811	-0.7761	
Mu(MSI)	2	-0.7866	-0.7876	-0.7902	-0.7932	-0.7958	-0.7972	-0.7968	-0.7940	-0.7878	-0.7780	-0.7657	-0.7542	-0.7485	-0.7438	-0.7418	-0.7431	-0.7461	-0.7506	-0.7564	-0.7632	-0.7840	-0.7911	-0.7950	-0.7964	-0.7957	-0.7935	-0.7904	-0.7877
Mu(MSI)	4	-0.7959	-0.7964	-0.7978	-0.7993	-0.8004	-0.8005	-0.7987	-0.7941	-0.7852	-0.7705	-0.7511	-0.7324	-0.7234	-0.7256	-0.7290	-0.7341	-0.7401	-0.7474	-0.7558	-0.7651	-0.7810	-0.7910	-0.7967	-0.7994	-0.8001	-0.7994	-0.7979	-0.7965
Mu(MSI)	6	-0.8027	-0.8030	-0.8036	-0.8043	-0.8045	-0.8037	-0.8011	-0.7953	-0.7840	-0.7640	-0.7356	-0.7064	-0.6922	-0.704	-0.7177	-0.7291	-0.7399	-0.7494	-0.7594	-0.7704	-0.7819	-0.7919	-0.7989	-0.8025	-0.8040	-0.8042	-0.8036	-0.8030
Mu(MSI)	7	-0.8054	-0.8056	-0.8060	-0.8064	-0.8063	-0.8052	-0.8024	-0.7963	-0.7841	-0.7620	-0.7289	-0.6935	-0.6764	-0.691	-0.707	-0.7190	-0.7294	-0.7394	-0.7494	-0.7604	-0.7729	-0.7828	-0.8002	-0.8041	-0.8058	-0.8062	-0.8060	-0.8056

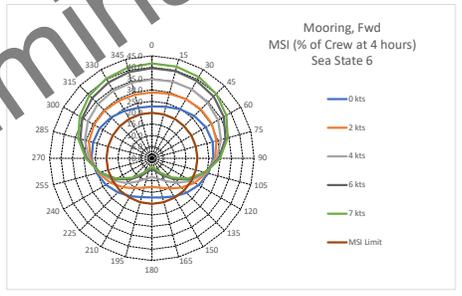
Abs(s3db dot)	0	0.8305	0.8443	0.8684	0.8938	0.9100	0.9108	0.8939	0.8614	0.8190	0.7748	0.7370	0.7051	0.7020	0.7120	0.7388	0.7767	0.8187	0.8568	0.8838	0.8953	0.8902	0.8721	0.8491	0.8324
Abs(s3db dot)	2	0.9600	0.9703	0.9816	0.9874	0.9793	0.9525	0.9063	0.8448	0.7759	0.7099	0.6562	0.6211	0.6091	0.6231	0.6604	0.7143	0.7774	0.8406	0.8951	0.9347	0.9569	0.9634	0.9605	0.9576
Abs(s3db dot)	4	1.0897	1.0950	1.0941	1.0811	1.0497	0.9963	0.9220	0.8325	0.7375	0.6492	0.5885	0.5363	0.5151	0.5373	0.5859	0.6566	0.7410	0.8289	0.9102	0.9770	1.0253	1.0553	1.0717	1.0817
Abs(s3db dot)	6	1.2106	1.2121	1.2004	1.1707	1.1180	1.0404	0.9403	0.8250	0.7057	0.5961	0.5143	0.4543	0.4364	0.4599	0.5197	0.6065	0.7112	0.8224	0.9285	1.0204	1.0926	1.1440	1.1775	1.1988
Abs(s3db dot)	7	1.2660	1.2659	1.2494	1.2124	1.1505	1.0622	0.9507	0.8238	0.6935	0.5744	0.4801	0.4105	0.4015	0.4273	0.4921	0.5863	0.7001	0.8217	0.9391	1.0423	1.1251	1.1858	1.2267	1.2526

x for ERF eq	0	-0.7459	-0.7234	-0.6811	-0.6358	-0.6041	-0.5950	-0.6120	-0.6544	-0.7174	-0.8008	-0.9028	-0.9440	-0.9250	-0.8709	-0.7991	-0.7265	-0.6665	-0.6282	-0.6151	-0.6276	-0.6611	-0.7042	-0.7382			
x for ERF eq	2	-0.5559	-0.5429	-0.5239	-0.5088	-0.5123	-0.5390	-0.5940	-0.6728	-0.7699	-0.8831	-1.0225	-1.1107	-1.1461	-1.1132	-1.0252	-0.9101	-0.7925	-0.6900	-0.6120	-0.5615	-0.5377	-0.5359	-0.5468	-0.5569		
x for ERF eq	4	-0.3960	-0.3896	-0.3871	-0.3961	-0.4254	-0.4820	-0.5705	-0.6728	-0.7868	-0.9121	-1.0513	-1.1951	-1.3302	-1.3836	-1.3288	-1.1927	-1.0212	-0.8521	-0.7055	-0.5896	-0.5059	-0.4518	-0.4223	-0.4092	-0.4026	
x for ERF eq	6	-0.2648	-0.2629	-0.2718	-0.2974	-0.3468	-0.4270	-0.5298	-0.6478	-0.7839	-0.9309	-1.0917	-1.2619	-1.4359	-1.6089	-1.6489	-1.5620	-1.3605	-1.1242	-0.9008	-0.7117	-0.5623	-0.4509	-0.3730	-0.3227	-0.2926	-0.2748
x for ERF eq	7	-0.2095	-0.2093	-0.2224	-0.2541	-0.3113	-0.4007	-0.5281	-0.6831	-0.8621	-1.0621	-1.2819	-1.5201	-1.7629	-2.0099	-2.2599	-2.4899	-2.6899	-2.8499	-2.9699	-3.0499	-3.0899	-3.0999	-3.0899	-3.0699	-3.0499	

FLD_S56 MSI	Mooring_Fwd	SHORTCRESTED	19.7	0	22.8219	23.4930	24.7983	26.2513	27.2672	27.5656	26.8111	25.6570	23.6683	21.4246	19.3687	17.8483	17.2502	17.7366	19.2078	21.2271	23.4002	25.2678	26.4928	26.9093	26.5100	25.4424	24.0726	23.0510	0 kts
FLD_S56 MSI	Mooring_Fwd	SHORTCRESTED	19.7	2	28.8970	29.3391	29.9795	30.4613	30.3777	29.4701	27.8859	24.9192	21.6439	18.2317	15.3546	13.8602	12.5833	13.3055	15.2887	18.1303	21.4210	24.5164	27.0113	28.7040	29.3146	29.5737	29.2069	28.8646	2 kts
FLD_S56 MSI	Mooring_Fwd	SHORTCRESTED	19.7	4	34.6443	34.8774	34.9673	34.6399	33.6953	32.0005	28.3980	24.4273	19.8883	15.3646	11.9391	9.1434	8.3261	9.1688	11.6489	15.3866	19.7400	24.0326	27.7492	30.5966	32.5300	33.6515	34.1511	34.4018	4 kts
FLD_S56 MSI	Mooring_Fwd	SHORTCRESTED	19.7	6	39.5308	39.6052	39.2648	38.2926	36.4151	33.4730	29.3278	24.2063	18.4605	12.9145	8.4809	5.8608	4.9114	5.9555	8.6464	13.0607	18.3784	23.8436	28.6763	32.5657	35.4705	37.3303	38.4773	39.1525	6 kts
FLD_S56 MSI	Mooring_Fwd	SHORTCRESTED	19.7	7	41.7206	41.7312	41.2046	39.9406	37.7683	34.749	29.8392	24.2352	17.9667	11.9629	7.2597	4.6107	3.7612	4.7097	7.5181	12.1602	17.9237	23.8869	29.2081	33.5848	36.7959	39.0085	40.4078	41.2777	7 kts

MSI Limit		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
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Chart Title  
MSI (% of Crew at 4 hours)  
Sea State 6  
Mooring, Fwd



Preliminary Design

CDR P5

VERTICAL VELOCITY (m/sec)

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	0	1.30	1.28	1.26	1.24	1.21	1.18	1.16	1.13	1.11	1.10	1.10	1.12	1.14	1.17	1.20	1.23	1.26	1.27	1.29	1.30	1.30	1.31	1.31	1.31	0 kts	
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	2	1.35	1.33	1.30	1.27	1.23	1.19	1.15	1.10	1.06	1.03	1.01	1.01	1.04	1.07	1.11	1.16	1.20	1.24	1.28	1.31	1.33	1.35	1.36	1.36	2 kts	
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	4	1.39	1.37	1.34	1.30	1.25	1.20	1.14	1.07	1.01	0.96	0.92	0.92	0.93	0.97	1.03	1.09	1.15	1.22	1.27	1.32	1.36	1.38	1.40	1.40	4 kts	
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	6	1.43	1.41	1.37	1.33	1.28	1.21	1.13	1.04	0.96	0.89	0.84	0.82	0.84	0.88	0.95	1.03	1.11	1.19	1.27	1.33	1.38	1.41	1.43	1.44	6 kts	
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	7	1.45	1.43	1.39	1.35	1.29	1.22	1.13	1.04	0.94	0.86	0.80	0.78	0.79	0.84	0.91	1.00	1.09	1.18	1.27	1.34	1.40	1.43	1.45	1.46	7 kts	
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	0																										
FLD_S56	VERTICAL	VELOCITY	Mooring_Aft	SHORTCRESTED	19.7	0																										

VERTICAL ACCELERATION

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	0	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0 kts	
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	2	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.08	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.11	2 kts
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	4	0.11	0.11	0.11	0.11	0.11	0.10	0.10	0.09	0.08	0.07	0.07	0.06	0.06	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.11	0.11	0.11	0.11	0.11	4 kts
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	6	0.12	0.12	0.12	0.12	0.11	0.11	0.10	0.09	0.08	0.07	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.12	0.12	0.12	6 kts
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	7	0.12	0.12	0.12	0.12	0.11	0.11	0.10	0.09	0.08	0.07	0.06	0.05	0.05	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.12	0.12	0.13	7 kts
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	0																										
FLD_S56	VERTICAL	ACCELERATION	Mooring_Aft	SHORTCRESTED	19.7	0																										

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345								
We	0.7283	0.7315	0.7402	0.7520	0.7633	0.7706	0.7715	0.7648	0.7513	0.7340	0.7178	0.7073	0.7058	0.7127	0.7256	0.7409	0.7557	0.7668	0.7722	0.7719	0.7636	0.7527	0.7410	0.7319								
We	2	0.7633	0.7654	0.7713	0.7782	0.7830	0.7828	0.7756	0.7605	0.7380	0.7118	0.6878	0.6719	0.6684	0.6774	0.6950	0.7171	0.7401	0.7601	0.7744	0.7817	0.7826	0.7782	0.7716	0.7658							
We	4	0.7963	0.7977	0.8011	0.8040	0.8035	0.7972	0.7830	0.7601	0.7285	0.6918	0.6572	0.6334	0.6272	0.6391	0.6634	0.6948	0.7276	0.7548	0.7722	0.7792	0.7746	0.7621	0.7511	0.7417							
We	6	0.8280	0.8286	0.8299	0.8294	0.8245	0.8133	0.7936	0.7639	0.7236	0.6750	0.6268	0.5917	0.5817	0.6393	0.6823	0.7274	0.7744	0.8194	0.8605	0.8955	0.9223	0.9284	0.9284	0.9285							
We	7	0.8437	0.8440	0.8442	0.8421	0.8353	0.8221	0.8002	0.7679	0.7241	0.6704	0.6154	0.5743	0.5621	0.6200	0.6631	0.7117	0.7610	0.8095	0.8535	0.8915	0.9227	0.9407	0.9435	0.9438							
We	0																															
We	0																															
We	0																															

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345								
Mu(MSI)	-0.7750	-0.7762	-0.7794	-0.7834	-0.7871	-0.7893	-0.7895	-0.7875	-0.7832	-0.7772	-0.7709	-0.7665	-0.7659	-0.7690	-0.7720	-0.7797	-0.7878	-0.7928	-0.7944	-0.7921	-0.7864	-0.7797	-0.7722	-0.7648								
Mu(MSI)	2	-0.7871	-0.7877	-0.7895	-0.7915	-0.7938	-0.7938	-0.7908	-0.7862	-0.7786	-0.7684	-0.7577	-0.7498	-0.7480	-0.7525	-0.7611	-0.7701	-0.7794	-0.7861	-0.7904	-0.7924	-0.7915	-0.7896	-0.7878								
Mu(MSI)	4	-0.7963	-0.7967	-0.7975	-0.7982	-0.7981	-0.7965	-0.7928	-0.7861	-0.7751	-0.7596	-0.7419	-0.7278	-0.7238	-0.7312	-0.7403	-0.7497	-0.7574	-0.7642	-0.7694	-0.7725	-0.7729	-0.7718	-0.7700								
Mu(MSI)	6	-0.8034	-0.8035	-0.8038	-0.8037	-0.8027	-0.8003	-0.7956	-0.7873	-0.7732	-0.7514	-0.7335	-0.6985	-0.6906	-0.7031	-0.7111	-0.7212	-0.7325	-0.7442	-0.7564	-0.7684	-0.7802	-0.7915	-0.8023								
Mu(MSI)	7	-0.8064	-0.8064	-0.8064	-0.8061	-0.8048	-0.8022	-0.7973	-0.7885	-0.7734	-0.7490	-0.7159	-0.6844	-0.6738	-0.6870	-0.6999	-0.7139	-0.7279	-0.7420	-0.7564	-0.7712	-0.7860	-0.7995	-0.8123								
Mu(MSI)	0																															
Mu(MSI)	0																															

	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345								
Abs(s3dbldot)	0	0.7552	0.7489	0.7456	0.7431	0.7384	0.7286	0.7127	0.6918	0.6685	0.6470	0.6327	0.6291	0.6412	0.6649	0.6959	0.7283	0.7575	0.7800	0.7937	0.7983	0.7950	0.7864	0.7753	0.7644							
Abs(s3dbldot)	2	0.8219	0.8127	0.8028	0.7900	0.7712	0.7441	0.7088	0.6772	0.6238	0.5645	0.5560	0.5644	0.5874	0.6244	0.6649	0.7054	0.7414	0.7682	0.7817	0.7794	0.7691	0.7549	0.7379								
Abs(s3dbldot)	4	0.8822	0.8708	0.8560	0.8351	0.8046	0.7626	0.7096	0.6487	0.5856	0.5280	0.4847	0.4630	0.4675	0.4971	0.5451	0.6050	0.6703	0.7345	0.7914	0.8366	0.8682	0.8859	0.8920	0.8899							
Abs(s3dbldot)	6	0.9423	0.9292	0.9100	0.8819	0.8411	0.7855	0.7161	0.6369	0.5547	0.4788	0.4139	0.3874	0.3880	0.4207	0.4780	0.5523	0.6359	0.7201	0.7969	0.8602	0.9064	0.9351	0.9420	0.9493							
Abs(s3dbldot)	7	0.9747	0.9607	0.9394	0.9077	0.8616	0.7994	0.7224	0.6348	0.5440	0.4598	0.3935	0.3665	0.3551	0.3892	0.4506	0.5314	0.6232	0.7166	0.8025	0.8742	0.9275	0.9615	0.9782	0.9812							
Abs(s3dbldot)	0																															
Abs(s3dbldot)	0																															

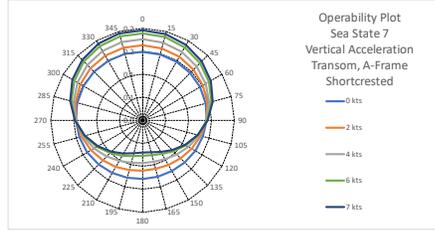
	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345								
x for ERF eq	0	-0.8464	-0.8526	-0.8494	-0.8429	-0.8408	-0.8497	-0.8730	-0.9104	-0.9481	-0.9811	-1.0081	-1.0222	-1.0222	-1.0252	-1.0197	-1.0094	-0.9968	-0.9804	-0.9613	-0.9458	-0.9337	-0.9256	-0.9215								
x for ERF eq	2	-0.7244	-0.7351	-0.7439	-0.7504	-0.7532	-0.7582	-0.7609	-0.7552	-0.7412	-0.7199	-0.6951	-0.6712	-0.6522	-0.6382	-0.6291	-0.6240	-0.6224	-0.6224	-0.6224	-0.6224	-0.6224	-0.6224	-0.6224								
x for ERF eq	4	-0.6246	-0.6377	-0.6544	-0.6794	-0.7201	-0.7821	-0.8695	-0.9738	-1.0841	-1.1915	-1.2959	-1.3959	-1.4899	-1.5747	-1.6499	-1.7124	-1.7566	-1.7856	-1.8002	-1.8023	-1.7941	-1.7761	-1.7501								
x for ERF eq	6	-0.5352	-0.5501	-0.5721	-0.6064	-0.6603	-0.7405	-0.8409	-0.9541	-1.0741	-1.1941	-1.3081	-1.4003	-1.4628	-1.5068	-1.5408	-1.5642	-1.5766	-1.5766	-1.5766	-1.5766	-1.5766	-1.5766	-1.5766								
x for ERF eq	7	-0.4911	-0.5066	-0.5310	-0.5692	-0.6288	-0.7129	-0.8391	-0.9741	-1.1141	-1.2541	-1.3941	-1.5241	-1.6401	-1.7401	-1.8141	-1.8601	-1.8841	-1.8941	-1.8941	-1.8941	-1.8941	-1.8941	-1.8941								
x for ERF eq	0																															
x for ERF eq	0																															

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_SS7	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	0	0.1491	0.1483	0.1354	0.1461	0.1444	0.1421	0.1393	0.1361	0.1329	0.1300	0.1279	0.1269	0.1275	0.1294	0.1324	0.1350	0.1394	0.1426	0.1454	0.1474	0.1487	0.1494	0.1496	0.1495	0 kts
FLD_SS7	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	2	0.1634	0.1621	0.1598	0.1564	0.1538	0.1458	0.1387	0.1311	0.1236	0.1171	0.1123	0.1096	0.1096	0.1121	0.1168	0.1229	0.1301	0.1376	0.1448	0.1512	0.1563	0.1601	0.1624	0.1635	2 kts
FLD_SS7	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	4	0.1765	0.1749	0.1716	0.1664	0.1592	0.1499	0.1390	0.1272	0.1151	0.1055	0.0978	0.0933	0.0926	0.0958	0.1022	0.1111	0.1219	0.1336	0.1451	0.1555	0.1639	0.1702	0.1743	0.1764	4 kts
FLD_SS7	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	6	0.1895	0.1875	0.1833	0.1765	0.1670	0.1548	0.1404	0.1247	0.1091	0.0953	0.0847	0.0783	0.0769	0.0807	0.0888	0.1006	0.1151	0.1309	0.1464	0.1604	0.1719	0.1805	0.1862	0.1891	6 kts
FLD_SS7	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	7	0.1963	0.1942	0.1895	0.1819	0.1713	0.1577	0.1416	0.1241	0.1068	0.0913	0.0720	0.0703	0.0744	0.0834	0.0965	0.1126	0.1302	0.1476	0.1633	0.1763	0.1860	0.1924	0.1958	7 kts	
Limit					Vertical Acceleration Limit (SS7-6)		0.2																								

Chart Title	Operability Plot
	Sea State 7
	Vertical Acceleration
	Transom, A-Frame
	Shortcrested

Operability Plot	Sea State 7
Vertical Acceleration	Transom, A-Frame
Shortcrested	Shortcrested

STD 0.031707  
CONDITION PASSES

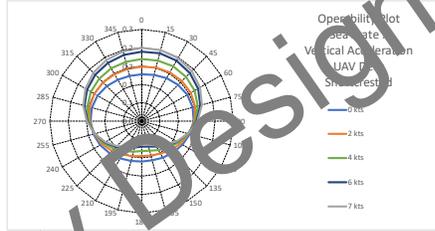


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS7	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	0	0.1274	0.1305	0.1354	0.1401	0.1433	0.1437	0.1410	0.1357	0.1285	0.1211	0.1147	0.1107	0.1096	0.1111	0.1170	0.1237	0.1306	0.1363	0.1397	0.1404	0.1383	0.1344	0.1300	0.1272	0 kts
FLD_SS7	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	2	0.1481	0.1506	0.1534	0.1551	0.1544	0.1505	0.1433	0.1334	0.1221	0.1111	0.1023	0.0968	0.954	0.0988	0.105	0.1145	0.1245	0.1340	0.1416	0.1466	0.1488	0.1487	0.1476	0.1471	2 kts
FLD_SS7	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	4	0.1691	0.1709	0.1717	0.1705	0.1668	0.1579	0.1462	0.1319	0.1164	0.1020	0.0905	0.853	0.117	0.085	0.092	0.1068	0.1194	0.1326	0.1443	0.1535	0.1599	0.1636	0.1657	0.1674	4 kts
FLD_SS7	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	6	0.1896	0.1907	0.1897	0.1856	0.1777	0.1656	0.1497	0.1312	0.1119	0.0941	0.801	0.0715	0.065	0.066	0.0745	0.0899	0.1153	0.1329	0.1477	0.1609	0.1713	0.1786	0.1836	0.1871	6 kts
FLD_SS7	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	7	0.1993	0.2001	0.1983	0.1929	0.1834	0.1695	0.1517	0.1313	0.1102	0.0908	0.0757	0.0664	0.064	0.0694	0.0806	0.0960	0.1138	0.1322	0.1497	0.1648	0.1770	0.1859	0.1922	0.1965	7 kts
Limit					Vertical Acceleration Limit (SS7-8)		0.2																								

Chart Title	Operability Plot
	Sea State 7
	Vertical Acceleration
	UAV Deck
	Shortcrested

Operability Plot	Sea State 7
Vertical Acceleration	UAV Deck
Shortcrested	Shortcrested

STD 0.034366  
CONDITION PASSES

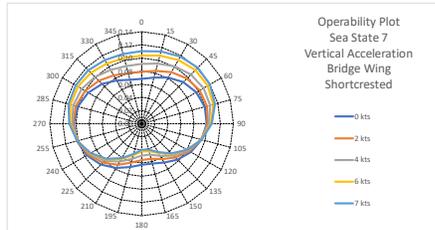


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS7	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	0	0.0681	0.072	0.081	0.0897	0.0963	0.0995	0.0989	0.0944	0.0869	0.0774	0.0684	0.0627	0.0626	0.0683	0.0778	0.0881	0.0967	0.1021	0.1035	0.1008	0.0943	0.0853	0.0759	0.0692	0 kts
FLD_SS7	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	2	0.0944	0.0975	0.0975	0.0975	0.1021	0.1033	0.1004	0.0937	0.0839	0.0726	0.0622	0.0556	0.0553	0.0616	0.0721	0.0837	0.0940	0.102	0.1046	0.1038	0.0994	0.0924	0.0848	0.0794	2 kts
FLD_SS7	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	4	0.0909	0.091	0.1009	0.1062	0.1089	0.1078	0.1027	0.0937	0.0817	0.0685	0.0565	0.0489	0.0484	0.0553	0.0669	0.0799	0.0918	0.1009	0.1063	0.1077	0.1054	0.1005	0.0948	0.0909	4 kts
FLD_SS7	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	6	0.1039	0.1075	0.1122	0.1157	0.1163	0.1130	0.1055	0.0942	0.0802	0.0652	0.0517	0.0432	0.0426	0.0500	0.0626	0.0768	0.0903	0.1013	0.1089	0.1125	0.1125	0.1098	0.1060	0.1034	6 kts
FLD_SS7	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	7	0.1140	0.1181	0.1207	0.1202	0.1158	0.1071	0.0948	0.0798	0.0639	0.0498	0.0408	0.0401	0.0478	0.0607	0.0756	0.0899	0.1018	0.1105	0.1153	0.1165	0.1149	0.1121	0.1101	0.1101	7 kts
Limit					Vertical Acceleration Limit (SS7-5)		0.2																								

Chart Title	Operability Plot
	Sea State 7
	Vertical Acceleration
	Bridge Wing
	Shortcrested

Operability Plot	Sea State 7
Vertical Acceleration	Bridge Wing
Shortcrested	Shortcrested

STD 0.021975  
CONDITION PASSES



Preliminary Design, @IDR5

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S57	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	0	0.1382	0.1409	0.1452	0.1494	0.1520	0.1519	0.1489	0.1435	0.1364	0.1293	0.1233	0.1195	0.1183	0.1203	0.1249	0.1311	0.1377	0.1435	0.1473	0.1486	0.1474	0.1442	0.1405	0.1360	0 kts	
FLD_S57	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	2	0.1605	0.1625	0.1645	0.1654	0.1639	0.1592	0.1512	0.1408	0.1293	0.1184	0.1098	0.1028	0.1010	0.1028	0.1055	0.1119	0.1208	0.1309	0.1409	0.1493	0.1553	0.1587	0.1597	0.1595	0.1594	2 kts
FLD_S57	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	4	0.1829	0.1842	0.1842	0.1819	0.1763	0.1670	0.1542	0.1390	0.1230	0.1084	0.0969	0.0899	0.0880	0.0915	0.0997	0.1114	0.1251	0.1392	0.1521	0.1628	0.1707	0.1758	0.1789	0.1811	4 kts	
FLD_S57	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	6	0.2046	0.2052	0.2033	0.1980	0.1887	0.1751	0.1578	0.1381	0.1175	0.0997	0.0855	0.0768	0.0745	0.0789	0.0890	0.1034	0.1204	0.1384	0.1557	0.1707	0.1828	0.1917	0.1979	0.2020	6 kts	
FLD_S57	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	7	0.2148	0.2151	0.2123	0.2057	0.1947	0.1792	0.1599	0.1381	0.1160	0.0961	0.0807	0.0713	0.0688	0.0736	0.0846	0.1002	0.1187	0.1385	0.1577	0.1748	0.1888	0.1994	0.2070	0.2120	7 kts	

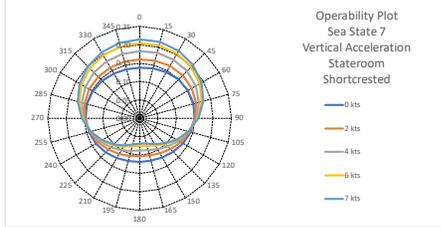
Limit

Vertical Acceleration Limit (SS7-8) 0.2

Chart Title

Operability Plot  
Sea State 7  
Vertical Acceleration  
Stateroom  
Shortcrested

Operability Plot  
Sea State 7  
Vertical Acceleration  
Stateroom  
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S57	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	0	0.0559	0.0577	0.0699	0.0768	0.0871	0.0948	0.0985	0.0978	0.0927	0.0839	0.0727	0.0615	0.0498	0.0580	0.0674	0.0772	0.0850	0.0894	0.0925	0.0891	0.0861	0.0790	0.0698	0.0610	0 kts
FLD_S57	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	2	0.0630	0.0645	0.0718	0.0816	0.0907	0.0969	0.0991	0.0969	0.0904	0.0802	0.0680	0.0560	0.0479	0.0448	0.0531	0.0637	0.0750	0.0845	0.0905	0.0925	0.0903	0.0844	0.0762	0.0680	2 kts
FLD_S57	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	4	0.0715	0.0726	0.0790	0.0875	0.0952	0.0999	0.1005	0.0966	0.0886	0.0771	0.0638	0.0511	0.0425	0.0416	0.0531	0.0648	0.0736	0.0847	0.0924	0.0961	0.0954	0.0909	0.0838	0.0762	4 kts
FLD_S57	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	6	0.0820	0.0827	0.0879	0.0950	0.1009	0.1038	0.1028	0.0971	0.0874	0.0746	0.0602	0.0469	0.0401	0.0377	0.0531	0.0648	0.0728	0.0855	0.0950	0.1004	0.1015	0.0986	0.0928	0.0862	6 kts
FLD_S57	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	7	0.0880	0.0886	0.0932	0.0994	0.1044	0.1063	0.1041	0.0975	0.0871	0.0736	0.0588	0.0452	0.0401	0.0399	0.0531	0.0648	0.0716	0.0851	0.0965	0.1029	0.1040	0.1029	0.0979	0.0919	7 kts

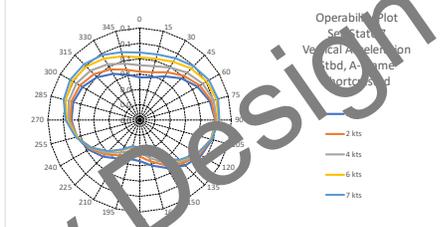
Limit

Vertical Acceleration Limit (SS7-8) 0.2

Chart Title

Operability Plot  
Sea State 7  
Vertical Acceleration  
Sbtd, A-Frame  
Shortcrested

Operability Plot  
Sea State 7  
Vertical Acceleration  
Sbtd, A-Frame  
Shortcrested



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S57	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	0	0.0491	0.0512	0.0596	0.0630	0.0688	0.0724	0.0733	0.0712	0.0665	0.0598	0.0526	0.0465	0.0441	0.0465	0.0526	0.0598	0.0665	0.0712	0.0733	0.0724	0.0688	0.0630	0.0565	0.0512	0 kts	
FLD_S57	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	2	0.0506	0.0527	0.0611	0.0644	0.0694	0.0728	0.0729	0.0703	0.0651	0.0582	0.0509	0.0448	0.0425	0.0449	0.0509	0.0582	0.0651	0.0702	0.0729	0.0729	0.0694	0.0641	0.0578	0.0526	2 kts	
FLD_S57	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	4	0.0581	0.0599	0.0689	0.0720	0.0777	0.0812	0.0812	0.0786	0.0736	0.0665	0.0591	0.0532	0.0488	0.0488	0.0532	0.0591	0.0665	0.0736	0.0812	0.0812	0.0786	0.0736	0.0665	0.0591	0.0532	4 kts
FLD_S57	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	6	0.0529	0.0541	0.0630	0.0659	0.0708	0.0728	0.0719	0.0682	0.0621	0.0547	0.0472	0.0413	0.0390	0.0413	0.0472	0.0547	0.0621	0.0682	0.0719	0.0728	0.0708	0.0659	0.0600	0.0549	6 kts	
FLD_S57	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	29.5	7	0.0534	0.0547	0.0635	0.0663	0.0708	0.0728	0.0719	0.0677	0.0614	0.0537	0.0462	0.0403	0.0380	0.0403	0.0462	0.0537	0.0614	0.0677	0.0719	0.0728	0.0708	0.0663	0.0605	0.0554	7 kts	

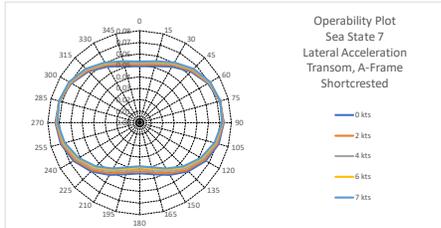
Limit

Lateral Acceleration Limit (SS7-8) 0.185

Chart Title

Operability Plot  
Sea State 7  
Lateral Acceleration  
Transom, A-Frame  
Shortcrested

Operability Plot  
Sea State 7  
Lateral Acceleration  
Transom, A-Frame  
Shortcrested



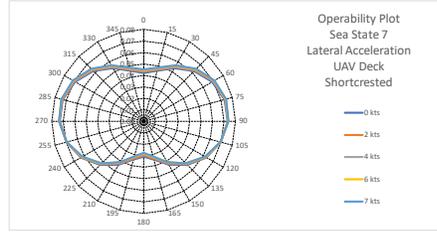
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S57	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	0	0.0422	0.0456	0.0534	0.0621	0.0699	0.0738	0.0732	0.0699	0.0629	0.0536	0.0433	0.0345	0.0307	0.0345	0.0433	0.0536	0.0629	0.0699	0.0732	0.0738	0.0699	0.0621	0.0534	0.0456	0.0422	0 kts
FLD_S57	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	2	0.0432	0.0465	0.0544	0.0630	0.0698	0.0734	0.0734	0.0696	0.0623	0.0530	0.0425	0.0334	0.0296	0.0334	0.0425	0.0530	0.0623	0.0696	0.0734	0.0734	0.0698	0.0630	0.0544	0.0465	0.0432	2 kts
FLD_S57	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	4	0.0440	0.0473	0.0552	0.0637	0.0704	0.0738	0.0736	0.0695	0.0622	0.0524	0.0417	0.0325	0.0285	0.0325	0.0417	0.0524	0.0622	0.0695	0.0736	0.0738	0.0704	0.0637	0.0552	0.0473	0.0440	4 kts
FLD_S57	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	6	0.0448	0.0481	0.0559	0.0644	0.0709	0.0742	0.0737	0.0694	0.0618	0.0519	0.0411	0.0318	0.0278	0.0318	0.0411	0.0519	0.0618	0.0694	0.0737	0.0742	0.0709	0.0644	0.0559	0.0481	0.0448	6 kts
FLD_S57	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	29.5	7	0.0451	0.0485	0.0563	0.0647	0.0711	0.0743	0.0737	0.0693	0.0617	0.0516	0.0408	0.0315	0.0275	0.0315	0.0408	0.0516	0.0617	0.0693	0.0737	0.0743	0.0711	0.0647	0.0563	0.0485	0.0451	7 kts
Limit					Lateral Acceleration Limit (SS7-8)		0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	

Chart Title	Operability Plot
Sea State 7	
Lateral Acceleration	
UAV Deck	
Shortcrested	

Operability Plot
Sea State 7
Lateral Acceleration
UAV Deck
Shortcrested

STD  
0.014149

CONDITION PASSES



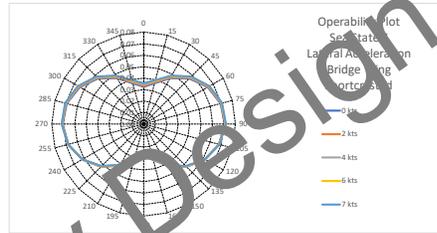
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S57	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	0	0.0326	0.0368	0.0461	0.0562	0.0643	0.0693	0.0706	0.0680	0.0617	0.0526	0.0420	0.0323	0.0280	0.0323	0.0420	0.0526	0.0617	0.0680	0.0706	0.0693	0.0643	0.0562	0.0461	0.0368	0.0326	0 kts
FLD_S57	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	2	0.0334	0.0376	0.0469	0.0568	0.0649	0.0698	0.0709	0.0681	0.0616	0.0523	0.0415	0.0318	0.0274	0.0318	0.0415	0.0523	0.0616	0.0681	0.0709	0.0698	0.0649	0.0568	0.0469	0.0376	0.0334	2 kts
FLD_S57	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	4	0.0343	0.0384	0.0476	0.0575	0.0654	0.0702	0.0711	0.0682	0.0616	0.0521	0.0412	0.0314	0.0269	0.0314	0.0412	0.0521	0.0616	0.0682	0.0711	0.0702	0.0654	0.0575	0.0476	0.0384	0.0343	4 kts
FLD_S57	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	6	0.0351	0.0392	0.0484	0.0581	0.0659	0.0706	0.0714	0.0683	0.0613	0.0520	0.0410	0.0311	0.0267	0.0311	0.0410	0.0520	0.0613	0.0683	0.0714	0.0706	0.0659	0.0581	0.0484	0.0392	0.0351	6 kts
FLD_S57	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	29.5	7	0.0355	0.0395	0.0487	0.0584	0.0662	0.0707	0.0715	0.0683	0.0613	0.0519	0.0409	0.0310	0.0265	0.0310	0.0409	0.0519	0.0613	0.0683	0.0715	0.0707	0.0662	0.0584	0.0487	0.0395	0.0355	7 kts
Limit					Lateral Acceleration Limit (SS7-8)		0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	

Chart Title	Operability Plot
Sea State 7	
Lateral Acceleration	
Bridge Wing	
Shortcrested	

Operability Plot
Sea State 7
Lateral Acceleration
Bridge Wing
Shortcrested

STD  
0.014368

CONDITION PASSES



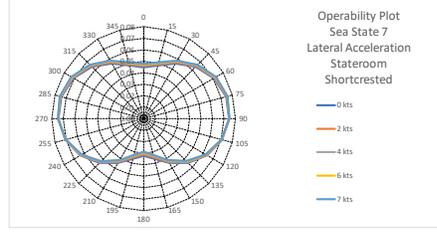
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S57	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	0	0.0448	0.0489	0.0591	0.0639	0.0706	0.0743	0.0744	0.0707	0.0638	0.0546	0.0445	0.0360	0.0324	0.0360	0.0445	0.0546	0.0638	0.0707	0.0744	0.0743	0.0706	0.0639	0.0591	0.0489	0.0448	0 kts
FLD_S57	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	2	0.0457	0.0498	0.0599	0.0647	0.0714	0.0748	0.0745	0.0706	0.0634	0.0539	0.0435	0.0348	0.0311	0.0348	0.0435	0.0539	0.0634	0.0706	0.0745	0.0748	0.0713	0.0648	0.0591	0.0489	0.0457	2 kts
FLD_S57	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	4	0.0466	0.0507	0.0607	0.0655	0.0722	0.0752	0.0747	0.0704	0.0629	0.0532	0.0428	0.0337	0.0300	0.0337	0.0428	0.0532	0.0629	0.0704	0.0747	0.0752	0.0713	0.0655	0.0599	0.0498	0.0466	4 kts
FLD_S57	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	6	0.0475	0.0516	0.0615	0.0663	0.0730	0.0759	0.0753	0.0707	0.0628	0.0525	0.0419	0.0328	0.0291	0.0328	0.0419	0.0525	0.0628	0.0707	0.0753	0.0759	0.0715	0.0659	0.0603	0.0507	0.0475	6 kts
FLD_S57	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	29.5	7	0.0477	0.0518	0.0617	0.0665	0.0732	0.0756	0.0747	0.0701	0.0623	0.0522	0.0416	0.0326	0.0288	0.0326	0.0416	0.0522	0.0623	0.0701	0.0747	0.0756	0.0715	0.0665	0.0603	0.0509	0.0477	7 kts
Limit					Lateral Acceleration Limit (SS7-8)		0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	

Chart Title	Operability Plot
Sea State 7	
Lateral Acceleration	
Stateroom	
Shortcrested	

Operability Plot
Sea State 7
Lateral Acceleration
Stateroom
Shortcrested

STD  
0.01055

CONDITION PASSES



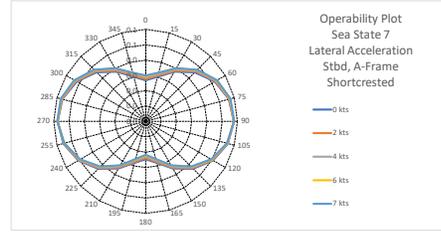
Preliminary Design, CIDR5

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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			
FLD_SS7	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	0	0.0369	0.0301	0.0375	0.0455	0.0521	0.0563	0.0575	0.0556	0.0509	0.0437	0.0354	0.0268	0.0247	0.0200	0.0354	0.0437	0.0509	0.0556	0.0575	0.0563	0.0521	0.0455	0.0375	0.0301	0.0369	0 kts	
FLD_SS7	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	2	0.0278	0.0310	0.0383	0.0461	0.0526	0.0566	0.0576	0.0555	0.0504	0.0432	0.0347	0.0272	0.0238	0.0218	0.0272	0.0347	0.0432	0.0504	0.0555	0.0576	0.0566	0.0526	0.0461	0.0383	0.0310	0.0278	2 kts
FLD_SS7	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	4	0.0287	0.0319	0.0390	0.0468	0.0531	0.0569	0.0576	0.0553	0.0501	0.0426	0.0340	0.0264	0.0231	0.0219	0.0264	0.0340	0.0426	0.0501	0.0553	0.0576	0.0569	0.0531	0.0468	0.0390	0.0319	0.0287	4 kts
FLD_SS7	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	6	0.0296	0.0327	0.0398	0.0474	0.0536	0.0572	0.0577	0.0551	0.0497	0.0421	0.0334	0.0258	0.0223	0.0213	0.0258	0.0334	0.0421	0.0497	0.0551	0.0577	0.0572	0.0536	0.0474	0.0398	0.0327	0.0296	6 kts
FLD_SS7	LATERAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	29.5	7	0.0300	0.0331	0.0402	0.0477	0.0538	0.0573	0.0577	0.0550	0.0495	0.0418	0.0331	0.0253	0.0219	0.0215	0.0253	0.0331	0.0418	0.0495	0.0550	0.0577	0.0573	0.0538	0.0477	0.0402	0.0331	0.0300	7 kts
Limit				Lateral Acceleration Limit (SS7-8)			0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	

Chart Title	Operability Plot
	Sea State 7
	Lateral Acceleration
	Sbtd, A-Frame
	Shortcrested

Operability Plot
Sea State 7
Lateral Acceleration
Sbtd, A-Frame
Shortcrested

STD  
0.011114  
CONDITION PASSES

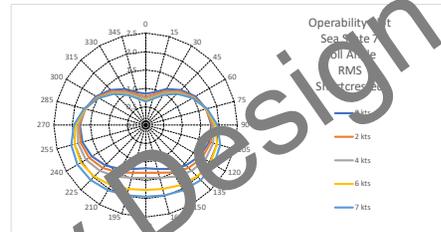


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345				
FLD_SS7	ROLL	ANGLE	RMS	SHORTCRESTED	29.5	0	0.8490	0.9320	1.1270	1.3540	1.5600	1.7120	1.7890	1.7840	1.6980	1.5520	1.3780	1.2310	1.1200	1.045	1.000	1.1780	1.5520	1.6980	1.7840	1.7890	1.7120	1.5600	1.3540	1.1270	0.9320	0.8490	0 kts	
FLD_SS7	ROLL	ANGLE	RMS	SHORTCRESTED	29.5	2	0.7790	0.8640	1.0650	1.3020	1.5250	1.7030	1.8120	1.8360	1.7760	1.6470	1.4860	1.3480	1.220	1.148	1.1060	1.1780	1.4900	1.6470	1.7760	1.8360	1.8120	1.7030	1.5250	1.3020	1.0650	0.8640	0.7790	2 kts
FLD_SS7	ROLL	ANGLE	RMS	SHORTCRESTED	29.5	4	0.7220	0.8080	1.0120	1.2580	1.5000	1.7050	1.8470	1.9050	1.8730	1.7650	1.6390	1.4900	1.370	1.295	1.263	1.3480	1.555	1.670	1.730	1.8050	1.8470	1.7050	1.5000	1.2580	1.0120	0.8080	0.7220	4 kts
FLD_SS7	ROLL	ANGLE	RMS	SHORTCRESTED	29.5	6	0.6720	0.7590	0.9660	1.2220	1.4840	1.7200	1.9050	2.0120	2.0330	1.9810	1.8870	1.8000	1.750	1.699	1.669	1.760	1.945	2.033	2.033	2.0120	1.9050	1.7200	1.4840	1.2220	0.9660	0.7590	0.6720	6 kts
FLD_SS7	ROLL	ANGLE	RMS	SHORTCRESTED	29.5	7	0.6475	0.7350	0.9445	1.2055	1.4785	1.7380	1.9560	2.0975	2.1475	2.1195	2.0470	1.9760	1.940	1.890	1.860	1.950	2.1195	2.1475	2.0975	1.9560	1.7380	1.4785	1.2055	0.9445	0.7350	0.6475	7 kts	
Limit				Roll Limit (SS7-8)			8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50		

Chart Title	Operability Plot
	Sea State 7
	Roll Angle
	Shortcrested

Operability Plot
Sea State 7
Roll Angle
Shortcrested

STD  
0.407939  
CONDITION PASSES

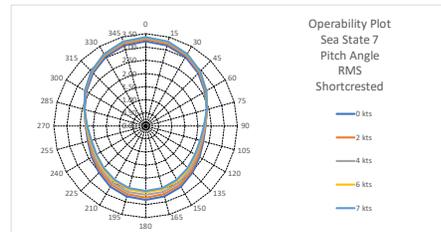


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS7	PITCH	ANGLE	RMS	SHORTCRESTED	29.5	0	3.2170	1700	3.035	2.8380	2.6140	2.4130	2.2890	2.2760	2.3680	2.5200	2.6750	2.7860	2.8250	2.7860	2.6750	2.5200	2.3680	2.2760	2.2890	2.4130	2.6140	2.8380	3.0350	3.1700	0 kts
FLD_SS7	PITCH	ANGLE	RMS	SHORTCRESTED	29.5	2	3.2890	1730	2.9890	2.8850	2.6450	2.4240	2.2770	2.2430	2.3150	2.4520	2.5950	2.6980	2.7350	2.6980	2.5950	2.4520	2.3150	2.2430	2.2770	2.4240	2.6450	2.8850	3.0960	3.2390	2 kts
FLD_SS7	PITCH	ANGLE	RMS	SHORTCRESTED	29.5	4	3.3650	1760	2.9160	2.9160	2.6630	2.4610	2.2950	2.2580	2.3280	2.4700	2.5920	2.6550	2.6630	2.6550	2.5920	2.4700	2.3280	2.2580	2.2950	2.4610	2.6630	2.9160	3.1360	3.2860	4 kts
FLD_SS7	PITCH	ANGLE	RMS	SHORTCRESTED	29.5	6	3.3650	1760	2.9160	2.9160	2.6630	2.4610	2.2950	2.2580	2.3280	2.4700	2.5920	2.6550	2.6630	2.6550	2.5920	2.4700	2.3280	2.2580	2.2950	2.4610	2.6630	2.9160	3.1360	3.2860	6 kts
FLD_SS7	PITCH	ANGLE	RMS	SHORTCRESTED	29.5	7	3.3690	1760	2.9160	2.9340	2.6700	2.4800	2.3050	2.2470	2.3170	2.4620	2.5900	2.6450	2.6550	2.6450	2.5900	2.4620	2.3170	2.2470	2.3050	2.4800	2.6700	2.9340	3.1580	3.3110	7 kts
Limit				Pitch Limit (SS7-8)			2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35

Chart Title	Operability Plot
	Sea State 7
	Pitch Angle
	RMS
	Shortcrested

Operability Plot
Sea State 7
Pitch Angle
RMS
Shortcrested

STD  
0.394072  
CONDITION PASSES

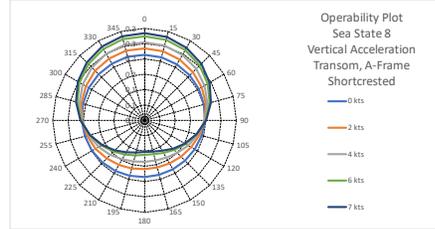


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345	
FLD_SS8	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	0	0.2140	0.2127	0.2106	0.2079	0.2046	0.2009	0.1969	0.1929	0.1893	0.1865	0.1848	0.1844	0.1854	0.1878	0.1911	0.1947	0.1985	0.2021	0.2054	0.2083	0.2107	0.2126	0.2138	0.2144	0 kts
FLD_SS8	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	2	0.2352	0.2332	0.2291	0.2233	0.2156	0.2063	0.1951	0.1857	0.1760	0.1679	0.1622	0.1593	0.1595	0.1627	0.1684	0.1760	0.1850	0.1948	0.2047	0.2140	0.2220	0.2283	0.2327	0.2350	2 kts
FLD_SS8	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	4	0.2550	0.2524	0.2467	0.2382	0.2267	0.2127	0.1968	0.1802	0.1645	0.1512	0.1414	0.1360	0.1353	0.1393	0.1474	0.1590	0.1732	0.1892	0.2053	0.2205	0.2334	0.2436	0.2505	0.2544	4 kts
FLD_SS8	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	6	0.2746	0.2715	0.2644	0.2535	0.2386	0.2201	0.1989	0.1767	0.1552	0.1366	0.1227	0.1146	0.1130	0.1179	0.1286	0.1441	0.1636	0.1854	0.2075	0.2280	0.2455	0.2591	0.2684	0.2736	6 kts
FLD_SS8	VERTICAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	7	0.2850	0.2816	0.2738	0.2616	0.2451	0.2245	0.2009	0.1760	0.1518	0.1308	0.1150	0.1057	0.1036	0.1096	0.1208	0.1382	0.1601	0.1845	0.2093	0.2323	0.2520	0.2673	0.2779	0.2838	7 kts

Chart Title	Operability Plot
	Sea State 8
	Vertical Acceleration
	Transom, A-Frame
	Shortcrested

Operability Plot	Sea State 8
Vertical Acceleration	Transom, A-Frame
Shortcrested	Shortcrested

STD 0.045333  
CONDITION PASSES

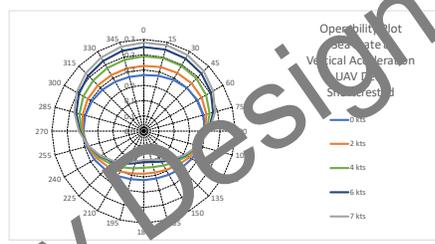


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_SS8	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	0	0.1837	0.1878	0.1938	0.1995	0.2028	0.2026	0.1984	0.1910	0.1816	0.1723	0.1647	0.1603	0.1595	0.1627	0.1693	0.1776	0.1861	0.1930	0.1971	0.1970	0.1970	0.1954	0.1907	0.1858	0.1829	0 kts
FLD_SS8	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	2	0.2136	0.2168	0.2199	0.2211	0.2189	0.2124	0.2016	0.1876	0.1722	0.1578	0.1468	0.1403	0.1391	0.1431	0.1521	0.1642	0.1772	0.1896	0.1999	0.2069	0.2106	0.2116	0.2114	0.2117	2 kts	
FLD_SS8	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	4	0.2444	0.2466	0.2468	0.2437	0.2361	0.2234	0.2060	0.1855	0.1643	0.1446	0.1298	0.1213	0.1196	0.1251	0.1357	0.1521	0.1698	0.1876	0.2039	0.2172	0.2271	0.2337	0.2380	0.2414	4 kts	
FLD_SS8	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	6	0.2740	0.2761	0.2736	0.2664	0.2535	0.2349	0.2114	0.1847	0.1576	0.1332	0.1148	0.1042	0.1030	0.1077	0.1193	0.1418	0.1659	0.1870	0.2050	0.2184	0.2243	0.2261	0.2251	0.2236	6 kts	
FLD_SS8	VERTICAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	7	0.2897	0.2904	0.2867	0.2775	0.2622	0.2409	0.2145	0.1850	0.1552	0.1286	0.1084	0.0969	0.0947	0.0994	0.1120	0.1370	0.1618	0.1873	0.2121	0.2343	0.2520	0.2673	0.2779	0.2853	7 kts	

Chart Title	Operability Plot
	Sea State 8
	Vertical Acceleration
	UAV Deck
	Shortcrested

Operability Plot	Sea State 8
Vertical Acceleration	UAV Deck
Shortcrested	Shortcrested

STD 0.049167  
CONDITION PASSES

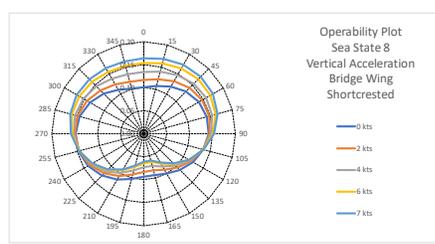


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_SS8	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	0	0.1009	0.1071	0.1155	0.1229	0.1385	0.1425	0.1413	0.1348	0.1242	0.1116	0.1000	0.0931	0.0937	0.1019	0.1148	0.1286	0.1400	0.1470	0.1485	0.1443	0.1352	0.1229	0.1104	0.1019	0 kts	
FLD_SS8	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	2	0.1207	0.1237	0.1251	0.1241	0.1219	0.1170	0.1075	0.0957	0.0838	0.0740	0.0680	0.0666	0.0698	0.0769	0.0877	0.1016	0.1164	0.1306	0.1415	0.1455	0.1408	0.1327	0.1215	0.1109	2 kts	
FLD_SS8	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	4	0.1343	0.1360	0.1363	0.1345	0.1304	0.1234	0.1130	0.0999	0.0870	0.0765	0.0707	0.0701	0.0728	0.0793	0.0882	0.0987	0.1164	0.1326	0.1450	0.1525	0.1543	0.1517	0.1455	0.1384	0.1338	4 kts
FLD_SS8	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	6	0.1537	0.1584	0.1642	0.1682	0.1679	0.1622	0.1508	0.1344	0.1144	0.0934	0.0752	0.0644	0.0645	0.0675	0.0751	0.0922	0.1118	0.1303	0.1455	0.1561	0.1616	0.1623	0.1594	0.1552	0.1526	6 kts
FLD_SS8	VERTICAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	7	0.1640	0.1683	0.1731	0.1757	0.1733	0.1665	0.1533	0.1352	0.1137	0.0914	0.0722	0.0607	0.0608	0.0618	0.0896	0.1099	0.1296	0.1463	0.1585	0.1658	0.1682	0.1671	0.1644	0.1627	7 kts	

Chart Title	Operability Plot
	Sea State 8
	Vertical Acceleration
	Bridge Wing
	Shortcrested

Operability Plot	Sea State 8
Vertical Acceleration	Bridge Wing
Shortcrested	Shortcrested

STD 0.028355  
CONDITION PASSES



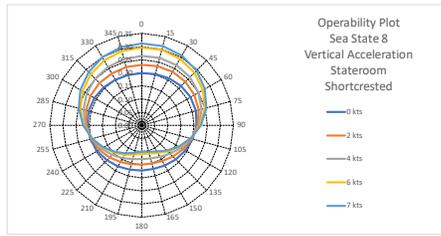
Preliminary Design, @IDR5

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/ 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					
FLD_S58	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	0	0.1989	0.2025	0.2076	0.2123	0.2166	0.2213	0.2260	0.2307	0.2354	0.2396	0.2442	0.2488	0.2534	0.2580	0.2626	0.2672	0.2718	0.2764	0.2810	0.2856	0.2902	0.2948	0.2994	0.3040	0.3086	0.3132	0.3178		
FLD_S58	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	2	0.2311	0.2336	0.2356	0.2374	0.2391	0.2407	0.2423	0.2438	0.2453	0.2468	0.2482	0.2496	0.2510	0.2524	0.2538	0.2552	0.2566	0.2580	0.2594	0.2608	0.2622	0.2636	0.2650	0.2664	0.2678	0.2692	0.2706	0.2720	
FLD_S58	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	4	0.2640	0.2655	0.2664	0.2672	0.2680	0.2688	0.2696	0.2704	0.2712	0.2720	0.2728	0.2736	0.2744	0.2752	0.2760	0.2768	0.2776	0.2784	0.2792	0.2800	0.2808	0.2816	0.2824	0.2832	0.2840	0.2848	0.2856	0.2864	0.2872
FLD_S58	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	6	0.2964	0.2968	0.2972	0.2976	0.2980	0.2984	0.2988	0.2992	0.2996	0.3000	0.3004	0.3008	0.3012	0.3016	0.3020	0.3024	0.3028	0.3032	0.3036	0.3040	0.3044	0.3048	0.3052	0.3056	0.3060	0.3064	0.3068	0.3072	0.3076
FLD_S58	VERTICAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	7	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119	0.3119
Limit							Vertical Acceleration Limit (SS7-8)		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2				

Chart Title  
 Operability Plot  
 Sea State 8  
 Vertical Acceleration  
 Stateroom  
 Shortcrested

Operability Plot  
 Sea State 8  
 Vertical Acceleration  
 Stateroom  
 Shortcrested

STD  
 0.053045  
 CONDITION PASSES

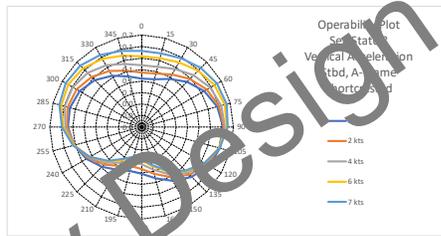


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/ Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345					
FLD_S58	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	45.9	0	0.0842	0.0862	0.0882	0.0902	0.0922	0.0942	0.0962	0.0982	0.1002	0.1022	0.1042	0.1062	0.1082	0.1102	0.1122	0.1142	0.1162	0.1182	0.1202	0.1222	0.1242	0.1262	0.1282	0.1302	0.1322	0.1342			
FLD_S58	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	45.9	2	0.0948	0.0964	0.0980	0.0996	0.1012	0.1028	0.1044	0.1060	0.1076	0.1092	0.1108	0.1124	0.1140	0.1156	0.1172	0.1188	0.1204	0.1220	0.1236	0.1252	0.1268	0.1284	0.1300	0.1316	0.1332	0.1348	0.1364		
FLD_S58	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	45.9	4	0.1076	0.1086	0.1096	0.1106	0.1116	0.1126	0.1136	0.1146	0.1156	0.1166	0.1176	0.1186	0.1196	0.1206	0.1216	0.1226	0.1236	0.1246	0.1256	0.1266	0.1276	0.1286	0.1296	0.1306	0.1316	0.1326	0.1336	0.1346	
FLD_S58	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	45.9	6	0.1232	0.1237	0.1242	0.1247	0.1252	0.1257	0.1262	0.1267	0.1272	0.1277	0.1282	0.1287	0.1292	0.1297	0.1302	0.1307	0.1312	0.1317	0.1322	0.1327	0.1332	0.1337	0.1342	0.1347	0.1352	0.1357	0.1362	0.1367	0.1372
FLD_S58	VERTICAL	ACCELERATION	Sbtd, A-Frame	SHORTCRESTED	45.9	7	0.1323	0.1325	0.1326	0.1328	0.1329	0.1330	0.1331	0.1332	0.1333	0.1334	0.1335	0.1336	0.1337	0.1338	0.1339	0.1340	0.1341	0.1342	0.1343	0.1344	0.1345	0.1346	0.1347	0.1348	0.1349	0.1350	0.1351	0.1352	0.1353
Limit							Vertical Acceleration Limit (SS7-8)		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2				

Chart Title  
 Operability Plot  
 Sea State 8  
 Vertical Acceleration  
 Sbtd, A-Frame  
 Shortcrested

Operability Plot  
 Sea State 8  
 Vertical Acceleration  
 Sbtd, A-Frame  
 Shortcrested

STD  
 0.026682  
 CONDITION PASSES

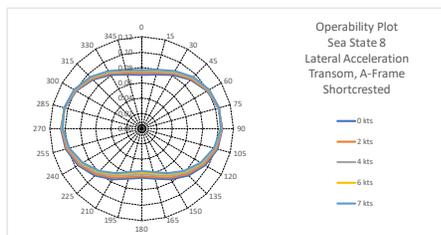


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/ Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345					
FLD_S58	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	0	0.0705	0.0734	0.0763	0.0792	0.0821	0.0850	0.0879	0.0908	0.0937	0.0966	0.0995	0.1024	0.1053	0.1082	0.1111	0.1140	0.1169	0.1198	0.1227	0.1256	0.1285	0.1314	0.1343	0.1372	0.1401	0.1430			
FLD_S58	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	2	0.0725	0.0737	0.0749	0.0761	0.0773	0.0785	0.0797	0.0809	0.0821	0.0833	0.0845	0.0857	0.0869	0.0881	0.0893	0.0905	0.0917	0.0929	0.0941	0.0953	0.0965	0.0977	0.0989	0.1001	0.1013	0.1025	0.1037	0.1049	
FLD_S58	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	4	0.0757	0.0761	0.0765	0.0769	0.0773	0.0777	0.0781	0.0785	0.0789	0.0793	0.0797	0.0801	0.0805	0.0809	0.0813	0.0817	0.0821	0.0825	0.0829	0.0833	0.0837	0.0841	0.0845	0.0849	0.0853	0.0857	0.0861	0.0865	
FLD_S58	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	6	0.0795	0.0796	0.0797	0.0798	0.0799	0.0800	0.0801	0.0802	0.0803	0.0804	0.0805	0.0806	0.0807	0.0808	0.0809	0.0810	0.0811	0.0812	0.0813	0.0814	0.0815	0.0816	0.0817	0.0818	0.0819	0.0820	0.0821	0.0822	0.0823
FLD_S58	LATERAL	ACCELERATION	Transom, A-Frame	SHORTCRESTED	45.9	7	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	0.0766	
Limit							Lateral Acceleration Limit (SS7-8)		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2		0.2				

Chart Title  
 Operability Plot  
 Sea State 8  
 Lateral Acceleration  
 Transom, A-Frame  
 Shortcrested

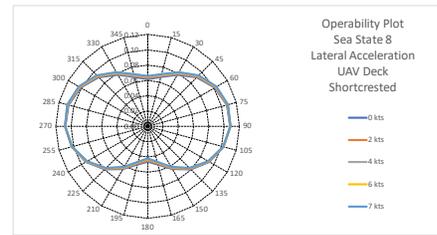
Operability Plot  
 Sea State 8  
 Lateral Acceleration  
 Transom, A-Frame  
 Shortcrested

STD  
 0.017076  
 CONDITION PASSES



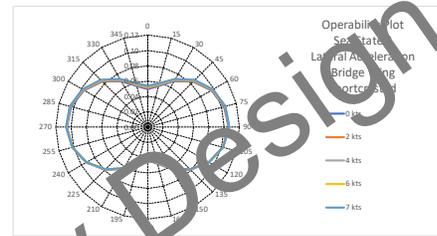
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S58	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	0	0.0617	0.0666	0.0780	0.0908	0.1033	0.1072	0.1077	0.1027	0.0929	0.0794	0.0644	0.0516	0.0462	0.0516	0.0644	0.0794	0.0929	0.1027	0.1077	0.1072	0.1013	0.0908	0.0780	0.0666	0.0617	0 kts
FLD_S58	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	2	0.0631	0.0679	0.0793	0.0919	0.1022	0.1078	0.1080	0.1027	0.0924	0.0786	0.0633	0.0502	0.0447	0.0502	0.0633	0.0786	0.0924	0.1027	0.1080	0.1078	0.1022	0.0919	0.0793	0.0679	0.0631	2 kts
FLD_S58	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	4	0.0643	0.0691	0.0804	0.0929	0.1029	0.1083	0.1081	0.1025	0.0919	0.0778	0.0623	0.0490	0.0434	0.0490	0.0623	0.0778	0.0919	0.1025	0.1081	0.1083	0.1029	0.0929	0.0804	0.0691	0.0643	4 kts
FLD_S58	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	6	0.0654	0.0701	0.0814	0.0938	0.1036	0.1087	0.1081	0.1023	0.0914	0.0771	0.0614	0.0480	0.0424	0.0480	0.0614	0.0771	0.0914	0.1023	0.1082	0.1087	0.1036	0.0938	0.0814	0.0701	0.0654	6 kts
FLD_S58	LATERAL	ACCELERATION	UAV Deck	SHORTCRESTED	45.9	7	0.0659	0.0707	0.0819	0.0942	0.1039	0.1088	0.1083	0.1021	0.0912	0.0767	0.0610	0.0476	0.0419	0.0476	0.0610	0.0767	0.0912	0.1021	0.1083	0.1088	0.1039	0.0942	0.0819	0.0707	0.0659	7 kts
Limit				Lateral Acceleration Limit (SS7-8)			0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	

Chart Title	Operability Plot	Operability Plot	STD	0.020414
	Sea State 8	Sea State 8	CONDITION PASSES	
	Lateral Acceleration	Lateral Acceleration		
	UAV Deck	UAV Deck		
	Shortcrested	Shortcrested		



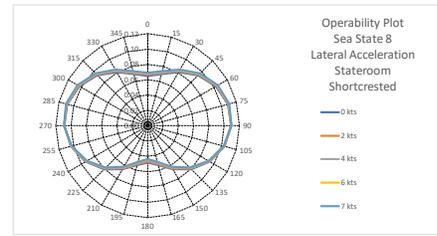
FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S58	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	0	0.0496	0.0556	0.0692	0.0840	0.0962	0.1037	0.1056	0.1017	0.0925	0.0790	0.0634	0.0494	0.0432	0.0432	0.0634	0.0790	0.0925	0.1017	0.1056	0.1037	0.0962	0.0840	0.0692	0.0556	0.0496	0 kts
FLD_S58	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	2	0.0509	0.0568	0.0702	0.0849	0.0969	0.1043	0.1060	0.1019	0.0924	0.0787	0.0629	0.0487	0.0425	0.0425	0.0629	0.0787	0.0924	0.1019	0.1060	0.1043	0.0969	0.0849	0.0702	0.0568	0.0509	2 kts
FLD_S58	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	4	0.0521	0.0579	0.0712	0.0857	0.0976	0.1047	0.1063	0.1020	0.0923	0.0784	0.0625	0.0481	0.0419	0.0419	0.0625	0.0784	0.0923	0.1020	0.1063	0.1047	0.0976	0.0857	0.0712	0.0579	0.0521	4 kts
FLD_S58	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	6	0.0532	0.0590	0.0724	0.0865	0.0982	0.1052	0.1065	0.1020	0.0922	0.0782	0.0622	0.0478	0.0415	0.0415	0.0622	0.0782	0.0922	0.1020	0.1065	0.1052	0.0982	0.0865	0.0724	0.0590	0.0532	6 kts
FLD_S58	LATERAL	ACCELERATION	Bridge Wing	SHORTCRESTED	45.9	7	0.0537	0.0595	0.0728	0.0869	0.0985	0.1054	0.1066	0.1021	0.0921	0.0781	0.0620	0.0477	0.0414	0.0414	0.0620	0.0781	0.0921	0.1021	0.1066	0.1054	0.0985	0.0869	0.0728	0.0595	0.0537	7 kts
Limit				Lateral Acceleration Limit (SS7-8)			0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185		

Chart Title	Operability Plot	Operability Plot	STD	0.021033
	Sea State 8	Sea State 8	CONDITION PASSES	
	Lateral Acceleration	Lateral Acceleration		
	Bridge Wing	Bridge Wing		
	Shortcrested	Shortcrested		



FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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		
FLD_S58	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	0	0.0650	0.0710	0.0833	0.0930	0.1030	0.1087	0.1089	0.1038	0.0939	0.0805	0.0659	0.0535	0.0483	0.0535	0.0659	0.0805	0.0939	0.1038	0.1089	0.1087	0.1030	0.0930	0.0806	0.0697	0.0650	0 kts
FLD_S58	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	2	0.0665	0.0725	0.0843	0.0942	0.1040	0.1093	0.1092	0.1037	0.0933	0.0796	0.0646	0.0520	0.0467	0.0520	0.0646	0.0796	0.0933	0.1037	0.1092	0.1093	0.1040	0.0942	0.0820	0.0710	0.0665	2 kts
FLD_S58	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	4	0.0676	0.0735	0.0851	0.0951	0.1047	0.1097	0.1093	0.1034	0.0927	0.0786	0.0634	0.0506	0.0452	0.0506	0.0634	0.0786	0.0927	0.1034	0.1093	0.1097	0.1047	0.0951	0.0830	0.0721	0.0676	4 kts
FLD_S58	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	6	0.0681	0.0739	0.0851	0.0950	0.1054	0.1101	0.1093	0.1030	0.0920	0.0777	0.0624	0.0494	0.0440	0.0494	0.0624	0.0777	0.0920	0.1030	0.1093	0.1101	0.1054	0.0950	0.0841	0.0733	0.0681	6 kts
FLD_S58	LATERAL	ACCELERATION	Stateroom	SHORTCRESTED	45.9	7	0.0693	0.0751	0.0864	0.0964	0.1067	0.1103	0.1093	0.1029	0.0917	0.0773	0.0619	0.0489	0.0435	0.0489	0.0619	0.0773	0.0917	0.1029	0.1093	0.1103	0.1057	0.0954	0.0846	0.0738	0.0693	7 kts
Limit				Lateral Acceleration Limit (SS7-8)			0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185		

Chart Title	Operability Plot	Operability Plot	STD	0.021194
	Sea State 8	Sea State 8	CONDITION PASSES	
	Lateral Acceleration	Lateral Acceleration		
	Stateroom	Stateroom		
	Shortcrested	Shortcrested		



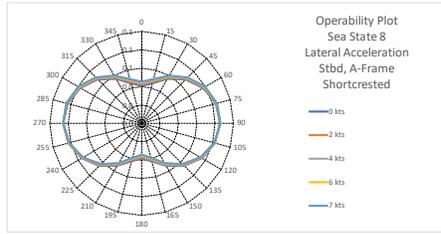
Preliminary Design, CALDR5

FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/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	
FLD_S88	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	45.9	0	0.0409	0.0455	0.0560	0.0677	0.0774	0.0834	0.0844	0.0824	0.0758	0.0653	0.0533	0.0426	0.0330	0.0426	0.0533	0.0653	0.0756	0.0826	0.0854	0.0836	0.0774	0.0677	0.0560	0.0455	0.0409
FLD_S88	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	45.9	2	0.0423	0.0468	0.0572	0.0686	0.0781	0.0840	0.0853	0.0824	0.0751	0.0645	0.0523	0.0415	0.0336	0.0415	0.0523	0.0645	0.0751	0.0824	0.0853	0.0840	0.0781	0.0686	0.0572	0.0468	0.0423
FLD_S88	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	45.9	4	0.0436	0.0481	0.0583	0.0696	0.0788	0.0844	0.0853	0.0821	0.0745	0.0637	0.0513	0.0404	0.0336	0.0404	0.0513	0.0637	0.0745	0.0821	0.0853	0.0844	0.0788	0.0696	0.0583	0.0481	0.0436
FLD_S88	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	45.9	6	0.0449	0.0492	0.0594	0.0705	0.0795	0.0848	0.0856	0.0819	0.0740	0.0629	0.0504	0.0393	0.0330	0.0393	0.0504	0.0629	0.0740	0.0819	0.0856	0.0848	0.0795	0.0705	0.0594	0.0492	0.0449
FLD_S88	LATERAL	ACCELERATION	Stbd, A-Frame	SHORTCRESTED	45.9	7	0.0455	0.0498	0.0599	0.0709	0.0798	0.0850	0.0857	0.0818	0.0737	0.0626	0.0499	0.0388	0.0340	0.0388	0.0499	0.0626	0.0737	0.0818	0.0857	0.0850	0.0798	0.0709	0.0599	0.0498	0.0455
Limit							Lateral Acceleration Limit (SS7-8)	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	0.185	

Chart Title	Operability Plot Sea State 8 Lateral Acceleration Stbd, A-Frame Shortcrested
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Operability Plot	Sea State 8 Lateral Acceleration Stbd, A-Frame Shortcrested
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STD	0.016372
CONDITION PASSES	

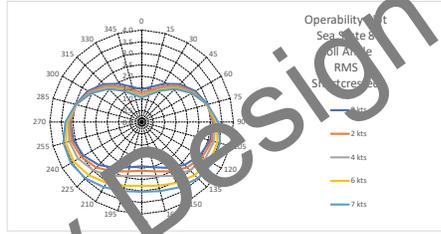


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S88	ROLL	ANGLE	RMS	SHORTCRESTED	45.9	0	1.4400	1.5820	1.9260	2.3370	2.7100	2.9800	3.1100	3.0860	2.9150	2.6340	2.3070	2.0350	1.8260	2.0350	2.3070	2.6340	2.9150	3.0860	3.1100	2.9800	2.7100	2.3370	1.9260	1.5820	1.4400	
FLD_S88	ROLL	ANGLE	RMS	SHORTCRESTED	45.9	2	1.3120	1.4560	1.8070	2.2320	2.6370	2.9530	3.1370	3.1660	3.0410	2.7920	2.4840	2.2210	2.0200	2.2210	2.4840	2.7920	3.0410	3.1660	3.1370	2.9530	2.6370	2.2320	1.8070	1.4560	1.3120	
FLD_S88	ROLL	ANGLE	RMS	SHORTCRESTED	45.9	4	1.2140	1.3570	1.7080	2.1470	2.5380	2.9460	3.1850	3.2680	3.1890	2.9740	2.6900	2.4420	2.2120	2.4420	2.6900	2.9740	3.1890	3.2680	3.1850	2.9460	2.5380	2.1470	1.7080	1.3570	1.2140	
FLD_S88	ROLL	ANGLE	RMS	SHORTCRESTED	45.9	6	1.1210	1.2650	1.6190	2.0700	2.5380	2.9520	3.2590	3.4170	3.4130	3.2720	3.0570	2.8630	2.6910	2.8630	3.0570	3.2720	3.4130	3.4170	3.2590	2.9520	2.5380	2.0700	1.6190	1.2650	1.1210	
FLD_S88	ROLL	ANGLE	RMS	SHORTCRESTED	45.9	7	1.0795	1.2235	1.5790	2.0380	2.5245	2.9730	3.3255	3.5305	3.5660	3.4385	3.2780	3.1015	3.0000	3.1015	3.2780	3.4385	3.5305	3.5660	3.5305	3.3255	2.9730	2.5245	2.0380	1.5790	1.2235	1.0795
Limit							Roll Limit (SS7-8)	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50		

Chart Title	Operability Plot Sea State 8 Roll Angle RMS Shortcrested
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Operability Plot	Sea State 8 Roll Angle RMS Shortcrested
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STD	0.688317
CONDITION PASSES	

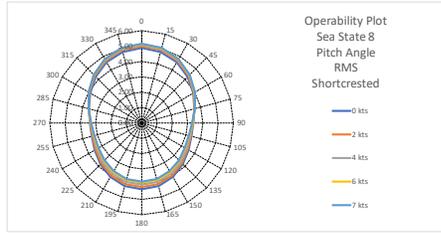


FileName	Motion Direction	Motion Type	POI	Wave Type	Wave Height	Speed/Heading	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	330	345		
FLD_S88	PITCH	ANGLE	RMS	SHORTCRESTED	45.9	0	4.8770	7.9900	15.7300	4.2550	3.8890	3.5640	3.3720	3.3730	3.5470	3.8160	4.0810	4.2690	4.3360	4.2690	4.0810	3.8160	3.5470	3.3730	3.3720	3.5640	3.8890	4.2550	4.5790	4.7990	0.0 kts	
FLD_S88	PITCH	ANGLE	RMS	SHORTCRESTED	45.9	2	4.9910	8.9000	17.7600	4.3330	3.9410	3.5860	3.3590	3.3460	3.4690	3.7130	3.9610	4.1380	4.2010	4.1380	3.9610	3.7130	3.4690	3.3460	3.3590	3.5860	3.9410	4.3330	4.6760	4.9090	2 kts	
FLD_S88	PITCH	ANGLE	RMS	SHORTCRESTED	45.9	4	4.8770	8.9900	17.9900	4.3990	3.9780	3.5970	3.3400	3.2720	3.3850	3.6050	3.8340	3.9860	4.0560	3.9860	3.8340	3.6050	3.3850	3.3400	3.3400	3.5970	3.9780	4.3990	4.7490	4.9910	4 kts	
FLD_S88	PITCH	ANGLE	RMS	SHORTCRESTED	45.9	6	5.1340	9.5000	19.7000	4.7970	4.4280	4.0010	3.6000	3.3160	3.2170	3.3010	3.4950	3.7050	3.8560	3.9110	3.8560	3.7050	3.4950	3.3010	3.2170	3.3160	3.6000	4.0010	4.4280	4.7970	5.0460	6 kts
FLD_S88	PITCH	ANGLE	RMS	SHORTCRESTED	45.9	7	5.1500	9.6150	19.8105	4.8105	4.4385	4.0075	3.5990	3.3035	3.1905	3.2605	3.4425	3.6430	3.7885	3.8410	3.7885	3.6430	3.4425	3.2605	3.1905	3.3035	3.5990	4.0075	4.4385	4.8105	5.0615	7 kts
Limit							Pitch Limit (SS7-8)	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35		

Chart Title	Operability Plot Sea State 8 Pitch Angle RMS Shortcrested
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Operability Plot	Sea State 8 Pitch Angle RMS Shortcrested
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STD	0.57686
CONDITION PASSES	



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