



UDW Project Idea Proposal

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X600 - Administration & Tech Support	▲						
X700 - Reservoir Engineering	▬						
X800 - MetOcean	▼						
UDW Project Idea No:	To be completed by RPSEA Staff						
Project Title:	Measurements and modeling of Topographic Rossby Waves (TRW)						
Submitted by: (Include name, company, phone, and email)	C. Cooper, Chevron, CortCooper@Chevron.com, 925-842-9119						
Potential Operator /Representative/Champion (if known): (Include name, company, phone, and email)							
Estimated duration of project given in months:							
PROJECT ABSTRACT/OBJECTIVE:							
To gather one year of current measurements at multiple locations along the Sigsbee Escarpment and hindcast that data with a numerical model. The overall goal is to expand our knowledge of these powerful currents by increasing the pool of historical measurements which presently contains only 4 strong (> 1 kt) TRW's.							
BACKGROUND AND BUSINESS INCENTIVE TO INVEST:							
Topographic Rossby Waves (TRW's) can generate currents of 2 kn over much of the water column near the Sigsbee escarpment which runs through the Walker Ridge and Atwater Valley blocks where many new discoveries are being made and developed, e.g. Chevron's Jack/St. Malo and Big Foot, and BPs Atlantis. While the Escarpment covers a relatively few number of blocks, it can affect development of blocks to the south of the Escarpment if those developments include a pipeline crossing of the Escarpment. TRW's cause costly delays in drilling and present a major engineering challenge to the design of production risers and pipelines. Despite their importance, only 4 strong (> 1 kn) TRW's have been measured to date. This is mainly due to the infrequent nature of strong TRW's which occur perhaps once a year. We are hoping that a 2008 DeepStar-funded measurement program will capture an additional 1-2 TRW's but that still leaves precious few events upon which to base our modeling or analysis. The intent of this project is to extend the DeepStar measurments another year and build that measured event pool further.							
SCOPE OF WORK:							
1) Install current meter moorings at 3 locations along the Sigsbee Escarpment for one year; 2) apply the DeepStar-developed model to hindcast any strong TRW events measured in Item 1							
ANTICIPATED DELIVERABLES:							
1. Data report and data from measurements; 2. summary report of model hindcast							
PROJECT VALUE:							
1) Reduced capital costs for new production facilites along the Sigsbee Escarpment, especially riser costs; 2) reduced drilling costs and improved saftey.							
PROJECT ESTIMATED COST AND SCHEDULE RATIONALE:							
\$750 k, 1.5 yrs							
PROJECT TOTAL ESTIMATED COST IN US\$	\$750,000.00						