

Contact: Darrel Harvey, Vice President  
**Alan C. McClure Associates, Inc.**  
(713) 789-1840

**FOR IMMEDIATE RELEASE:**

**ACMA Expands Analysis Capabilities with Computational Fluid Dynamics Package**

HOUSTON, Texas – April 29, 2009: Alan C. McClure Associates (ACMA), one of the industry's premier naval architecture and engineering firms, announced today that the company has recently expanded its analysis capabilities by acquiring a license for STAR CCM+, the flagship CFD (Computational Fluid Dynamics) package from CD Adapco. This new analysis capability will enable ACMA to accurately determine the effect of viscous flows and non-linear waves on vessel hulls and in internal tanks. ACMA has also purchased a high-performance computing cluster, equivalent to 16 standard desktops to run the new program and accelerated its learning curve by investing heavily in training and running test simulations of past projects.

To view a video of CFD in action, please visit the ACMA website at: <http://www.acma-inc.com/drill/computational.html>.

“A significant part of ACMA's long history of providing clients with a full complement of services from initial design concepts to shipyard supervision is our willingness to lead the industry by embracing new technology,” said ACMA President, Scott McClure. “When ACMA bought a Prime 250 Mini-computer 28 years ago, we became the first naval architecture firm in Houston to have in-house computing capacity. Since then, ACMA has continued to be an early adopter and we frequently develop in-house computer codes ahead of the commercial market.”

Many of the analyses that ACMA can now perform with CFD were previously analyzed using models tested in a Tow Tank. Adding CFD capability enables ACMA to have its own “Virtual Tow Tank”. This allows these analyses to be done faster, at less cost and earlier in the design cycle for maximum benefit to the client. And, in many cases, CFD actually does a better job of predicting the loading due to the incumbent limitations in model testing.

CFD analyses are particularly useful in the following types of projects:

- Vessel Resistance prediction
- Vessel Motions prediction in regular and random seas, both stationary and underway
- Dynamic Hydrostatic / Hydrodynamic Loading on vessel structures
- Accurate prediction of the viscous effects on moored vessels
- Analysis of sloshing loads inside partially-filled cargo or ballast tanks
- Hull design optimization through flow visualization
- Conjugate Heat Transfer analyses for structures on vessels carrying refrigerated cargo (CNG, LNG or similar)

A responsible design process will still include Tank Testing as part of the program, but the inclusion of a detailed CFD analysis ahead of Tank Testing will allow testing to focus on confirmation of the analyses and will also provide the engineering team with a clearer



Alan C.  
**McCLURE ASSOCIATES, INC.**  
Naval Architects • Engineers

picture of what they can expect to see in the model basin.

ACMA has integrated the CFD analysis into its already extensive toolbox of analysis tools which includes Finite Element Analysis (FEA) and 3D Diffraction mooring analysis (fully coupled). And, with the addition of the new computing cluster, run times on the full range of ACMA's advanced analysis and design software has been dramatically minimized.

**About Alan C. McClure Associates, Inc.**

Headquartered in Houston, Texas, Alan C. McClure Associates, Inc. ([www.acma-inc.com](http://www.acma-inc.com)) is one of the industry's premier naval architecture and engineering firms, and has been providing a wide variety of design and engineering services to an international clientele for more than 30 years. Projects include drilling rigs, floating production systems and support craft for the offshore petroleum industry. Our array of services also includes project management, legal/arbitration consulting, surveying and negotiations. The ACMA staff and services represent the engineering disciplines necessary to successfully complete projects in naval architecture, marine engineering, electrical engineering, mechanical engineering and engineering mechanics.



Alan C.  
McCLURE ASSOCIATES, INC.

Naval Architects • Engineers