



## Press Release

For immediate release

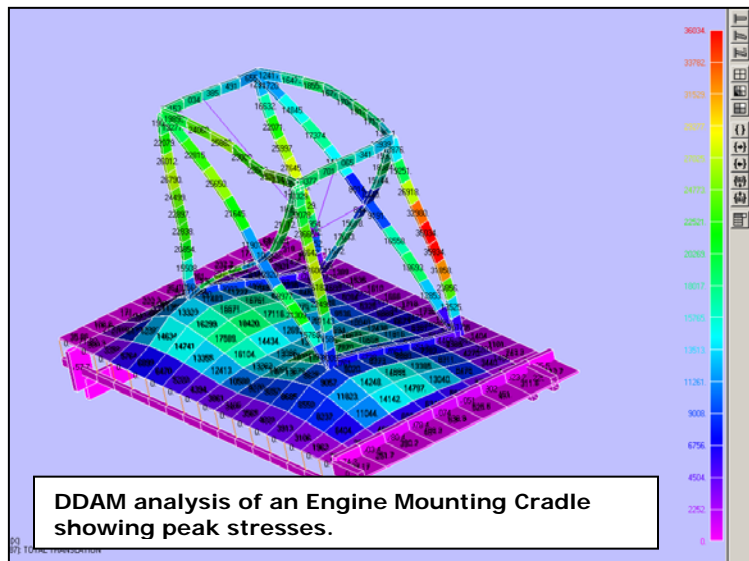
# Noran Engineering Announces Latest NAVSEA Compliant DDAM Version and Special Training Class

## NEiNastran DDAM Equips U.S. Navy with Tools to Characterize Effects of Underwater Explosion Phenomena

**Westminster, CA. July 15, 2005.** Noran Engineering, Inc. ([www.NENastran.com](http://www.NENastran.com))

announced that its NEiNastran finite element analysis (FEA) software has several new enhancements of its NAVSEA compliant simulation for the response of ship

components to shock-loads like mine, torpedo, depth charge, or missile detonation. In addition, special training will be offered in the use of the analysis technique. The solution is based on the U.S. Navy's Dynamic Design Analysis Method (DDAM) which has been used for more than three decades to validate ship-borne shock sensitive equipment. All mission-essential equipment onboard surface ships and submarines must be qualified for shock loads, like, masts, propulsion shafts, rudders, and exhaust uptakes.



The new enhancements include:

- The ability to handle very large modal analysis models. A recent trend has been to require large numbers of modes, in the order of thousands, to satisfy the DDAM Modal Effective Mass requirements. This enhancement streamlines the data flow inherent in the DDAM calculations to provide an efficient way to effectively handle unlimited numbers of modes.
- Graphical Output of Response Mode Number. The DDAM method is based on combining the most important modal response with a Square Root Sum of Squares (SRSS) of the other responses. Support is now provided for graphical output of this response mode number for DDAM. The mode number is listed in the status result measure written to the FEMAP Binary Results Neutral File and can be viewed as an assignment plot.

- Modal summation solutions based on von Mises stress for shell and solid elements and maximum absolute stress for line elements have been introduced based on feedback from key maritime clients.
- Security Feature for Classified Data. A new Graphical User Interface in the NEiNastran Editor supports input of classified data without compromising that data. A direct line of communication to the NEiNastran solver is used to achieve this. The new interface was requested by and the design was implemented with the assistance of a major Naval defense contractor and the Department of the Navy.

NEiNastran DDAM provides the maritime industry with several major advantages in shock simulation and analysis.

- NEiNastran is fully NAVSEA compliant. An important consideration since not all FEA software meets this criteria. For example, NAVSEA compliance requires calculating invariants, like von Mises stresses, directly.
- NEiNastran DDAM is integrated into the core NEiNastran program, thereby eliminating the need for external modules or those that are add-on customizations. Add-on modules are often problematic because their lack of integration can be time consuming and difficult to work.
- NEiNastran DDAM boosts productivity with its easy set up, fast processing time, extensive diagnostics, and the use of various techniques for eliminating repetitive, time consuming tasks e.g. Modal database/restart feature.
- Noran Engineering supports NEiNastran DDAM with specialized training classes at its facility. In addition, arrangements can be made for training at the customer's site. The following link provides details.  
<http://www.nenastran.com/newnoran/classSchedule.php>

#### **About Noran Engineering, Inc.**

Noran Engineering, Inc. (NEi), a leader in computer-aided engineering (CAE) software, provides a complete suite of analysis tools for structural, thermal, dynamic, fluid flow, fatigue, and optimization to the aerospace, automotive, maritime, military, medical, and consumer product industries. The core product, NEiNastran, runs on Windows, Linux, and UNIX platforms in both stand-alone and networked configurations. NEi's latest product, NEiWorks in SolidWorks, breaks new ground in engineering analysis software by integrating Nastran with CAD to remove long standing barriers between design and analysis. Website: [www.NENastran.com](http://www.NENastran.com). Telephone: 714.899.1220. Email: [info@noraneng.com](mailto:info@noraneng.com).

#### **Marketing Contact:**

Dennis Sieminski, P.E.  
Noran Engineering, Inc.  
5555 Garden Grove Blvd., Suite 300  
Westminster, CA 92683  
Telephone: 714.899.1220 Ext. 207  
Email: [dennis.sieminski@noraneng.com](mailto:dennis.sieminski@noraneng.com)  
Website: [www.NENastran.com](http://www.NENastran.com)