UNOLS Van Status
February 2002
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Four of the eight UNOLS scientific vans funded by the National Science Foundation have been delivered. They include aluminum isotope vans for Oregon State University (*Wecoma*) and the University of Texas (*Longhorn*), a chemical storage van for Woods Hole (*Atlantis*), and an electronics van for Scripps (*Sproul*). The remaining vans are currently under construction and include two steel isotope vans for the University of Washington (*Thompson*), an aluminum trace metal clean van for LUMCON (*Pelican*), and an aluminum isotope van for the University of Delaware (*Cape Henlopen*). All should be delivered by spring of this year.

The main goals of this standardization effort were to make vans more interchangeable among UNOLS ships, enable transport by common carrier, facilitate group purchase, and standardize certain design elements for the benefit of the scientific user. The most important result, however, was a clarification of the basic standards to which portable scientific vans should be built. The specifications and design details were sent to the US Coast Guard in Washington, DC for approval. The review letter that came back from the Coast Guard addressed most van types to some degree, but the response dealt mostly with requirements for inspected vans. Many of the requirements had long been determined at the discretion of the local Coast Guard Office of Marine Inspection in which the ship operated. The intent of the Coast Guard review was to get a single, centralized view of the basic standards to which vans should be built. The intent was not to rewrite the existing rules in 46 CFR, or create new rules, but rather to clarify the ones that already exist for sub-Chapter U vessels. Standards from other industries, other classes of vessels, and classification societies (ABS and DNV) were used for guidance. Many key elements needed to standardize design, namely side panel strength and structural fire protection, had been very difficult to ascertain before now.

The three primary decisions of the review were:

- An ABS side and aft deckhouse design pressure of 2.0 psi. for plate, and 1.5 psi. for stiffeners is suitable for accommodations vans in “sheltered locations”. A definition of “sheltered location” was negotiated, which is based on the premise that the loads experienced by the van will primarily be wind loads. A standard ISO container does NOT meet this requirement and requires additional stiffening.

- Portable vans on sub-Chapter U vessels are allowed to take into account the “van/ship system” when considering the overall fire rating of the “boundary”. This includes the van structure, adjoining ship’s structure, and the air space in between. The actual suitability of this “boundary” is subject to formal flame testing. This ruling allows most van types (including labs) to be built of aluminum, though some types will still be required to be built of steel.

- Accommodations vans must be built of “incombustible materials” all around. This means that either the wooden deck normally found in a standard ISO container must be replaced with a metal deck, or a metal “belly plate” must be added.

One additional benefit of the review process was to obtain a formal ruling that laboratory vans are not "accommodations", and thus not required to be inspected. However, it was stated in the review letter that for lab vans the "…design and material selection must [consider] forces and environmental conditions to which the vans …will be exposed." Normally lab vans are placed in very similar locations to accommodations vans on UNOLS vessels, and thus there is very little difference in the conditions and forces experienced. Also, scientific personnel occupy the van while the ship is underway. Because of this fact, the members of the Research Vessel Operators Committee (RVOC) voted at the October meeting to accept the accommodations van standards as the minimum for all new vans which are occupied by personnel – including laboratory vans. Vans which currently meet the other basic safety requirements given in the new specifications and the CFR's (egresses, electrical, etc.) may be "grandfathered" with regard to the structural requirements. However, all new vans, whether ship or science owned, should be built to these new standards.

Formal flame tests have been completed at a US Coast Guard approved testing facility. The standard steel panel design (stiffened 20-foot container) passed the "A-0" requirements. The aluminum van/ship system (bulkhead arrangement – worst case scenario) passed the "A-30" requirements. This means that a stiffened 20-foot container can be used for several van types, such as machinery and chemical storage vans. It also means that both the standardized steel and aluminum vans can be placed anywhere on board the vessel without regard to the type of space next to the van.

Portions of the UNOLS van design and standards are still being finalized. A consolidated, web-based *UNOLS Van Manual* is being developed with the help of the UNOLS office. It will organize all of the information developed in this process, as well as make it publicly available to all concerned parties, both ship operators and science. This manual could be used as both a resource during construction, and also when dealing with local Coast Guard inspectors to ensure the vans are built and used to standards. A link to the manual should be on the RVOC site in the near future. A hard copy manual will also be made available, and forwarded to US Coast Guard in Washington for reference.

Now that most of the regulatory issues have been resolved, the next phase in the UNOLS van project is to deal with the many logistical issues with portable vans. At the RVOC meeting, there was a recognized need for a subcommittee to start dealing with these issues. Matt Hawkins was nominated to be the chair of this group. The members will be composed of both ship operators and technicians. Technicians at many institutions deal with scientific vans, so their representation on the committee was deemed essential. The committee will deal primary with: 1) assessing the condition of existing vans and determining overall fleet need for the various van types, 2) developing a centralized web-based van inventory, 3) proposing a standardized van loan/rental agreement among operators and science.