

# Safety Reports

## Aviation Safety Data Accessibility Study Index: Experience of Other Federal Agencies

Several Federal government agencies have responsibility for encouraging, enforcing, and publicizing the safety of industrial sectors. The experience of other agencies in fulfilling these responsibilities provides a source of information for FAA as it considers how best to make the results of its safety activities more available and accessible to the public. Because of the differences between sectors and the differing public perceptions of the risks that industries and their products impose, agency approaches to risk communication and public data availability vary. This section briefly examines reporting of risk information by federal agencies overseeing safety in three other industries: banking, automobile transport, and nuclear energy.

### **The FDIC and Measures of the Financial Strengths of Banks**

The Federal Deposit Insurance Corporation (FDIC) and other banking regulators have for many years used the CAMEL system for characterizing the level of risk in a given depository institution and for identifying the level of supervision which the FDIC should provide for that institution. For FDIC, the principal use of this system of stratification is to allocate limited supervisory and enforcement resources more effectively. CAMEL ratings are not made available to the public because it is believed that negative information about an institution's financial health could lead to runs on the institutions and increased costs to FDIC. However, because bank deposits are insured against loss due to bank failure by the FDIC, there is limited public demand for the information represented by CAMEL ratings. Indeed, because deposit insurance eliminates much of the public need for information about the financial health of a given depository institution, the importance of the CAMEL rating system for FDIC's internal allocation of surveillance and monitoring resources is especially great. It should be emphasized that the CAMEL system is intended to stratify institutions into risk groups, and is not designed to rank all depository institutions from strongest to weakest.

For FAA and others interested in making public information about aviation safety more accessible and understandable, the simplicity of the CAMEL system, in which a complex system of variables indicative of a bank's financial standing is reduced to a single number, is attractive. Some *caveats* are in order, most importantly that the CAMEL system is not designed for ranking individual institutions. Also, there are tens of thousands of FDIC regulated institutions in the nation, and far fewer air carriers. If FAA were able to borrow from the CAMEL concept and simplify safety information on individual carriers into a single number, it would be hard to counter the natural inclination to use such a number for ranking purposes, even if such a number could not reasonably be used to

forecast future accidents or incidents. Because there can be nothing comparable to deposit insurance in the aviation industry, the inclination to rank and to make possibly unwarranted inferences from rankings would be especially strong.

Federal banking agencies are obliged to publish and make available to the public, on a monthly basis, written enforcement actions and orders directed at individual banks. Publication of enforcement actions may be delayed if immediate publication would seriously threaten the safety and soundness of an insured depository institution. Hearings related to enforcement activities must be public, unless it is determined that an open hearing would be contrary to the public interest. (12 U.S. Code 1818(u))

### **NHTSA and Automobile Safety**

The National Highway Traffic Safety Administration (NHTSA) is charged with reducing deaths, injuries, and economic losses from motor vehicle crashes. Motor vehicle travel is the primary means of transportation in the United States, and traffic fatalities account for more than 90 per cent of transportation-related fatalities. Among many other activities for fulfilling this mission, NHTSA conducts vehicle crash tests and provides a one-to-five star rating on each vehicle's crashworthiness in frontal collisions. These crash tests measure a variety of factors affecting passenger safety in the event of a crash; the ratings of one star (worst) to five stars (best) again represent a reduction of complex data to a single rating number. Because of the design of the crash tests, ratings are meaningful only when comparing vehicles in the same weight class.

Vehicle crashworthiness is not, however, a measure of the likelihood that a vehicle will be involved in an accident, which is related both to vehicle crash avoidance features and, most importantly, to driver behavior. Thus, for automobiles, as in aviation, safety assessment is multidimensional, and cannot be fully addressed with a single measure. Some interested parties, including Congress, felt that the crashworthiness information provided by NHTSA was not comprehensive enough to fully assess overall vehicle safety. For this reason, Congress requested that the National Academy of Sciences conduct an independent study of consumer information needs related to automobile safety. The resulting study "would broadly examine motor vehicle consumer safety information needs and the most cost-effective methods of communicating this information to the public." (TRB, 1996)

Ratings and other information provided by NHTSA assist consumers in including safety as a factor in the car purchase decision-making process. This is especially important for automobile safety and the reduction of motor vehicle casualties because most drivers believe themselves to be of above average driving ability, and because it is difficult to get drivers to change their driving behavior for safety reasons. (TRB 1996) Therefore, NHTSA ratings of vehicle safety can have the effect of raising the average crashworthiness of the nation's auto fleet, directly

through consumer education and indirectly through incentives to producers to improve product quality. NHTSA provides information to the public through a variety of reports, brochures, and releases, many of which are summarized by intermediaries in the private sector. NHTSA also uses the internet for news releases.

The study found that although consumer information about automobile safety characteristics is available, it is not always timely, accessible, or easily interpreted. The study recommends public dissemination of more explicit and detailed information on crashworthiness, occupant restraint systems, and crash avoidance features as well as frank discussion of the uncertainties associated with test results on these subjects. The long term goal of establishing a summary measure of vehicle safety that includes both vehicle crashworthiness and vehicle crash avoidance features is a difficult one, due to the uncertainties of present knowledge. The study strongly endorses research efforts that examine the feasibility of constructing a single overall measure that combines the relative importance of vehicle crashworthiness and crash avoidance features. Research into consumer decision making and the role of safety information in consumer decisions is also proposed.

### **The NRC and Nuclear Power**

The Nuclear Regulatory Commission (NRC) enforces the standards for protecting the public from radiation, which are set by the Environmental Protection Agency (EPA). The NRC provides information to the public about the safety of nuclear power generation and about the mechanisms that are used to ensure that the level of safety remains high. This information is provided in brochures and reports as well as on the internet. Through its systematic Assessment of Licensee Performance Program, the NRC provides the public with safety information about power plant operations. This includes a numerical performance rating with supporting information.

The nuclear power industry has embraced the concepts of self-regulation and self-improvement, and has established a trade organization, the Institute of Nuclear Power Operations (INPO), which works closely with the NRC. This self-regulation by the industry became especially important after the Three Mile Island accident and the realization that a bad accident at one facility could have large consequences for others in the industry. The NRC makes regular inspections of nuclear generating plants, and NRC inspectors are on duty in those plants at all times. Utilities operating nuclear plants are also subject to stringent reporting requirements, some of which require self reporting of out-of-the-ordinary events (the self reporting aspect is less problematic in

the nuclear industry because of the presence of NRC personnel at nuclear facilities). The NRC can exact fines and other penalties for violations of regulatory requirements.

There are many similarities between the nuclear power industry and the aviation industry. Both have relatively few providers who serve an increasingly large portion of the American public. Both have experienced a small number of accidents, and the public regards both nuclear accidents and aviation accidents with a large component of dread. The role of a nuclear power plant control room operator has been compared to that of a commercial airline pilot, since both jobs require the control of highly automated and extremely complex machines. Because of the degree of automation, the machines are largely self-regulating, and both jobs can be rather boring under normal circumstances. Because of the complexity of the machines, both jobs require that the operator or pilot react quickly and intelligently when a problem develops. For both jobs, the consequences of a problem that is not appropriately addressed can be severe. (Rees 1994)