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The Vertical Flight Panel, by design, included only one original equipment manufacturer and one commercial operator, but it was enhanced by a broad cross-section of key people from industries and communities that influence the use of vertical flight aircraft. The objective of the panel was agreed to make a nonnormative projection and assessment of conditions during the next 10 years that might determine the strength of current and new markets for rotorcraft and would influence their supply and demand. Numerical forecasts were neither requested nor offered, and criticisms of existing or projected constraints on industry growth were discussed only in the context of possible changes in those constraints that might affect the FAA forecast.

**Growth of Fleet Size and Activity**

The panel agreed that zero to moderate growth in fleet size and activity would continue for the 10-year forecast period, except that significant changes might derive from the following developments.

Greater than anticipated growth in GDP and corporate income would stimulate new aircraft deliveries and the use of corporate and private helicopters. It was felt that the continued lethargy in the markets for corporate and private helicopters reflected lingering fears of perceived executive arrogance during hard economic times and that apparent firming of demand for

fixed-wing business aircraft might presage a turn in the helicopter market back toward its theoretical potential.

Stricter redundancy requirements (and related safety issues) for aircraft operating over water would stimulate sales of newer technology and twin-engine helicopters to the offshore fleet as older aircraft are phased out or diverted to overland missions. Offshore fleets would also grow in response to any new U.S. efforts at energy independence.

However, new redundancy requirements would also tend to reduce the total helicopter fleet by eliminating some single-engine aircraft in marginal markets where twin-engine replacements could not be justified.

Substantial development of new city-center heliports equipped for IFR operations, along with significant improvements in operating costs and dispatch reliability, would open a market for commuting by intracity helicopter. This market is defined as metropolitan area flights of 15 minutes or less, predominantly between city centers and their fixed-wing airports. The lack of appropriate heliports, failure to achieve the dispatch reliability levels of the fixed-wing airlines they serve, and inability to break even at competitive yields were felt to be the only obstacles to success in the development of future helicopter commuter air service. This assumes that the issues of safety, convenience, and public acceptance have been resolved.

Federal efforts to overhaul the health care industry could significantly increase the number of emergency

medical service (EMS) helicopters in the time period. The trend toward fewer special-care hospitals offset by helicopter transportation between secondary hospitals and the remaining special-care centers has proved economical and practicable, and it is expected to accelerate. The strongest growth would be in the intermediate-size twin-engine helicopter fleet.

## **Other Observations**

### *Private Heliports*

Public funding for improvements to private heliports that feed in to central public heliports would dramatically enhance service. This would increase fleet activity significantly and fleet size modestly. At issue are local weather reporting and revamping the low-altitude IFR system. The problem is the definition of "public" which, for purposes of funding eligibility might be expanded to include private facilities with high amounts of origin-destination traffic feeding into public heliports.

### *Offshore Service*

The offshore service industry, where expansion drove the civil helicopter industry in the past, is now largely limited to a replacement market. The panel foresaw minimal growth worldwide and no significant changes during the forecast period.

### *Oversupply of Rotorcraft*

In all service markets, continued equipment overcapacity dictates that most new growth will be accommodated by increasing the average flight hours on existing equipment. It was observed that a substantial portion of the "active" fleet is, in fact, idle but not identified as such.

### *Fleet Revitalization*

Fleet revitalization programs no longer exist. High acquisition costs and increased operator efficiency make new procurement prohibitive in some cases and unnecessary in others. Military R&D in recent years has focused on parameters of little value to the commercial fleet (e.g., combat agility and stealth). New civil rotorcraft designs now on the market do not offer much incremental value to civil operators and do not provide a return on the substantial incremental cost adequate to

justify replacement of existing equipment with new models.

For this reason, easing the fleet into appropriate new technology that does exist, and thus stimulating a renaissance of fleet growth, would require a massive infusion of funding to address such matters as reduction in operating cost, increased reliability, and transitioning into Health Usage Monitoring Systems (HUMS).

### *Intercity Commuter Service*

Intercity commuter service by rotorcraft is not likely to affect fleet size or activity during the forecast period. The panel felt it highly improbable that the constraints on development of civil tiltrotor technology (acquisition cost, operating cost, and market viability) could be resolved before the end of the century. Beyond that, it was felt that the logical users of tiltrotor aircraft, regional airlines that provide feeder service to major airlines, would be disinclined to undertake a competing city-center service.

### *Other Modes*

Competition from other transport modes is not likely to change during the period. For example, short-haul aircraft, and particularly rotorcraft, are less vulnerable than long-haul airlines to erosion by teleconferencing.

### *Alternative Sources of Rotorcraft*

Imports from nontraditional (former Eastern Bloc) sources could change the fleet mix, but probably not the fleet size. Some missions might be served more efficiently with the larger Russian helicopters, and some new markets may be opened by such equipment capable of lifting very high gross weights.

The release of military surplus helicopters will have an impact primarily on the public service and restricted-ticket utility fleets, with little change in fleet size overall. However, the change in fleet mix is a serious concern.

### *Regulation*

A regulatory review to purge obsolete constraints on current-technology helicopters would increase fleet activity and probably fleet size as new markets became viable. Emergency medical service (EMS) aircraft technology, in particular, has advanced significantly beyond its regulatory limits.