

CABIN FLUORESCENT LIGHT BALLAST FIRES

A recent overweight landing of a wide-body transport jet fueled for a trans-Pacific flight was narrowly averted following successful handling of a cabin fluorescent light ballast fire which occurred immediately after lift-off. Urgent signals from cabin attendants during the initial climb phase revealed that a fire of unknown origin had erupted together with considerable arcing, flames, and smoke, creating considerable alarm among passengers and cabin crew. The captain directed his flight engineer to proceed to the cabin to lend whatever assistance might be required.

Upon arriving in the cabin, the flight engineer, assisted by a company maintenance employee who happened to be present, removed ceiling panels, discharged an extinguisher and the fire was extinguished. In the meantime, because of excessive air traffic control communications which interfered with flight deck emergency procedures, the remoteness of the flight deck from the cabin which tended to isolate the captain from fire progress information, and the knowledge of a recent cabin fire which cost the lives of all aboard another wide-body transport jet, the captain determined that the safest course of action would be an immediate return to the departure airport for an emergency landing. On the final approach the flight engineer returned to the flight deck to report that the ballast fire was extinguished.

An interview of this crew indicated that none had ever heard of a fluorescent light ballast fire and, thus, were totally unfamiliar with its relatively nonhazardous characteristics. This lack of knowledge nearly precipitated a greater emergency which could have progressed to a disaster of unknown proportions because the captain was placed in a situation that required a decision to make an emergency return and landing, in spite of the inability to dump fuel and, thus, reduce weight much below the maximum authorized for takeoff. The target airspeeds were unavailable, runway length adequacy for the planned maneuver was unknown, and the potential for a runway end overrun emergency evacuation appeared very real, as the aircrew had not been provided performance data for this flight regime.

Ballast fires, though spectacular, are understood to be brief in nature, and for all practical purposes self-extinguishing. They are not uncommon and, though new ballasts available through compliance with costly service bulletins all but eliminate the problem, it is unlikely that older aircraft will be retrofitted in view of the considerable expense involved. Since these conditions may therefore be expected to be present for some time, and since such incidents may become more numerous commensurate with aging of the aircraft fleet, we recommend that principal operations inspectors take the following steps:

- a. Require that ground training and/or Operations Bulletins be initiated to inform flight deck crews and cabin crews of the causes, characteristics, and degree of hazard associated with fluorescent light ballast fires.
- b. Determine that aircraft operational data carried by the flightcrew is sufficient to provide accurate approach and landing speeds following immediate turnback when landing weights may be well above the authorized in the Aircraft Flight Manual Limitations Section.