costs reliably. Although reliable information is available on the cost of contractor conducted obstacle-performance-data analyses, the same reliability does not apply to the number of runways or airports commuter operators will use. Potential costs for this requirement cannot be estimated reliably without knowing what airports, runways, and the types of airplanes operators will use. It is for this reason that this section of the evaluation contains no estimate for costs. Despite this situation, the FAA contends that this requirement is an important element in achieving the one-level-of-safety objective.

Section 121.99: Communications Facilities. Currently, this section requires each domestic and flag air carrier to show availability of a two-way air/ground radio communication system at points that will ensure reliable and rapid communications, under normal operating conditions over the entire route (either direct or via approved point-to-point circuits). Each carrier also must show that the system is accessible between each airplane and appropriate dispatch office, and between each airplane and the appropriate ATC unit. In addition, each system must be independent of any other system operated by the United States.

To estimate the potential cost, the FAA contacted several industry sources, including operators and data link service venders. These sources indicated that the least expensive option for most operators would be a voice data link service from an FAA-approved vender. According to Aeronautical Radio, Inc. (ARINC) and several operators with operations specifications for parts 121 and 135 (scheduled), the needed voice-data-link service consists of a monthly access fee of $35 per operator and a fee of $14 per contact. Contact refers to any form of voice communication between the pilot while in flight and the home dispatcher.

If, from a worst case standpoint, none of the current commuters have this access service, the total cost will be the number of affected operators times the monthly access fee of $35 over the next 15 years. This evaluation estimates that the number of commuter operators will range from 63 in 1996 to 73 in 2010. This will result in a total cost of $445 million ($269 million, present value). The contact fee cost can be estimated in a similar manner, though it employs a great deal more of uncertainty because the actual number of contacts each operator will make annually is unknown and usually varies among operators. According to industry sources, there will be a certain percentage of contacts per annual departures for each airplane in an operator's fleet. Based on information contained in the Regional Airlines Association's Annual Report for 1994, each airplane in the U.S. commuter fleet makes an average of 5.68 departures per day or 2,074 annually. The number of airplanes with 10 to 30 seats in the U.S. commuter fleet is projected to range from 950 in 1996 to 1,099 in 2010.

Initially for this evaluation, the FAA assumed at least one contact per departure. Multiplying the 2,074 annual departures times the $14 contact fee gives the total potential contact cost of $445 million ($269 million, present) over the next 15 years. In realistic terms, however, this cost estimate is too high because it does not reflect the actual practice in industry. According to several operators, contacts via ARINC or a similar service would only be made during emergency situations (for example, flight delays, inclement weather, etc.). Within an average radius of 50 nautical miles, contacts can be made directly between the airplane pilot and the home dispatcher, without the aid of an external-communications-voice-data network (e.g., ARINC or a similar service). In flat lands, this communication can be made up to 100 miles, when the dispatcher is located at the hub. In high terrain areas, communication with the home dispatcher would have a radius of less than 50 miles. In emergency situations that arise beyond the average radius of 50 miles, ARINC or similar service would be needed. This would be especially true in remote areas such as the U.S. northern frontier (Montana, Idaho, etc.), Alaska, American Samoa, and Hawaii. This information indicates that frequency of use of ARINC or a similar service may not be as high as originally expected. According to some operators, the likelihood of having at least one contact via ARINC per airplane departure by an operator, on average, could range from 5 to 10 percent. When considering that contacts via ARINC or a similar service beyond the 50-mile radius would only be made in emergency situations, operators, on average, would make contact on 10 percent of their airplane departures. Employing this approach, costs will amount to $44 million ($26 million, present value) over the next 15 years.

In addition to the information above, industry sources contacted indicated that commuter operators with dual or split operations specifications (both parts 121 and 135) already have this capability. These operators (approximately 19) account for over 60 percent of all the airplanes in the U.S. commuter fleet. This scenario will result in estimated costs of $18.9 million ($11.5 million, present value) over the next 15 years. This cost estimate also recognizes that the number of contacts will be lower because pilots typically contact ATC for information related primarily to weather and air traffic delays. Therefore, this evaluation assumes only 10 percent of the commuter airplane departures, by operators without dual operations specifications, will engage in contacts via ARINC or similar service.

Section 121.135—Contents of Manual. This section will require an extensive list of manual contents for operators. Unlike part 135, part 121 requires more detailed instructions to flight and ground personnel, including dispatch procedures, airport information, and approach procedures. The manuals of part 121 operators are, on average, three times as voluminous as those of part 135 operators. Thus, compliance with the final rule will result in major rewrites of manuals. Based on cost information received from industry, affected operators will spend an additional $50,000 on average ($30,000 to $70,000) each for new manuals. This cost estimate multiplied times the number of operators over the next 15 years will total approximately $3.65 million, ($3.28 million, present value). This cost estimate for manuals takes into account additional preparation and distribution requirements.

Section 121.337—Protective Breathing Equipment (PBE) for the Cockpit. This section will require PBE units for persons operating airplanes under part 121. Part 135 has no PBE requirement. While commuter airplanes are typically smaller than airplanes operating under part 121, the accessibility of PBE in the cockpit will provide smoke-and-fumes protection for pilots. The airplane operator is allowed to use fixed equipment such as oxygen masks and smoke goggles at each pilot station. Depending on the present airplane configuration, this may require substantial modifications.

According to FAA's technical personnel, airplanes with 20-to-30 seats already have fixed PBE units for pilot stations in the cockpit for smoke and fume protection but they are not equipped with a portable PBE unit for fire fighting. In terms of operators with 10-to-19-seat airplanes, the FAA is uncertain as to how many part 135 operators are already equipped with PBE (portable or fixed) in the cockpit. As the result of this uncertainty, this evaluation assumes that part 135 operators with 10-to-19-seat airplanes are not currently equipped with PBE in