Testimony of Tim Brady, Ph.D., ATP, representing:
The Aviation Accreditation Board International and
The University Aviation Association
Before the Committee on Transportation and Infrastructure Subcommittee on Aviation
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QUALITY NOT QUANTITY

Chairman Costello, members of the House Aviation Subcommittee, thank you for allowing the aviation educators of the Aviation Accreditation Board International, AABI, and the University Aviation Association, UAA, the opportunity to be heard. These organizations asked me to represent their views before this body. I have the unique privilege of having served as the President of each of these fine organizations.

If I were to place a caption on this testimony, I would title it "Quality not Quantity." This, I hope, will become clear as my testimony progresses.

The combined institutional membership of both AABI and the UAA is 115 Colleges/Universities, some of whom are members of both organizations. These institutions represent almost 11,000 students involved in academic preparation to become professional pilots, and they create a significant percentage of the professional pilot workforce. A single member institution alone provides one in four of the professional pilots flying air carrier aircraft today in the United States. One in four. Committee members, these are not insignificant numbers.

We applaud the subcommittee for focusing on the safety of the airline industry. We, the aviation educators, have studied H.R. 3371 and find that most of its provisions are sound and will likely achieve the objective of improving air safety. There is one requirement, however, that causes us deep concerns not only for the healthy flow of highly-qualified entry-level first officers into the pilot supply pipeline but also for the safety of the entire system and the very survival of aviation higher education. I'm referring to the Airline Transport Pilot (ATP)-only provision described in Section 10, requiring a pilot to achieve an ATP before being allowed to enter the cockpit of a Part

121 air carrier. This includes both the regional and the major airlines. For a pilot to acquire the ATP, he or she must be at least 23 years of age and have flown at least 1500 hours. Graduates from college and university programs typically have earned the private, commercial, instrument, multi-engine and perhaps the certified flight instructor qualifications, have about 250 to 350 hours of flying time, and are not yet 23 years of age. This bill would require these graduates to spend an unnecessary number of years building their flight time so as to qualify for an entry-level first officer position. One staffer asked me the question, "why don't you just make 1500 hours part of your curriculum?" There are two reasons:

The first is cost. If we assume that it costs about $40,000 to complete all of the flight courses (over and above the "normal" costs of tuition, books, and room and board), to increase the flight time to 1500 hours would increase the cost to $200,000. Few, if any, students could afford that.

Second, the ATP requirement is a quantity-driven requirement that requires little improvement in skills.

The ATP represents quantity not quality.

So what do we know about quality?

To prepare for the theme of the 2008 National Training Aircraft Symposium which was the looming pilot shortage, a pilot yield study was undertaken to determine the quality of new hire first officers entering an air carrier's training program. At that time, before the economic meltdown, air carriers were hiring low time pilots, but had no empirical performance barometer to tell them which new hire category of first officers would perform best in their training. "Best" meant that the pilot completed the training

with no repeat lessons. "Worst" meant the pilots eventually completed the training but to do so had to repeat more than 9 lessons. The study examined the performance of all 452 new hire first officers for a large regional airline who started air carrier training during 2006 and 2007. The results were eye-opening.

The first officer new hires that performed best were those who had 500 hours of flight time or less and were graduates from AABI-accredited university programs. 72% of the pilots in this category required no extra air carrier training whatsoever. The pilot group who performed next best was prior military pilots.

Committee members, that is "quality". We have seen it; we have identified it; and we know what it is. Further, I submit that there is a direct relationship between safety and quality, the higher the quality of the entering pilot workforce, the higher the level of safety.

If we were to create a quality scale from one to ten of new hire first officers, with ten being the best, I'm not sure who should be at 9 or 5 or 1. But I do know who should be at 10: the graduates from AABI-accredited colleges and universities or those graduates who can demonstrate that they meet the outcomes required by AABI. AABI outcomes require our students to complete numerous professional flight development courses not required by the FAA; thus, our graduates are not just pilots, but professional pilots, armed with a greater depth and breadth of knowledge and skills.

But, members of the committee, the ATP-only provision of the bill would close the cockpit doors to these high-quality entry-level first officers.

So we are asking you today to remove this provision from the bill or to modify it so that graduates of high-quality programs that meet AABI outcomes are able to enter the

cockpit as entry-level first officers at much lower flight time than the ATP requirement of 1500 hours.

What are the results if you allow the ATP-only provision to remain unchanged in the bill?

The quantity-driven ATP requirement would cause potential students who would normally enter a high quality university program to now seek the shortest route to the first officer's seat. Why would they spend four years at a college or university paying tuition and flight fees when at graduation they still need to fly for another two years to be qualified to enter an air carrier as a first officer trainee?

They wouldn't.

They would seek out local flight training providers, acquire the necessary ratings, and spend the next year or so flying cheap, thirty year old single engine aircraft to build flight time. They would repeat the same flight hour 1000 times over and add no value to the scant knowledge they gained from earlier training. At the end of it, the pilot would take the ATP written and flight exams and be eligible to enter an air carrier training program. These are the types of pilots who scored the worst on the pilot yield study.

On the other hand, graduates from AABI university programs who enter the air carrier cockpit as first officers at, say, 500 hours total time and spend the next 1000 hours with a seasoned captain flying the line, are learning more each day. At the 1500 hour point these first officers are superbly prepared air carrier professionals and are far superior to those who simply built flight time by flying non productive hours just to get to the magic number.

This ATP-only provision bill will fill the cockpits of air carriers with quantity-driven first officers and decimate the robust, high quality flight education programs found at universities all across the country.

For example, the aviation degree program at St. Cloud State University in Minnesota would cease to exist. Just as the program at Southern Illinois University in Carbondale would. Half the students at Embry-Riddle at its campuses in Florida and Arizona would disappear. Auburn's program would close, as would the one at Kent State in Ohio and the program at Central Texas College. The excellent program at Middle Tennessee State University would go away, and so would those at Western Michigan University and Eastern Kentucky University. Future students who would enroll in Southeastern Oklahoma State University's flight education program would need to look elsewhere because the program would be unsustainable and close due to lack of enrollment.

These are just a few examples. In total, the programs at colleges and universities across this great country, which now enroll 11,000 students in flight education programs, would close or suffer. In addition to the impact on flight programs, related aviation programs in management, maintenance, avionics, safety/security, and air traffic control would be adversely affected or closed as institutions lost a critical mass of student enrollments. Committee members, we aviation educators know this; we are the ones closest to the future of aviation education in this country, and we are sounding the alarm.

We ask you to choose quality over quantity and either remove the ATP-only provision from the bill or modify it so that graduates from AABI-accredited institutions or those institutions whose students meet AABI outcomes be allowed to enter the

cockpits of Part 121 carriers at a total flight time significantly reduced from the 1500 hour ATP requirement.

Please don't kill the source of the highest qualified entry-level first officer pilots entering the air carrier workforce. To do so by retaining the ATP-only provision will harm the flow of high quality entry level first officers into the pilot supply pipeline, diminish the safety of the entire system, cripple aviation higher education, and achieve the exact opposite of the intended outcomes of this bill.

Thank you for your attention.

Aviation Accreditation Board International & University Aviation Association
Fact Sheet

Accreditation: Granting of approval to an institution of learning by an official review board after the school or program has met specific requirements. A system for recognizing educational programs that meet a defined set of standards – granted by private organizations and sanctioned by the US Department of Education.

Accreditation for colleges and universities:

- Institutional (Regional) Accreditation by one of the accreditation organizations recognized by the US Secretary of Education for post-secondary institutions; e.g. North Central Association of Colleges and Schools, etc
- Specialized Accreditation for collegiate programs, recognized by the US Secretary of Education through the Council on Higher Education Accreditation; e.g. AABI (Aviation Accreditation Board International), ABET (Accreditation Board for Engineering and Technology), etc.

AABI Scope: to accredit non-engineering aviation programs at the associate, baccalaureate, and graduate levels offered by colleges and universities in the U.S. and throughout the world.

AABI Goals:

- Stimulate collegiate aviation program excellence and self-improvement.
- Establish uniform minimum educational quality standards.
- Increase the credibility, integrity, and acceptance of collegiate aviation programs within institutions of higher education and aviation communities.

Collegiate Aviation Programs leading to a degree

- Two-year Associate degree (A.S., A.A.S.)
- Four-year Baccalaureate degree (B.S.)
- Graduate Master's degree (M.S., M.B.A.)

AABI Process:

- Accreditation process takes 24 months
- Reviewed every five years
- Criteria established by the Board of Trustees
- Criteria under continuous review (NPRM-like process)

AABI Program Accreditation Options:

- Baccalaureate: Aviation Studies, Electronics, Flight Education, Management, Maintenance, Safety Science
- Associate: Aviation Studies, Flight Education, Electronics, Maintenance, Safety Science

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AABI Governance: Non-Profit Corporation – 501c(3)

Board of Trustees 43 Members Three-Year Terms

- 14 Educators
- 14 Industry (Corporate and Practitioner)
- 5 Trade
- 5 Public-at-large
- 5 International

Officers of the Board Two-Year Terms, names reflect 2008-1010 terms)

President	Thomas Carney (Education affiliation), Ph.D., ATP, CAM
Vice President	Paula Derks (Trade affiliation)
Treasurer	Juan Merkt (Education affiliation), Ph.D.
Secretary	Steve Brown (Trade affiliation)
Immediate Past President	Peter Morton (Practitioner Affiliation)
Past President	Tim Brady, Ph.D., USAF Lt.Col.(ret), ATP

AABI Staff:

Executive Director	Gary Kiteley; ATP, CAM, MCFI, FACFEI, FAA Examiner
Accreditation & Services	Ceci Shirley
Administrative Assistant	Victoria Bayens

AABI Office Locations: Auburn AL and Montreal CA, co-located with UAA Office

Aviation Accreditation Board International Table of Accredited Programs:

AABInternational

AABI FORM 217

AABI MEMBER INSTITUTION ACCREDITATION STATUS

SUMMARY

	TOTAL	AVIATION MGMT.	AVIATION MAINT.	AVIATION ELECTRONICS	AVIATION STUDIES	FLIGHT EDUCATION	SAFETY SCIENCE
Institutions with Accredited Programs	31						
Number of Programs Accredited	89	31	5	4	21	28	0
Institutions with Programs in Candidate Status: Reaffirmation	8						
Institutions with Programs in Candidate Status: New	2						
Number of Programs in Candidate Status: Reaffirmation	19	7	1	0	2	8	1
Number of Programs in Candidate Status: New	8	4	1	1	1	1	0

Information current as of September 18, 2009

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Aviation Accreditation Board International Membership; Educators and Industry:

AABInternational

RAISING THE STANDARDS OF AVIATION.™

Membership

Educator Members (all categories)

- Academy of Technical Training (UAE)
- Aims Community College
- Arizona State University
- Auburn University
- Community College of Beaver County
- Concordia University (Canada)
- Daniel Webster College
- Delta State University
- Dowling College
- Eastern Kentucky University
- Embry-Riddle Aeronautical University (FL)
- Embry-Riddle Aeronautical University (AZ)
- Everglades University
- Fairmont State University
- Florida Institute of Technology
- Hampton University
- Indiana State University
- Inter American University of Puerto Rico
- Jacksonville University
- Kansas State University - Salina
- Kent State University
- Korea Aerospace University
- LeTourneau University
- Lewis University
- Louisiana Tech University
- Mercer County Community College
- Middle Georgia College
- Middle Tennessee State University
- Minnesota State University, Mankato
- North Shore Community College
- Parks College of Engineering, Aviation and Technology St. Louis University
- Purdue University
- Rocky Mountain College
- Seneca College of Applied Arts & Technology (Canada)
- Southeastern Oklahoma State University
- Southern Illinois University at Carbondale
- St. Cloud State University
- Tennessee State University
- University of Alaska, Anchorage
- University of Central Missouri
- University of Dubuque
- University of Louisiana at Monroe
- University of Maryland - Eastern Shore
- University of Nebraska at Omaha
- University of North Dakota
- University of Oklahoma
- Utah State University
- Utah Valley University
- Western Michigan University
- Westminster College

Corporate Members

- Air Line Pilots Association
- Airbus North America Customer Services, Inc.
- CAPACG, LLC
- Cape Air
- Cessna Aircraft Company
- Cirrus Design Corporation
- Delta Connection Academy
- Diamond Aircraft Industries, Inc.
- FlightSafety International
- Frasca International, Inc.
- JetBlue Airways
- The Boeing Company

Trade Association Members

- Air Transport Association
- Aircraft Electronics Association
- AOPA Air Safety Foundation
- Flight Safety Foundation
- General Aviation Manufacturers Association
- National Business Aviation Association

Practitioner & Public-at-Large Members Representing:

- Aerosim Technologies
- Airspace Solutions
- American Airlines
- Aviation Career Enrichment
- Bright Path
- Professional Aviation Board of Certification
- Peter M. Morton Consulting, Inc.
- Sandel Avionics
- Smith College, Emeritus
- The Day Group
- Women in Aviation, International

Liaisons

- Federal Aviation Administration
- Transport Canada

Sustaining Members

Approximately 100 individuals representing all segments of the aviation industry

Aviation Accreditation Board International & University Aviation Association Fact Sheet

University Aviation Association, The Voice of Collegiate Aviation. Purpose: Institutional and faculty professional development. Officers: President David M. Conway Ph.D.; President Elect David A. NewMyer Ph.D.; and Past Presidents John P. Young & Tim Brady, Ph.D. Executive Director Carolyn Williamson

Members:

Aims Community College	Miami Dade College
Arizona State University	Middle Georgia College
Auburn University	Middle Tennessee State University
Averett University	Midland College
Baylor University	Minneapolis College & Technical College Air Traffic Control
Bowling Green State University	Minnesota State University, Mankato
Bridgewater State College	Montana State University College of Tech-Bozeman
Broward College	Mountain View College Workforce Development
CUNY Aviation Institute At York College	Naugatuck Valley Community College
Central Texas College	North Shore Community College
Central Washington University	Northwestern Michigan College
Centro De Estudios Superiores De La Aviacion	Ohio University
Community College of Baltimore County	Oklahoma State University
Community College of Beaver County	Parks College of Engineering, Aviation & Technology St.
Daniel Webster College	Louis University
Delaware State University	Purdue University
Delta State University	Rocky Mountain College
Dowling College	Salt Lake Community College
Dutchess Community College	San Jose State University
Eastern Kentucky University	San Juan College
Eastern Michigan University	Seneca College of Applied Arts & Technology
Elizabeth City State University	Shawnee Community College
Embry-Riddle Aeronautical University - Prescott	Sinclair Community College
Embry-Riddle Aeronautical University -Daytona Beach	South Dakota State University
Embry-Riddle Aeronautical University-Worldwide	Southeastern Oklahoma State University
Everglades University	Southern Illinois University Carbondale
Fairmont State University	St. Cloud State University
Florida Community College Aviation Center of Excellence	Tarleton State University
Florida Institute of Technology	Tennessee State University
Fox Valley Technical College	Texas Southern University
Hampton University	Texas State Technical College - Waco
Henderson State University	The Ohio State University
Hinds Community College	The University of Oklahoma Department of Aviation
Honolulu Community College	Tulsa Community College
Indiana State University	Tuskegee University
Inter American University of Puerto Rico	University of Alaska - Anchorage
Iowa Central Community College	University of Central Missouri
Iowa Lakes Community College	University of Cincinnati-Clermont College
Jacksonville University	University of Dubuque
Kansas State University - Salina	University of Illinois-Institute of Aviation
Kent State University	University of Maryland Eastern Shore
LeTourneau University	University of Nebraska - Kearney
Lehigh Carbon Community College	University of Nebraska - Omaha
Lenoir Community College	University of North Dakota
Lewis University	University of Western Ontario
Liberty University	Utah State University
Louisiana Tech University Dept. of Professional Aviation	Utah Valley University
Lynn University	Vaughn College of Aeronautics and Technology
Marywood University	Vincennes University
Mercer County Community College	Walla Walla University
Metropolitan State College of Denver	Western Michigan University
	Westminster College

Background of Pilot Yield Study Completed on March 17, 2008

- Training yield was calculated for group of pilots, as a function of their primary training source.
- Measured "Maximum Training Yield" (*% of pilots in a given category who completed CPT, Sim, and IOE with no extra training events).*
- Measured "Minimum Training Yield" (*% of pilots in a given category who completed CPT, Sim, and IOE with at least 9 extra training events).*
- 38 data fields were mined to discover correlations between training efficiency and academic GPA, degree completion, source of training, possession of advanced jet training, etc.

Data Set Composition

- Newhire training records were analyzed for 452 pilots at a regional airline.
- Of the 452 pilots in the database who started training, 438 pilots actually completed training during 2006 & 2007 by the time that data were analyzed.
- 45% of pilots in the sample were graduates of institutions with AABI-accredited higher education programs.
- 21% of pilots in the sample were graduates from non-AABI-accredited institutions.
- 32% of pilots in the sample did not have college degrees.
- 21% of pilots in the sample started training with the airline with less than 500 hours of total time.

Maximum Yield ("best performers" / no additional training) Analysis Results (some pilots may be included in more than one group (i.e.) a military pilot who was also a college graduate)

- 72% of AABI graduates with CFIs and less than 500 hours of total flight time performed well in training.

- 63% of prior-military pilots performed well in training.

- 52% of AABI-accredited program graduates performed well in training.

- 49% of all pilots in data sample performed well in training.

- 49% of pilots without university degrees performed well in training.

Minimum Yield ("worst performers" / required more than 9 additional training events!) Analysis Results

- 15% of pilots who trained at commercial flight schools or FBOs required large amounts of extra training.

- 13% of students graduating from non-AABI accredited programs but university educated pilots required large amounts of extra training.

- 11% of pilots without any university degree required large amounts of extra training.

- Only 8% of pilots educated at universities with AABI accredited programs required large amounts of extra training.

- Only 4% of pilots graduated from a large research university with AABI accredited programs required large amounts of extra training.

ATP Possession

- Only 56 (12%) of the 452 pilots in the sample had sufficient total flight time to qualify for an ATP certificate. Since probably not everyone with the required total flight time had obtained an ATP certificate, it is reasonable to assume that only 5% to 10% of the new hire pilots in the sample had an ATP certificate.

- Training yield data for the 56 new hire pilots who may have had an ATP certificate shows that 29 of them (52%) required additional training events at some point during their new hire training program. This suggests that an possession of an ATP is not a sufficient element to guarantee excellent performance as a new hire pilot.