

# GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM 00-01

March 30-31, 2000

## Recommendation Document

**Subject:** Raising Nationwide Charting Standard (Ground/Airport Related)

**Background/Discussion:** As Private and Commercial aircraft become larger and heavier there exists no chart/layout currently that allows the safe transition from flight to ground environment.

- Current charts generally are limited by 5010 Data and do not take full pavement into account
- Current charts do not address taxiway widths or load bearing capacity
- Current charts do not address apron load bearing capacity

**Recommendations:** Raise charting standard to include

- CAD based scale airport diagram covering all aircraft usable surfaces
- Widths applied to taxiways
- Tab data including PCN numbers for runway, taxiway, and parking apron
- Adoption of "STANDARD" in steps:
  - Diagram including dimensions
  - Tab data for surfaces (Renewed with airport improvements, airport layout plans) developed to reflect an acceptable level of compliance

**Comments:** This recommendation affects the education level of airport management, and operators including private aircraft, business aircraft, and scheduled regional air service.

**Submitted by:** Allan Ball

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**Date:** 30 Mar 00

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**MEETING 00-01:** Mr. Allan Ball, Executive Jet, presented this new topic. He stated that as private and commercial aircraft become larger and heavier there exist no chart/layout currently that allows the safe transition from flight to ground environment.

- Current charts generally are limited by 5010 data and do not take full pavement into account
- Current charts do not address taxiway widths or load bearing capacity
- Current charts do not address apron load bearing capacity

Mr. Ball also presented the ACF with a handout with an example of Canadian pavement load rating charts and a Montana State Aviation System Plan Field inspection form and chart of West Yellowstone Airport (WYS). Mr. Ball suggests that the 5010 include taxiway width data. He also suggests inclusion of parking area weight bearing capability that includes PCN values. Mr.

Ball states that Non-Part 131 airports are the biggest problem but that some Part 131 airports are also a problem. Mr. Ball suggests adopting an ICAO PCN standard. Mr. Jim Terpstra, Jeppesen, stated that source data is needed (currently very limited). Mr. Dave Goehler, Jeppesen, suggested contacting NASAO. Mr. Dick Powell, FAA ATA-100, will take the issue to the FAA's Airports group which will then probably move from FAA's Airports group to NASAO and/or Airports District Office. Mr. Dave Eckles, FAA AFS-420, suggested that Bob Bonani of the FAA be contacted.

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**MEETING 00-02:** Mr. Dick Powell reported that ATA-100 is getting good data from the military. He stated that ATA-100 receives bad data from civil airports. As a result all data except military data was removed from the database. Finally, it was stated that the 5010 must be enhanced to support this issue. **ACTION:** Executive Jet and ATA-100.

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**MEETING 01-01:** Mr. Dick Powell reported that he will work with Mr. Ben Castellano, FAA AAS-310, the new Airport Manager. Mr. Powell also stated that he would work to amend the 5010 to include runway pavement classification. **ACTION:** ATA-100 and AAS-310.

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**MEETING 01-02:** Mr. Dick Powell reported that he met with the new Airport Safety Branch Manager to inform him of the request from Executive Jet to amend the 5010 to include runway classification information. It was also stated that the Army Corps of Engineers could drop a ball to determine PCN values. **ACTION:** ATA-100 and AAS-310.

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**MEETING 02-01:** Mr. Dick Powell reported that he has not received a reply from Mr. Allen Ball of Executive Jet. Mr. Powell stated that he must receive a requirement letter from Industry to include PCN numbers as part of the State and Federal airport inspection programs. Mr. Terpstra stated that corporate and charter folks are the ones who really need this information. Mr. Jack Crawford stated that airports sometimes underreport PCNs to keep the bigger folks out, thus reducing wear and tear. **ACTION:** Executive Jet and NACO.

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**MEETING 02-02:** Mr. Dick Powell reported that he has not received a reply from Mr. Allen Ball of Executive Jet. Mr. Powell stated that he must receive a requirement letter from Industry to include PCN numbers as part of the State and Federal airport inspection programs. Mr. Terpstra stated that corporate and charter folks are the ones who really need this information. Mr. Jack Crawford stated that airports sometimes underreport PCNs to keep the bigger folks out, thus reducing wear and tear. **ACTION:** NBAA.

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**MEETING 03-01:** Mr. Dick Powell reported that he and Mr. Alan Ball met with Mr. Ben Castellano, FAA AAS-300, on January 16, 2003. He stated that FAA Order 5010 would be amended to include PCNs. Mr. Powell stated that the information would be collected by State and Federal airport inspectors as part of the airport inspection program administered under the airport improvement program. Mr. Steve Bergner, NBAA, reported that there is a tremendous interest by his constituents to have this data available.

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**MEETING 03-02:** Meeting canceled.

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**MEETING 04-01:** Mr. Dick Powell, ATA-100, reported that funding has been identified for this project. He stated that the Airport Master Record Form 5010 would be amended to include PCN data for runways and taxiways. State and Federal airport inspectors would collect the information as part of the airport inspection. The PCN data will be stored in NASR and published in the NFDD. Mr. Steve Bergner, NBAA, reported that there is a tremendous interest by his constituents to have this data published. Mr. Powell stated the problem is how to portray

the information on the airport diagram. Mr. Frank Flood, Air Canada, informed the ACF that Canada depicts PCN data for runways, taxiways and aprons on the airport diagram as a remark. He also reported to the ACF that Canada publishes PCN data in a document titled Canadian Airport Pavement Bearing Strengths (TP 2126E). This document reports pavement bearing strengths for 150 runways at regional/local airports in Canada. Pavement bearing strengths are reported using both the Transport Canada Aircraft Load Rating/Pavement Load Rating (ALR/PLR) system and the ICAO ACN/PCN system. Mr. Ted Thompson, Jeppesen, stated that he is concerned about chart clutter and adding additional notes to the airport diagram. The ACF members determined that a new working group should be created to identify the pavement classification requirements for airport surfaces (runways, taxiways, and ramps), and develop a proposal for ACF consideration. The following individuals/organizations have expressed an interest in participating on the new working group.

ACF Pavement Classification Working Group

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**ACTION:** ATA-100 and Pavement Classification Working Group.

**MEETING 04-02:** Mr. Dick Powell, Aeronautical Information Services, reported that initial work has begun on this issue. The Office of Airport Safety has completed a review of pavement classification number (PCN) pavement bearing strength specifications and requirements. The 5010 Order has been amended to include improved collection guidance for pavement classification. Training for the State and Federal Airport Inspectors is under development. The NASR database has been modified to include data fields for rating method, pavement type, subgrade strength, tire pressure limit, and pavement class. Individual airport runway pavement classification reviews must be conducted. NASR PCN data for civil airports is unavailable or outdated; this outdated data has been pulled from NASR. Mr. Powell stated that a great deal of work remains on this issue. During the 04-01 forum ACF members determined that a new working group should be created to identify the pavement classification requirements for airport surfaces to include runways, taxiways and parking areas. Several individuals/organizations expressed an interest in participating in this new working group. The Aeronautical Information Services was unaware that the Airport Source Data Committee chaired by Mr. Dave Goehler of Jeppesen had been examining the PCN issue. Mr. Powell requested that the ACF members who are interested in participating be given the opportunity to attend the next Airport Source Data Committee meeting. Mr. Powell opened the issue for ACF discussion. Mr. John Ingram, NGA, questioned if the runway weight bearing capacity data would be deleted at civil facilities. Ms. Valerie Watson, Cartographic Standards, responded that the weight bearing capacity data would continue being published in the Airport/Facility Directory (A/FD) and the Terminal

Procedures Publication (TPP) in addition to the PCN data. Mr. Frank Flood, Air Canada, stated that Canada depicts PCN data for runways, taxiways, and aprons on the airport diagram as a remark. In addition, this data is published in the Canadian Airport Pavement Bearings Strengths (TP 2162E). ACF members expressed concerns over data maintenance and chart clutter issues in addition to the importance of establishing PCN data for taxiways. Mr. John Ingram stated that recently constructed runways and taxiways are in agreement; they support the same weight or type of aircraft. The issue is older taxiways; they do not support the same weight as the runway. **ACTION:** Jeppesen, Airport Source Data Committee and IACC MPOCs

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**MEETING 05-01:** Mr. Dave Goehler, Jeppesen, reported that Allan Ball, Executive Jet Aviation, first submitted the issue to the ACF in 2000. Mr. Goehler stated that approximately two years ago an ad hoc group called the Airport Source Data Committee was formed to study the airport sketch 5010 source data issue. Mr. Goehler co-chairs the Airport Source Data Committee with Mr. Ben Castellano, Airport Safety. A subcommittee of the Airport Source Data Committee was formed to resolve the Pavement Classification Number (PCN) data issues. This subcommittee includes participants from NACO, NFDC, Jeppesen, Boeing, NetJets, HAI, AFFSA, ALPA and Delta Air Lines. Mr. Goehler provided an official PCN definition and description and explained the PCN/ACN (Aircraft Classification Number) relationship. The goals of the PCN subcommittee are to document and forward industry requirements, concerns, and ideas; monitor FAA commitments to collect, database and distribute PCN data; and recommend ways to publish, portray and display PCN data. Mr. Goehler reported that the FAA has necessary funding to collect PCN data for runways. PCN data for taxiways and aprons has not been reported. Mr. Dick Powell, Aeronautical Information Services, has committed to populate the National Airspace System Resource (NASR) database with the PCN data when the information is received. State and Federal Airport Inspectors will begin collecting PCN data this spring. Mr. Goehler requested that anyone wishing to join the subcommittee should contact Mr. Ball. Ms Valerie Watson, Cartographic Standards questioned if the PCN values will replace the weight bearing data currently published on the airport diagrams and in the A/FD. Mr. Goehler responded that this was yet to be determined; industry requirements have not been defined. Ms. Watson inquired if the airport inspector's were collecting weight bearing data and PCN data. Mr. Goehler was unsure. The PCN briefing is attached to these minutes. **ACTION:** Cartographic Standards and Jeppesen.

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**MEETING 05-02:** Mr. Dave Goehler, Jeppesen, reported runway PCN data is being collected by Federal Airport Inspectors and that State Inspectors will be trained in the near future to collect PCN data at the smaller airports. Mr. George Sempeles, Cartographic Standards, stated that an agreement has been made with Mr. Ben Castellano, Airport Safety Data Program AAS-330, to have airport inspectors send PCN data to the National Flight Data Center (NFDC). NFDC will enter the PCN data into the National Airspace System Resource (NASR) database and publish the PCN data through the National Flight Data Digest (NFDD) or as an add-on page to the NFDD. Once published in the NFDD, NACO will publish the data on airport diagrams and in the Airport/Facility Directory (A/FD). The National Geospatial-Intelligence Agency (NGA) currently publishes PCN data, when available, on airport diagrams. Mr. Goehler briefed the forum on the current status of the FAA Safe Flight 21 airport mapping program. There are no plans to do additional airport mapping in FY06. The airport mapping program has been "put on the shelf" due to budget limitations and may not be funded again until 2010-2013 time frame. Mr. Goehler reported that there is still no funding for the Airport 5010 sketch program through GCR & Associates. GCR is the current FAA 5010 contractor. **ACTION:** Jeppesen.

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**MEETING 06-01:** Mr. Dave Goehler, Jeppesen, was unable to attend the ACF. Mr. George Sempeles, Cartographic Standards, provided the following briefing. The ad-hoc Airport Source

Data Committee met in February 2006. Boeing Aeronautical Information Retrieval System provided the National Flight Data Center (NFDC) and Airport Safety Data Program Office, AAS-330, Pavement Classification Numbers (PCNs) for 934 U.S. open to the public airports. The Airport Safety Data Program Office was not comfortable publishing the PCN data without verification of the data by the FAA. Through a letter from Mr. Ben Castellano, Airport Safety Data Program Office, AAS-330, the FAA has requested that Federal and State Airport Inspectors as part of their annual airport inspection process verify the PCN data submitted from Boeing. Upon verification the National Flight Data Center (NFDC) will enter the PCN data into the National Airspace System Resource (NASR) database and publish the PCN data through the National Flight Data Digest (NFDD). Mr. Sempeles reported that there has been a minor problem with the Airport Inspector's Labor Union objecting to the additional workload. The union is currently negotiating with the FAA's Airport Division to resolve the issue. The next Airport Source Data Committee meeting is scheduled for June 2006. **ACTION:** Jeppesen.

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**MEETING 06-02:** Mr. Dave Goehler, Jeppesen, provided the following briefing. The ad-hoc Airport Source Data Committee has been meeting for approximately three years. One of the main topics of discussion has been PCN (Pavement Classification Number) data. During the last meeting it was reported that Boeing had provided PCN data for approximately 900 open to the public airports. The plan was to have the Federal and State Airport Inspectors verify the information as part of their annual airport inspection process. Unfortunately, the Airport Safety Data Program Office, AAS-330, has reported that due to union contract issues the airport inspectors will not collect PCN data or will they validate the PCN data provided from Boeing. This puts us back to square one. There is however a new advisory circular AC 150/5335-5A Standardized Method of Reporting Airport Pavement Strength-PCN. The AC is available on the FAA website and is attached to these minutes. Mr. Goehler explained that this AC reflects the ICAO approved standard for collecting PCN data and replaces an old 1980 AC. Also, the FAA developed a software application that calculates ACN (Aircraft Classification Number) values using the procedures and conditions specified by ICAO. The software is called COMFAA and it may be downloaded along with its source code and supporting documentation from the FAA website. The program is useful for determining an ACN value under various conditions; however, the user should remember that official ACN values are provided by the airplane manufacturer. Determination of the numerical PCN value for a particular pavement can be based upon one of two procedures. The procedures are known as the "using" airplane method and the "technical" evaluation method. ICAO procedures permit member states to determine how PCN values will be determined based upon internally developed pavement evaluation procedures. Either procedure may be used to determine a PCN, but the methodology must be reported as part of the posted rating. Mr. Goehler stated that the AC provides guidance for the reporting of PCN data. It states that once the data is determined the information will be forwarded to the FAA Airports Division where it will be disseminated by the National Flight Data Center. This means that the airport operator will be required to calculate the information. Other issues that the group is following are the Airport GIS Survey Program and the electronic obstacle chart. The National Geodetic Survey has introduced its first electronic obstacle charts to the public, and is available at the following website: <http://www.ngs.noaa.gov/AERO/eAOC/eAOC.htm> Mr. John Moore, NACG, recommended that the original agenda item be closed as an issue. However, Mr. Goehler could continue to provide reports to the ACF on the committee's activities. **ACTION:** Jeppesen.

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