Polski Rejestr Statków

RULES

PUBLICATION NO. 14/P

**PRINCIPLES OF APPROVAL
OF COMPUTER PROGRAMS**

1998

Publications P (Additional Rule Requirements), issued by Polski Rejestr Statków,
complete or extend the Rules and are mandatory where applicable.

GDAŃSK

PRS Publication No. 14/P "Principles of Approval of Computer Programs is an extension of the requirements contained in Part I – Classification Regulations, 1998 of the Rules for the Classification and Construction of Sea-Going Ships.

This Publication was accepted by the PRS Technical Committee on 19 October 1998, approved by PRS Director General on 16 December 1998 and enters into force on 15 January 1999.

This Publication also applies to other PRS regulations if it is mentioned there.

CONTENTS

1   GENERAL

1.1   The following regulations apply to approval, by PRS, of computer software used for:
– technical calculations made by designers and constructors while preparing technical documentation submitted for approval,
– managing ship's operation and also used by ship-owner's technical services and ship's crew to evaluate ship's operation safety or to collect data on maintenance of ship, its appliances and equipment in scope defined by PRS Rules requirements.

1.2   Technical calculations being a result of an approved program will be accepted by PRS, if it has been confirmed that input data were entered correctly. PRS reserves the right to verify calculations made with the use of an approved program prior to its final acceptance.

1.3   Data collected with the use of an approved program, concerning maintenance of ship, its appliances and equipment, after being analysed, may constitute the grounds for narrowing the scope of survey by PRS or, in justified cases, for enhancing its scope.

1.4   Approved program for evaluation of strength and stability of ship in operation may be used as a loading instrument program required according to PRS Publication No 16/P or a program for appliances required by other rules or conventions.

1.5   Programs concerning planned machinery maintenance should comply with the requirements specified in PRS Publication No. 2/P.

1.6   To obtain program approval, the following documents are to be submitted to PRS:
– request for program approval including the name of the program;
– information on: the author, program language, hardware requirements, scope and application of calculations made with the use of the program, used calculation methods, data collection method – if applicable;
– the program manual containing description of program's possibilities and limitations, explanation of terms and symbols applied, determining idealization of a task, degree of accuracy, algorithm and description of the calculation method and in the case of technical calculations – test calculations;
– program on disc or other data medium;
– flow chart and its description;
– information on program approval ty other classification societies, if any.

1.7   The scope of the program documentation may be changed upon special agreement with PRS.

1.8   PRS guarantees abiding the copyright.

2 APPROVAL OF COMPUTER PROGRAMS

2.1 General regulations

2.1.1 Approval of the computer program is carried out on the basis of documentation referred to in 1.6, evaluation criteria in 2.2, and tests according to 2.3.

2.1.2 Program approved by other classification society may be approved by PRS according to simplified procedure. For this purpose, the following documents are to be submitted at PRS:
– copy of other classification society's approval certificate,
– the program manual with tests printouts.

2.1.3 Upon PRS agreement, program concerning calculations in accordance with PRS Rules, aiming at collecting comparative data, may be applied prior to PRS approval. If any mistakes are found in calculations obtained with the use of the program, PRS will define further proceedings on a case by case basis.

2.2 Criteria of evaluation

2.2.1 The documentation of the program submitted for PRS approval is verified according to the following criteria:
– admissibility of the proposed scope of application of the program;
– suitability of the calculation method used to solve the assumed task;
– completeness of the text, form and range of input data and results;
– completeness and correctness of applying PRS requirements in the program;
– suitability of content and form of the program manual for actual use;
– compliance of test results as defined in 2.3 and 2.4 respectively.

2.3 Approval of program for technical calculations

2.3.1 PRS can approve program for technical calculations, if the program test results comply with the results obtained with the programs actually used by PRS to the degree considered satisfactory by PRS.

2.3.2 In special cases the basis for the program evaluation may be calculation results carried out manually.

2.3.3 After the approval of documents referred to in 1.6, PRS indicates the applicant the test object or the test issue.

2.3.4 Number of tests and permissible divergence in the results of performed tests are specified by PRS.

2.4   Approval of program for ship operation safety

2.4.1   PRS can approve program for ship operation safety, if the test results comply, to the degree considered satisfactory by PRS, with relevant values in ship's documentation, particularly with those given in „Information on Stability for the Captain", „Loading Instructions" or in „Information on Ship's Longitudinal Strength" as well as with the test calculations carried out in accordance with 2.4.2.

2.4.2   After the approval of documents referred to in 1.6, PRS indicates the loading conditions to be the test calculations basis. The test calculations are carried out independently by the applicant and PRS. PRS performs also comparative analysis with the use of other actually implemented programs.

2.4.3   Generally, divergence between test calculations results obtained with the use of the program submitted for approval and the documentation earlier approved by PRS is impermissible. Each such case should be considered separately.

2.4.4   PRS may waive test calculations.

2.4.5   Only a program intended for a given ship or series of ships and prepared in accordance with the documentation earlier approved by PRS may be approved in this way.

2.5   Approval of program for collecting data on maintenance of ships, its appliances and equipment

2.5.1   PRS may approve program for collecting data on the basis of its compliance with the requirements specified in this publication and with the relevant requirements included in other PRS Rules.

2.5.2   Program is evaluated from the viewpoint of the purpose for which it is intended.

2.6   Document of approval

The verified and approved program obtains the PRS Program Approval Certificate, which includes the following:
– name of the program,
– program identification mark,
– owner, author of the program,
– hardware requirements,
– date of approval,
– certificate validity period,
– short description of the program
– scope of application,
– remarks.

2.7 Periodical program functioning check

2.7.1 The user of PRS-approved program is obliged to perform periodical program functioning check and for this purpose a proper procedure is to be included in the program manual.

2.7.2 The check records should be kept and presented at PRS' request upon renewal of program approval certificate.

2.7.3 As far as programs being loading instruments' software are concerned the regulations given in PRS Publication No. 16/P apply.

2.8 Cancellation of Approval

2.8.1 The program approval is cancelled if:
– modifications have been made in the approved program without PRS' agreement;
– the approved program is installed in a computer not complying with the hardware requirements defined in Program Approval Certificate without contacting PRS;
– some incorrectness indicating errors in the approved program has been revealed;
– there is divergence between periodical check results and the test calculations results which were the basis for the program approval.

2.8.2 The proceedings for retrieving the approval are agreed with PRS.

2.9 Suspension of approval

2.9.1 PRS reserves the right to suspend program approval validity if new PRS' provisions different from those applied in the approved program have been implemented.

2.9.2 PRS informs the owner on suspension of the program approval and the necessary proceedings to regain the ability to use the program.

3 VERIFICATION OF CALCULATIONS PERFORMED WITH APPROVED PROGRAMS

3.1 The required data on submitting results

3.1.1 If the results of calculations obtained from approved programs are included in the technical documentation submitted to PRS for approval, the following data are to be supplied:
– name of the program,
– number of the program approval certificate,
– date of calculations,
– the performer's data enabling his/her identification.

3.2   Verification of the faultlessness of calculation

3.2.1   Verification of the proper application of the program is based on the following data recorded in program approval certificate:
–   validity date,
–   scope of application,
–   hardware requirements,
–   restrictions given in the program description, if any.

3.2.2   PRS evaluates the faultlessness and completeness of input data to the program which were the basis of calculation results.

3.2.3   Values defined by the Rules are checked at random on the basis of manually performed calculations or obtained with the use of an approved program. It is a rule that all values in computer results are explicity defined by the printout without referring to other documents.

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