STUK

GUIDE **YVL 1.6** / 5 OCTOBER 2006

QUALIFICATION OF CONTROL ROOM OPERATORS FOR NUCLEAR POWER PLANTS

This guide is valid as of 1 April 2007 until further notice.
It replaces Guide YVL 1.6, issued on 9 October 1995.

Fifth, revised edition
Helsinki 2010
ISSN 0783-232X

ISBN 978-952-478-552-5 (print) Edita Prima Oy 2010
ISBN 978-952-478-553-2 (pdf)
ISBN 978-952-478-554-9 (html)

STUK • SÄTEILYTURVAKESKUS
STRÅLSÄKERHETSCENTRALEN
RADIATION AND NUCLEAR SAFETY AUTHORITY

Osoite/Address • Laippatie 4, 00880 Helsinki
Postiosoite / Postal address • PL / P.O.Box 14, FIN-00881 Helsinki, FINLAND
Puh./Tel. (09) 759 881, +358 9 759 881 • Fax (09) 759 88 500, +358 9 759 88 500 • www.stuk.fi

Authorisation

By virtue of the below acts and regulations, the Finnish Radiation and Nuclear Safety Authority (STUK) issues detailed regulations that apply to the safe use of nuclear energy and to physical protection, emergency preparedness and safeguards:

- section 55 of the Nuclear Energy Act (990/1987)
- section 29 of the Government Decision (395/1991) on the safety of nuclear power plants
- section 13 of the Government Decision (396/1991) on the physical protection of nuclear power plants
- section 11 of the Government Decision (397/1991) on the emergency preparedness of nuclear power plants
- section 8 of the Government Decision (398/1991) on the safety of a disposal facility for reactor waste
- section 30 of the Government Decision (478/1999) on the safety of disposal of spent nuclear fuel.

Rules for application

The publication of a YVL guide does not, as such, alter any previous decisions made by STUK. It is only after having heard those concerned that STUK makes a separate decision on how a new or revised YVL guide applies to operating nuclear power plants, or those under construction, and to licensees' operational activities. The guides apply as such to new nuclear facilities.

When considering how new safety requirements presented in YVL guides apply to operating nuclear power plants, or those under construction, STUK takes into consideration section 27 of the Government Decision (395/1991), which prescribes that *for further safety enhancement, action shall be taken which can be regarded as justified considering operating experience and the results of safety research, as well as the advancement of science and technology.*

If deviations are made from the requirements of the YVL guides, STUK shall be presented with some other acceptable procedure or solution by which the safety level set forth in the YVL guides is achieved.

Translation. Original text in Finnish.

1 General

Section 20 of the Nuclear Energy Act (990/1987) prescribes that one of the prerequisites for granting an operating licence for a nuclear facility is that the licence-applicant has sufficient expertise available and that the competence of the nuclear facility's operating personnel and operating organisation are appropriate.

Section 25 of the Government Decision (395/1991) prescribes that the nuclear power plant's personnel shall be well suited for their duties, competent and well trained. Initial, continuing and refreshing training programmes shall be provided for them. For ensuring safety in all situations, competent personnel shall be available in sufficient number.

Section 55 of the Nuclear Energy Act prescribes that the Radiation and Nuclear Safety Authority (STUK) shall set qualification requirements for those involved in the use of nuclear energy and verify that these requirements are met.

According to Section 119 of the Nuclear Energy Decree (161/1988), STUK sees to it that the organisation available to the licensee is appropriate and adequate, that those participating in the use of nuclear energy meet the qualification requirements set, and that they have been given proper training. According to Section 128 of the Nuclear Energy Decree, only those who have an approval granted by STUK for the job may work as operators in the main control room of a nuclear facility.

The general requirements for enhancing the expertise of nuclear power plant personnel are given in Guide YVL 1.7

The International Atomic Energy Agency IAEA in document [1] presents guidelines for the recruitment of control room operators and the acquiring and maintenance of the necessary competence.

The licensee's documents defined in this Guide shall be forwarded to STUK in accordance with Guide YVL 1.2.

2 Scope

This Guide describes the procedures and STUK's oversight for verifying the qualification of control room operators referred to in Section 128 of the Nuclear Energy Decree. The operators referred to in the Decree include shift supervisors of shift teams and other operators who manipulate the controls of nuclear power plant systems in the main control room.

The qualification requirements of this Guide also apply to operating engineers who are the immediate superiors of shift supervisors, safety engineers on duty who work in the main control room of the nuclear power plant and provide support to the operators, and simulator instructors. The requirements of this Guide can be applied to heads of sections that closely support plant operation.

Procedures to verify the qualification of other operators of nuclear facilities are decided case by case.

3 General requirements

The licensee is responsible for the qualification of control room operators and for the systematic procedures needed to acquire, maintain and verify the qualification.

Working as a control room operator of a nuclear power plant requires that the licensee has verified the applicant's qualification for the intended job and that STUK has approved the proposal on the basis of its own oversight and a written application submitted by the licensee. STUK's decision of approval is valid for a maximum of two years the first time and, subsequently on application, for a maximum of four years at a time. STUK's oversight and licensing procedure is described in Chapter 8.

The approval to work as an operator is plant unit- and job-specific. If an approval is needed for an operator to work at a parallel, almost identical plant unit, the necessary training in the differences between the plant units shall be given to him. The approval then does not require a written examination in accordance with subsection 6.1, on-the-job training in the main control room as defined in Chapter 5, or a demonstration of professional skill in accordance with subsection 6.2. The approval can be applied for after the individual has passed an oral examination in accordance with subsection 6.3. A shift supervisor may carry out even other operator tasks at their plant unit.

A shift team in the main control room normally consists of at least three operators qualified in accordance with this Guide, one of whom is an approved shift supervisor and two approved other operators. Other operator titles are normally reactor operator and turbine operator. The minimum staffing of operators at the plant unit's control room and onsite during each plant operational state shall be defined in the Operational Limits and Conditions.

Before initial fuel loading, a new nuclear power plant shall have a sufficient number of operators approved in accordance with this Guide. Trainee control room operators shall be recruited early enough for them to acquire training and knowledge of the facility.

Shift supervisor qualification is required of operating engineers who are the immediate superiors of shift supervisors, safety engineers on duty in the main control room who provide support to the shift supervisor, and the leading simulator instructor. The qualification level of other operator is required of other simulator instructors.

In the administrative and operating procedure of the facility, the licensee shall present the safety-related duties, authority and responsibilities of shift supervisors, and other operators as well as the other personnel groups referred to in Chapter 2. The licensee shall draw up codes of practice for recruiting and training operators and for the various phases of competence verification.

4 Recruitment and general competence requirements

The licensee shall have systematic procedures for the recruitment of those to be trained as operators. The procedures shall contain the objectives of the choice of persons, the selection criteria and the personal assessment methods based on the first two.

The selection criteria shall include requirements for education, previous work experience, health and other suitability.

An operator shall have a polytechnic degree or other technical degree suitable for his duties. A shift supervisor shall have a minimum work experience of five years in tasks that support his intended duties, with at least three years in the nuclear sector. Furthermore, a shift supervisor shall work as a control room operator for a minimum of six months, with at least three months as a reactor operator. Other operators shall have a minimum work experience of three years in duties that support the task of a control room operator, with at least one year in the nuclear sector. Participation in the pre-operational phase and the start-up phase of a new nuclear power plant may also be considered work experience of this kind.

The health and other suitability of those selected as operators should enable them to work as superiors or members of their shift teams under normal operational conditions and during transients and accidents. This requires good communicative and co-operative skills, tolerance to pressure as well as normal sight and hearing. Operators shall be reliable, and they shall not be inclined to abuse intoxicants.

The doctor who makes a physical examination shall be aware of the examined person's duties in the nuclear power plant and of the suitability requirements related to these duties. The medical certificate shall mention that the examination was made for the purpose of approval as a shift supervisor or other operator. The use of intoxicants shall be assessed as part of the physical examination. In addition to the pre-employment examination, the licensee is obliged to arrange a regular and appropriate physical examination for the persons in question.

An aptitude assessment by a psychologist is recommended when selecting persons as operators and to other positions directly related to plant operations significant for safety. To ensure reliable personal assessment, sufficient expertise shall be available to the licensee in selecting and interpreting the assessment methods and in monitoring them in the long term.

To verify the reliability of an applicant, the licensee shall acquire a security clearance issued by the police authority. The reliability of shift supervisors and operators shall be regularly monitored by available means.

5 Training of operators

For the initial, refreshing and continuing training of operators, the licensee shall draw up and implement training programmes based on specified competence requirements. This chapter gives the general requirements for operator training. In addition, refreshing and continuing training is discussed in Chapter 7.

Operators shall be given in-depth training in the structure, functions and operation of the plant and its systems. The obligation to operate the plant in accordance with the Operational Limits and Conditions and the plant procedures shall be emphasised in the training. In preparation for the various plant operational conditions as well as transients and accidents, the operators shall assimilate sufficiently extensive knowledge and skills pertaining to plant behaviour, observation of plant conditions and performance of control operations. Operator training shall give good teamwork readiness as required by the duties and similar readiness for the administrative control and supervision of work done at the plant. Shift supervisors shall be given training in managerial and communicative skills. Shift supervisor training shall be more extensive than that of other operators.

The operators shall understand the significance of human factors and group dynamics in the functioning of a shift team.

The initial training of operators shall include at least eight weeks of simulator based training. The simulator shall be a full-scale replica training simulator which is in compliance with standards and whose behaviour corresponds well enough to the plant's behaviour under normal operational conditions as well as in transients and accidents. A training simulator for a new nuclear power plant shall be available to use no later than one year before initial fuel loading.

Simulator training is essential to practise operations under infrequent normal operational conditions as well as in transients and accidents. As part of initial training, simulator training shall include normal operation of the plant and its systems as well as transients and accidents. The training shall give the future shift supervisor readiness to perform the duties described in the emergency plan. Diagnostic skills shall be honed during the training. To promote effective co-operation, attention shall be paid to every shift team practising as an individual team.

Towards the end of simulator training, a demonstration of professional skill at the simulator shall be arranged for the operator applicant in accordance with subsection 6.2 of this Guide.

As part of the initial training, operator applicants shall be arranged an on-the-job training period of at least six months in the main control room. For this purpose, the licensee shall obtain STUK's approval for the applicant as a trainee control room operator after a written examination in accordance with subsection 6.1. The on-the-job training shall include, as extensively as possible, different types of control tasks related to plant start-up, power increase, power reduction, plant shutdown, as well as periodic testing of systems and components important to safety under the supervision of the plant unit operator. An on-the-job training plan shall be drawn up and the sets of tasks performed during the training shall be recorded.

The on-the-job training of operator applicants for a new nuclear power plant shall include participating in the start-up testing of the plant in accordance with a written plan. Working in operator duties during nuclear-technology related tests is a precondition for the continued validity of an operator approval even after the completion of the start-up test phase.

Achievement of learning objectives shall be verified after completion of each training phase.

6 Verification of operator competence

The competence of a shift supervisor and other operator is verified stage by stage as follows:

- Written examination. The procedure is given in subsection 6.1.
- STUK's approval of a trainee control room operator upon written application by the licensee. The application procedure is dealt with in Chapter 8.
- Demonstration of professional skill at a training simulator. The procedure is given in subsection 6.2.

- Oral examination. The procedure is given in subsection 6.3.
- STUK's fixed-term approval as a shift supervisor or other operator. The application procedure is dealt with in subsection 8.

The written examination and the application for a trainee control room operator are required before STUK's first approval decision only.

6.1 Written examination

The purpose of a written examination is to ensure that the operator applicant has learnt the subject matter of initial training.

The written examination can be performed in a phase of the initial training when the applicant has gained sufficient readiness for passing the examination. If the person to be trained as a shift supervisor has not previously worked in other operator duties, they may be arranged a written shift supervisor examination as part of the operator examination.

In the written examination, the applicant shall be familiar with

- the safety principles of the nuclear power plant
- principal nuclear safety and radiation safety regulations
- thermal and physical properties of the reactor
- the reactor design and operating principles
- structure and operating principles of the primary and secondary circuits, safety systems and important auxiliary systems
- structure and operating principles of the protection systems and the main control systems
- structure and operating principles of the power supply systems
- the way in which safety systems are mutually dependent and dependent on their support systems (e.g. power supply, cooling, location)
- structural safety of the plant unit (e.g. lay-out, the plant as a whole)
- the principles of fire protection
- main features of plant behaviour in transients and accidents
- emergencies and transients as well as the principles of diagnostics
- human factors and their consideration
- principal requirements of the Operational Limits and Conditions
- the administrative and operating procedure of the plant unit
- structure and main features of the quality management system
- principles of the emergency plan and physical protection.

A minimum of ten questions are to be answered in writing whose coverage can be ensured by a sufficient number of multiple-choice questions. The licensee is to evaluate the replies question by question. Evaluation by a scale from 0 to 5 points is recommended for written replies. For the oral examination, the acceptance criterion is at least 70% of the total number of points. No significant gaps are allowed in the applicant's knowledge of matters essentially affecting nuclear power plant safety.

If the applicant fails to pass the written examination, a new one can be arranged after additional training, not earlier, however, than in three months from the date of failing the examination.

After an accepted written examination, the licensee may apply, in accordance with Chapter 8, for STUK's approval of the applicant as a trainee control room operator in the intended job. This approval is a precondition for entering the on-the-job training period referred to in Chapter 5. The decision of approval is valid for a maximum of two years.

6.2 Demonstration of professional skill at a training simulator

The demonstration of professional skill is to ensure that the trainee control room operator has the necessary expertise as well as working methods that take nuclear and radiation safety aspects into account. The operator is also required to have the skills and co-operation capability necessary to function as a member of his team so that the shift team can manage normal operational conditions of the nuclear power plant and perform the actions necessary during transients and accidents.

The demonstration of professional skill shall be given at a training simulator that is representative of the one described in Chapter 5. Two types of operational conditions are run:

- situations requiring interpretation of the Operational Limits and Conditions during which the trainee/operator, by means of plant alarm system signals and other data, assesses the plant state and deviations from normal operational conditions as well as determines and carries out the necessary actions
- situations relating to the transient and emergency procedures during which the trainee/operator identifies the disturbance, performs first actions required by the procedures, detects an abnormally functioning component, corrects the situation and determines the necessary further actions.

The assessor of professional skill shall be an operating engineer or simulator instructor who is a qualified shift supervisor in accordance with Chapter 3.

The demonstration of professional skill shall be arranged for the trainee control room operator before the oral examination described in subsection 6.3 and thereafter at least every second calendar year. Furthermore, a demonstration of professional skill shall always be arranged after extensive modifications that affect control room work.

Professional skill assessed as sufficient is a precondition for working as an operator. Chapter 7 deals with the measures to be taken if someone's professional skill is found to be insufficient.

6.3 Oral examination

An oral examination can be arranged for a trainee control room operator/operator after the applicant has passed a written examination, undergone thorough on-the-job training and acceptably demonstrated his professional skill at a training simulator.

A passed oral examination is a precondition for approval as a control room operator. The examination shall take place in the main control room, in a closely connected room or at the training simulator as well as at the plant. It shall cover the following sectors:

- the technical and administrative procedures and rules and the Operational Limits and Conditions of the plant unit
- operation of the plant unit and its systems under normal operational conditions
- behaviour of the plant unit and its systems in transients and accidents
- knowledge of the plant (e.g. location of components at the plant, and operation of control equipment in the control room and outside it).

In the oral examination, the applicant shall be able to answer the questions fluently making use of the documents and information technology available in the control room. The applicant is not required to know all details by heart. The applicant shall be familiar with the subject matter of the documents available for use by the shift supervisor or other operators. Furthermore, the applicant shall know the location of the display and control equipment in the control room and be able to demonstrate, on the basis of the operating procedures, the actions required in transients and accidents. The applicant shall be able to demonstrate the practical implementation of these actions in the main control room and at the plant. The questions posed to shift supervisor applicants shall measure sufficient knowledge of both operator jobs (reactor and turbine operator) and more extensive knowledge of the administrative procedures, instructions and emergency preparedness in particular than is required for the operator level.

The licensee shall appoint to the oral examination at least two examiners one of whom shall keep a record of the examination. One of the licensee's examiners shall be an operating engineer of the plant unit in question or another person with similar qualifications and experience. Also the requirement given in subsection 8.4 concerns appointment of the licensee's examiners.

STUK usually appoints to the oral examination two supervisors (one is the minimum) whose task is to verify the standard of the questions posed and to oversee the examination arrangements and objectivity of the evaluation made in the examination. STUK's supervision of and participation in the oral examinations are discussed in more detail in subsection 8.4.

The oral examination shall consist of at least ten questions – three from each of the first mentioned areas complemented with evaluation of

Table I. Correspondence between the replies and grades given in the oral examination.

Grade	Characteristics
5	Extensive and profound knowledge of the area in question. Demonstration of the knowledge is fluent and easy to understand.
4	Knowledge and demonstration of the main points of the area in question as above. Demonstration of some details may require some assistance.
3	Knowledge of the area in question sufficient for the job. Consideration of a question may require guidance. Some minor detail insignificant for safety may be lacking.
2	Knowledge of the area in question is passable. Knowledge of most of the main points. Insufficient knowledge of the details.
1	Significant gaps in the knowledge of the basic facts.
0	Answering a question stops or is interrupted.

plant knowledge. The questions concerning plant knowledge may consist of several separate tasks and questions that are considered as a whole during the evaluation, however. The questions to be posed in the oral examination and the issues to be dealt with during the examination shall be prepared in advance. The questions and the main points of model replies produced during the preparation and their proportions of the points to be given shall be recorded.

In the oral examination, each reply shall be evaluated separately. Evaluation by a scale from 0 to 5 points is recommended. On this scale, the evaluation of individual questions can be proportioned, for instance, as shown in Table I.

If the applicant has received grade 2 or less in any of the questions, they shall be provided with systematic additional training.

The applicant passes the oral examination if the total number of points is no less than 50% of the maximum number of points. The total number of points scored in the examination and the points scored in the different areas affect the period of validity of the decision of approval granted by STUK as described in subsection 8.5. If the total number of points scored in the oral examination is lower than 50%, the applicant shall be rejected and the valid approval decision expires. Procedures for renewing the expired decision are discussed in Chapter 7.

All examiners shall confirm the evaluation with their signatures. In the event that the licensee's examiners disagree in opinion, individual evaluations shall be entered in the record.

After an accepted oral examination, the licensee may apply for STUK's approval for the applicant as a shift supervisor or other operator.

7 Maintaining operator competence

The validity of a decision of approval requires the shift supervisors and other operators to regularly participate in annual refreshing training, which also includes sufficient training at a simulator. Other personnel groups referred to in Chapter 3 shall also regularly participate in training of this kind.

Matters significant for the safety of the nuclear power plant shall be reviewed at least every three years. Planning of the refreshing training programmes shall also take account of the results of probabilistic safety assessments (PSA) concerning the plant in question. Any deficiencies discovered in the oral examinations and demonstrations of professional skill shall be monitored and utilised in planning the training.

The licensee shall have systematic procedures for giving the shift supervisors and other operators training in plant modifications and their significance. If a plant modification has great significance for control room work, it shall be first implemented and practised at a simulator. Such practice departing from normal procedure shall not affect the above-mentioned three-year periods in the actual training in emergency situations and transients. The requirement for demonstration of professional skill that is presented in subsection 6.2 applies to extensive modifications affecting control room work.

Severe accidents and the related procedures shall be included in the training programme and practised at a training simulator or otherwise to the extent possible.

The shift supervisor shall maintain his readiness for operation of the reactor and the turbine by means of annual simulator training.

Maintaining the validity of a decision of approval simultaneously for more than one plant operator task requires the operator to periodically work in each task.

Maintaining the validity of an approval for an operator who works temporarily outside the control room in a task comparable to control room work requires the operator to also work regularly in the control room.

Performing the duties of an operating engineer is comparable to control room work if the person in question has previously worked as a shift supervisor.

A valid approval decision may expire if the operator's physical condition deteriorates considerably or if he, in carrying out his duties, grossly or repeatedly violates safety regulations. A valid approval also expires if the operator has not been actively performing operator duties for more than six months or if it is established that the amount of simulator training or control room work significantly deviates from what is required. Furthermore, a valid approval may expire if the applicant is rejected in the oral examination or in the demonstration of professional skill. The licensee shall in such a case make a proposal to STUK for withdrawal of the decision of approval.

The preconditions for renewing an expired approval are defined case by case on the licensee's proposal. When considering the proposal, the following requirements for refreshing and continuing training shall be taken into account:

Working outside the control room for 6 to 12 months

The operator shall participate in refreshing training to the extent required annually. In addition, the operator shall be given an opportunity to demonstrate their professional skill at a simulator in accordance with subsection 6.2 if they have not demonstrated their skill during the last two years.

Working outside the control room for more than 12 months

The operator shall participate in refreshing training to the extent required annually and demonstrate their professional skill in accordance with subsection 6.2. In addition, an oral examination shall be arranged for them to renew the decision of approval.

Rejected oral examination or demonstration of professional skill

Based on a separate plan, the operator shall review the areas that caused the rejection The oral examination or the demonstration of professional skill can be rearranged in a month at the earliest from the date of rejection.

8 Oversight by STUK

8.1 Written examination

STUK monitors the standard of the questions posed in the written examination as well as oversees the examination arrangements and the objectivity of evaluation of the replies given in the examination.

For the purpose of oversight, the licensee shall inform STUK of the arrangement of a written examination no later than two weeks before the examination date. The notification shall include a proposal for the questions to be posed. STUK may add questions of its own, if necessary. STUK's representatives supervise the conducting of written examinations by spot checks. Copies of the applicants' replies shall be forwarded to STUK after the examination. STUK deals with the results of the licensee's evaluation as described in subsection 8.2.

8.2 Approval as a trainee control room operator

STUK approves the applicant as a control room trainee after the licensee has ascertained that the applicant is competent enough to begin on-the-job training in the main control room as referred to in Chapter 5.

For the approval procedure, the licensee shall submit to STUK an application in accordance with subsection 8.5 for appointment of the applicant as a trainee control room operator. STUK assesses the applicant's competence on the basis of the application material submitted and approves the person as a trainee control room operator if the competence requirements defined in this Guide are fulfilled and the applicant has passed the written examination.

Table II. Effect of the total number of points P_{tot} scored in the oral examination and of the points scored in the different areas P_{area} on the period of validity of the decision of approval.

Total points	Points scored in different areas	Period of validity of the licence	
		The first time	From the second time
$80\% \leq P_{tot}$	$P_{area} \geq 50\%$	2 y.	4 y.
$70\% \leq P_{tot} < 80\%$	$P_{area} \geq 50\%$	2 y.	3 y.
$60\% \leq P_{tot} < 70\%$	$P_{area} \geq 40\%$	1 y.	2 y.
$50\% \leq P_{tot} < 60\%$		6 mo	6 mo

The results of the written examination included in the application material shall be itemised by question. If STUK disagrees on the evaluation made, the alternatives include reconsidering the evaluation or repeating the whole written examination or parts of it.

The approval as a control room trainee granted by STUK is valid for a maximum of two years. During this time, the licensee shall obtain for the trainee control room operator STUK's approval as an operator.

8.3 Demonstration of professional skill

STUK supervises the procedures for demonstration of professional skill and the practical arrangements by spot checks.

For the purpose of oversight, the licensee shall inform STUK on request of the arrangement of demonstrations of professional skill.

8.4 Oral examination

STUK verifies the standard of the questions posed in the oral examination as well as oversees the examination arrangements and objectivity of the examination evaluation.

For the purpose of oversight, the licensee shall inform STUK of the arrangement of an oral examination no later than two weeks before the planned examination date. STUK usually appoints two supervisors (or at least one) to the oral examination. Prior to the oral examination, the licensee and STUK's representatives review the licensee's plan for the questions to be posed. During the examination, STUK's supervisors may ask supplementary questions of their own.

On completion of the oral examination, all persons involved in the evaluation confirm it with their signatures in accordance with subsection 6.3. If STUK's representatives present at the examination disagree on the evaluation recorded by the licensee, the dissenting opinion with justification shall be entered in the examination record, which is dealt with case by case during the consideration of the application for approval in question.

The licensee shall draw up and maintain an up-to-date list of those it has found capable of acting as examiners in the written examination. The list and the changes made to it shall be forwarded to STUK for information.

8.5 Approval as a control room operator

STUK approves the applicant as an operator after the licensee has ascertained that the set competence requirements are fulfilled and the applicant is also otherwise capable of carrying out operator duties.

STUK's approval of the applicant as an operator is valid for a maximum of two years the first time and its renewal shall be applied for in writing no later than two weeks before the expiry date. The renewed approval as a shift supervisor or other operator is valid for a maximum of four years at a time. In addition to what has been stated above, the points scored in the oral examination in accordance with subsection 6.3 also affect the approval's period of validity as shown in Table II.

The licence application to be submitted to STUK shall contain the following information:

a. the applicant's personal data, job title and the period of validity of the decision of approval to be applied for
b. a reference to any previous decision of approval
c. basic education and work experience that fulfil the requirements

d. an extract from the training record showing initial, refreshing and continuing training that fulfils the requirements
e. an up-to-date medical certificate proving that the applicant's health is good enough for the operator job
f. proof of an approved security clearance
g. the results of an approved written examination
h. on-the-job training and working in the control room that fulfil the requirements
i. the record of an approved personal demonstration of professional skill and records of shift-specific demonstrations of professional skill after the previous approval
j. the record of an approved oral examination.

The information referred to in item g shall be submitted only when applying for the first approval. Items h, i and j do not apply to trainee control room operators.

9 References

1. Recruitment, Qualification and Training of Personnel for Nuclear Power Plants, Safety Guide No. NS-G-2.8, IAEA Safety Standard Series.