

Sistemi vodenja kakovosti – Smernice za vodenje kakovosti projektov

Quality management systems – Guidelines for quality management in projects

Systèmes de management de la qualité – Lignes directrices pour le management de la qualité dans les projets

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NACIONALNI UVOD

Standard SIST ISO 10006 (sl, en), Sistemi vodenja kakovosti – Smernice za vodenje kakovosti projektov, 2004, ima status slovenskega nacionalnega standarda in je istoveten mednarodnemu standardu ISO 10006, Quality management systems – Guidelines for quality management in projects, 2003.

NACIONALNI PREDGOVOR

Mednarodni standard ISO 10006:2003 je pripravil tehnični odbor ISO/TC 176 Vodenje in zagotavljanje kakovosti. Slovenski standard SIST ISO 10006:2004 je prevod mednarodnega standarda ISO 10006:2003. V primeru spora glede besedila slovenskega prevoda v tem standardu je odločilen izvorni mednarodni standard v angleškem jeziku. Slovensko-angleško izdajo standarda je pripravil in potrdil dne 6. marec 2009 tehnični odbor SIST/TC VZK Vodenje in zagotavljanje kakovosti.

ZVEZE S STANDARDI

S privzemom tega mednarodnega standarda veljajo naslednje zveze:

- SIST EN ISO 9000:2005 (sl, en) Sistemi vodenja kakovosti – Osnove in slovar
- SIST EN ISO 9001:2000 (sl, en) Sistemi vodenja kakovosti – Zahteve
- SIST EN ISO 9004:2004 (sl, en) Vodenje sistemov kakovosti – Smernice za izboljšanje delovanja
- SIST ISO 10005:2005 (en) Sistemi vodenja kakovosti – Smernice za plane kakovosti
- SIST ISO 10007:2004 (en) Sistemi vodenja kakovosti – Smernice za vodenje konfiguracij
- SIST ISO 10014:2006 (en) Vodenje kakovosti – Smernice za doseganje finančnih in ekonomskih koristi
- SIST ISO 10015:2002 (en) Vodenje kakovosti – Smernice za usposabljanje

OSNOVA ZA IZDAJO STANDARDA

- Privzem ISO 10006:2003.

OPOMBI

- Nacionalni uvod in nacionalni predgovor nista sestavni del tega standarda.
- Povsod, kjer se v besedilu standarda uporablja izraz “mednarodni standard”, v SIST ISO 10006:2004 to pomeni “slovenski standard”.

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Predgovor

ISO (Mednarodna organizacija za standardizacijo) je svetovna zveza nacionalnih organov za standarde (članov ISO). Mednarodne standarde ponavadi pripravljajo tehnični odbori ISO. Vsak član, ki želi delovati na določenem področju, za katero je bil ustanovljen tehnični odbor, ima pravico biti zastopan v tem odboru. Pri delu sodelujejo mednarodne vladne in nevladne organizacije, povezane z ISO. V vseh zadevah, ki so povezane s standardizacijo na področju elektrotehnike, ISO tesno sodeluje z Mednarodno elektrotehniško komisijo (IEC).

Mednarodni standardi so pripravljani v skladu s pravili, podanimi v 2. delu Direktiv ISO/IEC.

Glavna naloga tehničnih odborov je priprava mednarodnih standardov. Osnutki mednarodnih standardov, ki jih sprejmejo tehnični odbori, se pošljejo vsem članom v glasovanje. Za objavo mednarodnega standarda je treba pridobiti soglasje najmanj 75 odstotkov članov, ki se udeležijo glasovanja.

Opozoriti je treba na možnost, da je lahko nekaj elementov tega mednarodnega standarda predmet patentnih pravic. ISO ne prevzema odgovornosti za identifikacijo katerihkoli ali vseh takih patentnih pravic.

ISO 10006 je pripravil tehnični odbor ISO/TC 176 *Vodenje kakovosti in zagotavljanje kakovosti*, pododbor SC 2 *Sistemi kakovosti*.

Ta druga izdaja razveljavlja in nadomešča prvo izdajo (ISO 10006:1997), ki je bila strokovno revidirana.

Ta izdaja je namenjena izboljšanju usklajenosti ISO 10006 s skupino mednarodnih standardov ISO 9000 in vključuje novo besedilo, upoštevajoč načela vodenja kakovosti iz teh standardov. Prav tako je bil spremenjen tudi naslov ISO 10006, tako da odraža spremembe v skupini mednarodnih standardov ISO 9000 in da bolje izraža namen tega mednarodnega standarda.

Uvod

Ta mednarodni standard ponuja napotke za vodenje kakovosti v projektih. Podaja tista načela in prakse vodenja kakovosti, ki so pomembni in vplivajo na doseganje ciljev kakovosti v projektih. Dopolnjuje napotke, dane v ISO 9004.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and nongovernmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10006 was prepared by Technical Committee ISO/TC 176, *Quality management and quality assurance*, Subcommittee SC 2, *Quality systems*.

This second edition cancels and replaces the first edition (ISO 10006:1997), which has been technically revised.

This edition has sought to improve the alignment of ISO 10006 with the ISO 9000 family of International Standards, and includes new text concerning their quality management principles. Also, the title of ISO 10006 has been revised to reflect the changes to the ISO 9000 family of International Standards and to give an improved expression of the aim of this International Standard.

Introduction

This International Standard provides guidance on quality management in projects. It outlines quality management principles and practices, the implementation of which are important to, and have an impact on, the achievement of quality objectives in projects. It supplements the guidance given in ISO 9004.

Te smernice so namenjene širši javnosti. Primerne so za projekte, ki lahko zavzamejo različne oblike, od majhnih do zelo velikih, od preprostih do zapletenih, od neodvisnih projektov do projektov, ki so del programov ali tematskih skupin projektov. Namenjene so tako osebam, ki imajo izkušnje v vodenju projektov in morajo zagotoviti, da njihova organizacija uporablja prakse, vsebovane v skupini standardov ISO 9000, kot tudi tistim, ki imajo izkušnje z vodenjem kakovosti in morajo sodelovati s projektnimi organizacijami z uporabo svojega znanja in izkušenj v projektu. Ni se mogoče izogniti dejstvu, da bodo nekatere skupine menile, da je vsebina, predstavljena v smernicah, nepotrebno podrobna zanje, vendar bodo lahko drugi bralci potrebovali te podrobnosti.

Znano je, da obstajata dva vidika uporabe vodenja kakovosti v projektih, in sicer vidik procesov v projektu in vidik projektnih proizvodov. Neuspeh na katerem koli od teh dveh vidikov lahko pomembno učinkuje na projektni proizvod, projektne odjemalce in druge zainteresirane strani ter na projektno organizacijo.

Ta dva vidika prav tako poudarjata, da je doseganje ciljev kakovosti odgovornost najvišjega vodstva, kar zahteva, da je zavezanost k doseganju ciljev kakovosti vgrajena v vse ravni organizacij, vključenih v projekt. Vendar naj vsaka raven ohranja odgovornost za svoje procese in proizvode.

Ustvarjanje in vzdrževanje kakovosti procesa in proizvoda v projektu zahtevata sistematičen pristop. Ta pristop naj bo usmerjen k zagotavljanju razumevanja in izpolnjevanja izraženih in vključenih potreb odjemalcev, razumevanju in ovrednotenju potreb drugih zainteresiranih strani in k upoštevanju politike kakovosti nosilne organizacije pri vodenju projekta.

Opozoriti je treba, da je v dodatku A podan povzetek procesov v projektu.

These guidelines are intended for a wide audience. They are applicable to projects which can take many forms from the small to very large, from simple to complex, from being an individual project to being part of a programme or portfolio of projects. They are intended to be used by personnel who have experience in managing projects and need to ensure that their organization is applying the practices contained in the ISO 9000 family of standards, as well as those who have experience in quality management and are required to interact with project organizations in applying their knowledge and experience to the project. Inevitably, some groups will find that material presented in the guidelines is unnecessarily detailed for them, however other readers may be dependent on the detail.

It is recognized that there are two aspects to the application of quality management in projects; that of the project processes and that of the project's product. A failure to meet either of these dual aspects may have significant effects on the project's product, the project's customer and other interested parties, and the project organization.

These aspects also emphasize that the achievement of quality objectives is a top management responsibility, requiring a commitment to the achievement of quality objectives to be instilled at all levels within the organizations involved in the project. However, each level should retain responsibility for their respective processes and products.

The creation and maintenance of process and product quality in a project requires a systematic approach. This approach should be aimed at ensuring that the stated and implied needs of the customer are understood and met, that other interested parties' needs are understood and evaluated, and that the originating organization's quality policy is taken into account for implementation in the management of the project.

It should be noted that a summary of processes in projects is given in Annex A.

Sistem vodenja kakovosti – Smernice za vodenje kakovosti v projektih

1 Področje uporabe

Ta mednarodni standard podaja napotke za izvajanje vodenja kakovosti v projektih.

Uporaben je v projektih različne zahtevnosti, v majhnih ali velikih, kratkotrajnih ali dolgotrajnih, v različnih okoljih in neodvisno od vrste proizvoda ali procesa, vključenega v projekt. Zato se lahko zgodi, da je napotek treba prilagoditi potrebam posameznega projekta.

Ta mednarodni standard ni vodilo za »vodenje projekta«. Podaja napotke za vodenje kakovosti pri vodenju projektov. Napotki za vodenje kakovosti v procesih, povezanih s proizvodi, in za »procesni pristop« so podani v ISO 9004.

Ker je ta mednarodni standard samo dokument z napotki, ga ni mogoče uporabljati za namene certificiranja/registracije.

2 Zveza z drugimi standardi

Naslednji navedeni dokumenti so nujno potrebni za uporabo tega dokumenta. Pri datiranih sklicevanjih se uporablja edino navedena izdaja. Pri nedatiranih sklicevanjih se uporablja zadnja izdaja publikacije (vključno z dopolnili).

ISO 9000:2000, *Sistemi vodenja kakovosti – Osnove in slovar*

ISO 9004: 2000, *Sistemi vodenja kakovosti – Smernice za izboljševanje delovanja*

OPOMBA: Bibliografija vsebuje dodatne vire, ki so uporabni za vodenje projektov pri projektih.

3 Izrazi in definicije

V tem dokumentu se uporabljajo izrazi in definicije, podani v ISO 9000, ter definicije in izrazi, podani v nadaljevanju. Nekatere od spodaj navedenih definicij so vzete iz ISO 9000:2000, vendar so jim dodane opombe, specifične za projekte.

3.1 aktivnost

(projekt) najmanjši identificiran predmet/točka dela v **procesu** (3.3) **projekta** (3.5)

Quality management systems - Guidelines for quality management in projects

1 Scope

This International Standard gives guidance on the application of quality management in projects.

It is applicable to projects of varying complexity, small or large, of short or long duration, in different environments, and irrespective of the kind of product or process involved. This can necessitate some tailoring of the guidance to suit a particular project.

This International Standard is not a guide to "project management" itself. Guidance on quality in project management processes is discussed in this International Standard. Guidance on quality in a project's product-related processes, and on the "process approach", is covered in ISO 9004.

Since this International Standard is a guidance document, it is not intended to be used for certification/registration purposes.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 9000:2000, *Quality management systems – Fundamentals and vocabulary*

ISO 9004: 2000, *Quality management systems – Guidelines for performance improvements*

NOTE The Bibliography contains additional references applicable to quality management in projects.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000 and the following apply. Some of the definitions below are quoted directly from ISO 9000:2000, but are also supplemented with notes specific to projects.

3.1 activity

(project) smallest identified item of work in a **project** (3.5) **process** (3.3)

3.2 zainteresirana stran

oseba ali skupina, ki se zavzema za delovanje ali uspeh organizacije

PRIMER: Odjemalci, lastniki, ljudje v organizaciji, dobavitelji, bankirji, sindikati, partnerji ali družba.

OPOMBA 1: Skupina lahko obsega organizacijo, njen del ali pa več kot eno organizacijo.

[ISO 9000:2000, definicija 3.3.7]

OPOMBA 2: Zainteresirane strani so lahko:

- odjemalci (projektnih proizvodov),
- potrošniki (npr. uporabniki projektnega proizvoda),
- lastniki projekta (npr. organizacija, ki organizira projekt),
- partnerji (npr. v mešanih projektih),
- financerji (npr. finančna institucija),
- dobavitelji ali podpogodbениki (npr. organizatorji, ki dobavljajo izdelke za projektno organizacijo),
- družba (npr. sodna ali zakonodajna telesa in širša javnost) in
- notranje osebe (npr. člani projektne organizacije).

OPOMBA 3: Med zainteresiranimi stranmi lahko pride do nasprotja interesov. Da bo projekt uspešen, je treba ta nasprotja razrešiti.

3.2 interested party

person or group having an interest in the performance or success of an organization

EXAMPLE Customers, owners, people in an organization, suppliers, bankers, unions, partners or society.

NOTE 1 A group can comprise an organization, a part thereof, or more than one organization.

[ISO 9000:2000, definition 3.3.7]

NOTE 2 Interested parties may include:

- customers (of the project's products),
- consumers (such as a user of the project's product),
- owners of the project (such as the organization originating the project),
- partners (as in joint-venture projects),
- funders (such as a financial institution),
- suppliers or subcontractors (e.g. organizations supplying products to the project organization),
- society (such as jurisdictional or regulatory bodies and the public at large), and
- internal personnel (such as members of the project organization).

NOTE 3 There can be conflicting interests among interested parties. These may need to be resolved for the project to be successful.

3.3 proces

množica medsebojno povezanih in vzajemno vplivajočih aktivnosti, ki vhode preoblikujejo v izhode

OPOMBA 1: Vhodi v proces so na splošno izhodi drugih procesov.

OPOMBA 2: Procesi v organizaciji so ponavadi planirani in izvedeni v obvladovanih razmerah, da bi se dodala vrednost.

[ISO 9000:2000, definicija 3.4.1 (razen opombe 3)]

3.4 vrednotenje napredovanja

ocenjevanje napredovanja pri doseganju projektnih (3.5) ciljev

OPOMBA 1: Ocenjevanje naj bo izvedeno na primernih točkah v življenjskem ciklu projekta in naj temelji na kriterijih za projektne procese in proizvode.

OPOMBA 2: Rezultati vrednotenja napredovanja lahko vodijo v revizijo plana vodenja projekta (3.7).

3.5 projekt

enkratni proces, ki sestoji iz skupka koordiniranih in obvladanih aktivnosti (3.1) s časovno določenim začetkom in koncem. Sprožen je za doseganje cilja, skladnega s

3.3 process

set of interrelated or interacting activities which transforms inputs into outputs

NOTE 1 Inputs to a process are generally outputs of other processes.

NOTE 2 Processes in an organization are generally planned and carried out under controlled conditions to add value.

[ISO 9000:2000, definition 3.4.1 (excluding Note 3)]

3.4 progress evaluation

assessment of progress made on achievement of the project (3.5) objectives

NOTE 1 This assessment should be carried out at appropriate points in the project life cycle across project processes, based on criteria for project processes and product.

NOTE 2 The results of progress evaluations may lead to revision of the project management plan (3.7).

3.5 project

unique process, consisting of a set of coordinated and controlled activities (3.1) with start and finish dates, undertaken to achieve an objective conforming to specific requirements,

specifičnimi zahtevami, vključno z omejitvami časa, stroškov in virov

including the constraints of time, cost and resources

[ISO 9000:2000, definicija 3.4.3 (razen opomb)]

[ISO 9000:2000, definition 3.4.3 (excluding Notes)]

OPOMBA 1: Posamezen projekt je lahko del večje projektne strukture.

NOTE 1 An individual project may form part of a larger project structure.

OPOMBA 2: V nekaterih projektih se cilji in obseg podrobneje opredelijo in lastnosti proizvoda sproti določijo med projektom.

NOTE 2 In some projects the objectives and scope are updated and the product characteristics defined progressively as the project proceeds.

OPOMBA 3: Projektni proizvod (glej ISO 9000:2000, 3.4.2) je na splošno opredeljen v obsegu projekta (glej 7.3.1). Lahko je ena ali več različnih enot proizvoda in lahko je otipljiv ali neotipljiv.

NOTE 3 The project's product (see ISO 9000:2000, 3.4.2) is generally defined in the project scope (see 7.3.1). It may be one or several units of product and may be tangible or intangible.

OPOMBA 4: Projektna organizacija je ponavadi začasna in ustanovljena za čas trajanja projekta.

NOTE 4 The project's organization is normally temporary and established for the lifetime of the project.

OPOMBA 5: Zapletenost medsebojnih vplivov med projektnimi aktivnostmi ni nujno povezana z velikostjo projekta.

NOTE 5 The complexity of the interactions among project activities is not necessarily related to the project size.

3.6 projektno vodenje

planiranje, organiziranje, nadzorovanje, obvladovanje in poročanje o vseh vidikih projekta (3.5) ter motiviranje tistih, ki so vključeni vanje za doseganje projektnih ciljev

3.6 project management

planning, organizing, monitoring, controlling and reporting of all aspects of a project (3.5) and the motivation of all those involved in it to achieve the project objectives

3.7 plan vodenja projekta

dokument, ki določa, kaj je potrebno za doseganje cilja(-ev) projekta (3.5)

3.7 project management plan

document specifying what is necessary to meet the objective(s) of the project (3.5)

OPOMBA 1: Plan vodenja projekta naj vključuje ali se sklicuje na plan kakovosti projekta (3.8).

NOTE 1 A project management plan should include or refer to the project's quality plan (3.8).

OPOMBA 2: Plan vodenja projekta prav tako vključuje ali se sklicuje na druge ustrezne plane, kot so plani v zvezi z organizacijsko strukturo, viri, časovnimi plani, proračunom, upravljanjem tveganja, ravnanjem z okoljem, vodenjem zdravja in varnosti ter varovanja informacij.

NOTE 2 The project management plan also includes or references such other plans as those relating to organizational structures, resources, schedule, budget, risk management, environmental management, health and safety management and security management, as appropriate.

3.8 plan kakovosti

dokument, ki specificira, kdo in kdaj mora uporabiti katere postopke in z njimi povezane vire za specifičen projekt (3.5), proizvod, proces (3.3) ali pogodbo

3.8 quality plan

document specifying which procedures and associated resources shall be applied by whom and when to a specific project (3.5), product, process (3.3) or contract

OPOMBA 1: Ti postopki ponavadi vključujejo tiste, ki se nanašajo na procese vodenja kakovosti in na procese realizacije proizvoda.

NOTE 1 These procedures generally include those referring to quality management processes and to product realization processes.

OPOMBA 2: Plan kakovosti se pogosto sklicuje na dele poslovnika kakovosti ali na dokumente o postopkih.

NOTE 2 A quality plan often makes reference to parts of the quality manual or to procedure documents.

OPOMBA 3: Plan kakovosti je na splošno eden od rezultatov planiranja kakovosti

NOTE 3 A quality plan is generally one of the results of quality planning.

[ISO 9000:2000, definicija 3.7.5]

[ISO 9000:2000, definition 3.7.5]

3.9 dobavitelj

organizacija ali oseba, ki priskrbi proizvod

PRIMERI Proizvajalec, distributer, maloprodaja ali prodajalec proizvoda, ponudnik storitve ali informacije.

OPOMBA 1 Dobavitelj je lahko znotraj ali zunaj organizacije.

OPOMBA 2 Kadar gre za pogodbo, se dobavitelj včasih imenuje "pogodbenik".

[ISO 9000:2000, definicija 3.3.6]

OPOMBA 3: V zvezi s projekti se namesto »dobavitelj« pogosto uporabljata izraza »pogodbenik« ali »podpogodbenik«.

4 Sistemi vodenja kakovosti v projektih**4.1 Značilnosti projekta****4.1.1 Splošno**

Nekatere od značilnosti projekta so:

- so enkratne, neponavljajoče se faze, ki sestojijo iz procesov in aktivnosti;
- imajo neko stopnjo tveganosti in negotovosti;
- pričakuje se, da dostavijo specifično (minimalno) količino rezultatov znotraj vnaprej določenih parametrov, npr. parametrov v zvezi s kakovostjo;
- imajo planirane datume za začetek in konec znotraj jasno določenih stroškov in omejenih virov;
- osebje bo morda začasno dodeljeno projektni organizaciji za čas trajanja projekta [organizacijo projekta lahko določi nosilna organizacija (glej 4.1.2) in se lahko med napredovanjem projekta spremeni];
- so lahko dolgotrajni in se lahko sčasoma spreminjajo zaradi notranjih ali zunanjih vplivov.

4.1.2 Organizacije

Ta mednarodni standard razlikuje med »nosilno organizacijo« in »projektno organizacijo«.

3.9 supplier

organization or person that provides a product

EXAMPLE A producer, distributor, retailer or vendor of a product, or a provider of a service or information.

NOTE 1 A supplier can be internal or external to the organization.

NOTE 2 In a contractual situation a supplier is sometimes called a "contractor".

[ISO 9000:2000, definition 3.3.6]

NOTE 3 In the context of projects, "contractor" or "subcontractor" is often used in place of "supplier".

4 Quality management systems in projects**4.1 Project characteristics****4.1.1 General**

Some of the characteristics of projects are as follows:

- they are unique, non-repetitive phases – consisting of processes and activities;
- they have some degree of risk and uncertainty;
- they are expected to deliver specified (minimum) quantified results within predetermined parameters, for example, quality-related parameters;
- they have planned start and finishing dates, within clearly specified cost and resource constraints;
- personnel maybe temporarily assigned to a project organization for the duration of the project [the project organization may be assigned by an originating organization (see 4.1.2) and may be subject to change as the project progresses];
- they may be of a long duration, and subject to changing internal and external influences over time.

4.1.2 Organizations

This International Standard makes separate reference to an "originating organization" and to a "project organization".

»Nosilna organizacija« je organizacija, ki se odloči izpeljati projekt. Organizirana je lahko kot posamezna organizacija, mešana družba, konzorcij ipd. Nosilna organizacija dodeli projekt projektni organizaciji. Nosilna organizacija lahko prevzame več projektov, vsakega od projektov pa lahko dodeli različni projektni organizaciji.

»Projektna organizacija« izvede projekt. Projektna organizacija je lahko del nosilne organizacije.

4.1.3 Procesi in faze v projektih

Procesi in faze sta dva različna pogleda na projekt. Projekt je lahko razdeljen v medsebojno odvisne procese in v faze kot načine za planiranje, nadzorovanje realizacije ciljev in ocenjevanje s tem povezanih tveganj.

Projektne faze delijo življenjski cikel projekta v obvladljive dele, npr. določitev vsebine, razvoj, realizacija in zaključek.

Procesi v projektu so tisti procesi, ki so potrebni za vodenje projekta, prav tako pa tudi tisti procesi, ki so potrebni za realizacijo projektnega proizvoda.

Vsi procesi, ki so podani v tem mednarodnem standardu, ne bodo nujno obstajali v posameznem projektu, medtem ko bodo lahko pri drugih projektih potrebni dodatni procesi. V nekaterih projektih bo morda treba razlikovati med ključnimi in podpornimi procesi. V dodatku A so naštetih in povzeti procesi, za katere velja, da so primerni za večino projektov.

OPOMBA: Za lažjo razpravo o napotkih za vodenje kakovosti v projektih je v tem mednarodnem standardu uporabljen "procesni pristop". Poleg tega so procesi v projektu razvrščeni v dve kategoriji: v procese projektnega vodenja in v procese v zvezi s projektnim proizvodom (ti se predvsem nanašajo na projektni proizvod, npr. načrtovanje in izvajanje/produkcija itd.).

Procesi so razvrščeni glede na njihovo medsebojno sorodnost, na primer vsi časovno povezani procesi so vključeni v eno skupino. Predstavljenih je enajst skupin procesov.

Strateški proces, predstavljen v točki 5, določa usmeritve projekta. Točka 6 govori o procesih, povezanih z viri in osebjem. Točka 7 zajema procese v zvezi z medsebojno odvisnostjo, vsebino, časom, stroški, komunikacijo,

The "originating organization" is the organization that decides to undertake the project. It may be constituted as a single organization, joint-venture, consortium, etc. The originating organization assigns the project to a project organization. The originating organization may be undertaking multiple projects, each of which may be assigned to a different project organization.

The "project organization" carries out the project. The project organization may be a part of the originating organization.

4.1.3 Processes and phases in projects

Processes and phases are two different aspects of a project. A project may be divided into interdependent processes and into phases as a means of planning and monitoring the realization of objectives and assessing the related risks.

Project phases divide the project life cycle into manageable sections, such as conception, development, realization and termination.

Project processes are those processes that are necessary for managing the project as well as those that are necessary to realize the project's product.

Not all the processes discussed in this International Standard will necessarily exist in a particular project, whereas in others, additional processes may be necessary. In some projects, a distinction may need to be made between core and supporting processes. Annex A lists and summarizes the processes that are considered to be applicable for the majority of projects.

NOTE To facilitate the discussion of the guidance to quality management in projects, the "process approach" is adopted in this International Standard. Additionally, the processes of a project have been grouped into two categories: the project management processes and the processes related to the project's product (those primarily concerned with the project's product such as design, production, etc.).

The processes are grouped according to their affinity to one another, for example all time-related processes are included in one group. Eleven groups of processes are presented.

The strategic process covered in Clause 5 sets the direction for the project. Clause 6 addresses resource-related processes and personnel-related processes. Clause 7 covers processes related to interdependency, scope,

tveganjem in nabavo. Procesi v zvezi z merjenjem in analizo ter nenehnim izboljševanjem so predstavljeni v točki 8. Te točke vključujejo opis vsakega procesa in dajejo napotke za vodenje kakovosti v procesih.

4.1.4 Procesi vodenja projektov

Projektno vodenje vključuje nenehno planiranje, organiziranje, nadzorovanje, obvladovanje, poročanje in izvajanje potrebnih korektivnih ukrepov za vse procese v projektu, ki so potrebni za doseganje projektnih ciljev. Načela vodenja kakovosti (glej 4.2.1 in 5.2 in ISO 9000:2000, 0.2) naj se uporabijo za vse procese vodenja projektov.

4.2 Sistemi vodenja kakovosti

4.2.1 Načela vodenja kakovosti

V tem mednarodnem standardu so napotki za vodenje kakovosti v projektih zasnovani na osmih načelih vodenja kakovosti (glej ISO 9000:2000, 0.2):

- a) osredotočenost na odjemalce;
- b) voditeljstvo;
- c) vključenost zaposlenih;
- d) procesni pristop;
- e) sistemski pristop k vodenju;
- f) nenehno izboljševanje;
- g) odločanje na podlagi dejstev;
- h) vzajemno koristni odnosi z dobavitelji.

Ta splošna načela naj tvorijo podlago za sistem vodenja kakovosti pri nosilnih in projektnih organizacijah.

OPOMBA: Napotki za uporabo načel vodenja kakovosti pri planiranju, ki so izpeljani v strateških procesih, so podani v točkah 5.2.2 do 5.2.9.

4.2.2 Sistem vodenja kakovosti v projektu

Da bi dosegli projektne cilje, je treba procese projekta voditi v okviru sistema vodenja kakovosti. Sistem vodenja kakovosti v projektu naj bo v čim večji meri skladen s sistemom vodenja kakovosti nosilne organizacije.

OPOMBA: ISO 9004 podaja smernice z upoštevanjem obojega: uspešnosti in učinkovitosti sistema vodenja kakovosti.

time, cost, communication, risk and purchasing. Processes related to measurement and analysis, and continual improvement, are covered in Clause 8. These clauses include a description of each process and provide guidance to quality management in the process.

4.1.4 Project management processes

Project management includes the planning, organizing, monitoring, controlling, reporting and taking necessary corrective actions on all processes of the project that are needed to achieve the project objectives, on a continual basis. The quality management principles (see 4.2.1 and 5.2, and ISO 9000:2000, 0.2) should be applied to all the project management processes.

4.2 Quality management systems

4.2.1 Quality management principles

The guidance for quality management of projects in this International Standard is based on eight quality management principles (see ISO 9000:2000, 0.2):

- a) customer focus;
- b) leadership;
- c) involvement of people;
- d) process approach;
- e) system approach to management;
- f) continual improvement;
- g) factual approach to decision making;
- h) mutually beneficial supplier relationships.

These generic principles should form the basis for quality management systems for the originating and project organizations.

NOTE Guidance on the application of the quality management principles to the planning carried out in the strategic process is given in 5.2.2 to 5.2.9.

4.2.2 Project quality management system

It is necessary to manage project processes within a quality management system in order to achieve project objectives. The project quality management system should be aligned, as far as is possible, with the quality management system of the originating organization.

NOTE ISO 9004 provides guidelines for considering both effectiveness and efficiency of quality management systems.

Dokumenti, ki jih projektna organizacija potrebuje in izdelata, da zagotovi uspešno planiranje, izvajanje in nadzorovanje projekta, naj bodo določeni in obvladovani (glej ISO 9004:2000, 4.2).

4.2.3 Plan kakovosti za projekt

Sistem vodenja kakovosti v projektu naj bo dokumentiran in vključen v plan kakovosti projekta ali pa naj se le-ta nanj sklicuje.

Plan kakovosti naj identificira aktivnosti in vire, ki so potrebni za doseganje ciljev kakovosti v projektu. Plan kakovosti naj bo vključen v plan vodenja projekta ali naj se le-ta nanj sklicuje.

V pogodbenih situacijah lahko odjemalec določi zahteve za plan kakovosti. Te zahteve ne bi smele omejevati vsebine plana kakovosti, ki ga uporablja projektna organizacija.

OPOMBA ISO 10005 podaja napotke za plane kakovosti.

5 Odgovornost vodstva

5.1 Zavezanost vodstva

Zavezanost in aktivna udeležba najvišjega vodstva nosilne in projektne organizacije sta bistveni za razvoj in vzdrževanje uspešnega in učinkovitega sistema vodenja kakovosti za projekt.

Najvišje vodstvo obeh organizacij, nosilne in projektne, naj poda vhode v strateški proces (glej 5.2).

Ker je projektna organizacija lahko ob koncu projekta razpuščena, naj najvišje vodstvo nosilne organizacije zagotovi izvajanje aktivnosti za nenehno izboljševanje v tekočih in prihodnjih projektih.

Najvišje vodstvo nosilnih in projektnih organizacij mora ustvariti kulturo kakovosti, ki je pomemben dejavnik za zagotavljanje uspeha projekta.

5.2 Strateški proces

5.2.1 Uporaba načel vodenja kakovosti v strateškem procesu

Planiranje za vzpostavitev, izvajanje in vzdrževanje sistema vodenja kakovosti, zasnovanega na uporabi načel vodenja kakovosti, je strateški, usmerjevalni proces. To planiranje naj izvede projektna organizacija.

Documents needed and produced by the project organization to ensure the effective planning, implementation and control of the project should be defined and controlled (see ISO 9004:2000, 4.2).

4.2.3 Quality plan for the project

The project quality management system should be documented and included or referenced in a quality plan for the project.

The quality plan should identify activities and resources necessary for achieving the quality objectives of the project. The quality plan should be incorporated into, or referenced in, the project management plan.

In contractual situations, a customer may specify requirements for the quality plan. These requirements should not limit the scope of the quality plan used by the project organization.

NOTE ISO 10005 gives guidance on quality plans.

5 Management responsibility

5.1 Management commitment

The commitment and active involvement of the top management of the originating and project organizations are essential for developing and maintaining an effective and efficient quality management system for the project.

Top management of both the originating and project organizations should provide input into the strategic process (see 5.2).

Since the project organization may be dispersed on completion of the project, the top management of the originating organization should ensure that continual improvement actions are implemented for current and future projects.

Top management of the originating and project organizations need to create a culture for quality, which is an important factor in ensuring the success of the project.

5.2 Strategic process

5.2.1 Application of quality management principles through the strategic process

Planning for the establishment, implementation and maintenance of a quality management system based on the application of the quality management principles is a strategic, direction-setting process. This planning should be performed by the project organization.

V tem planiranju se je treba osredotočiti na kakovost procesov in proizvodov za doseganje projektnih ciljev.

Za procese, opisane v 6.1, 6.2, 7.2 do 7.8 in v točki 8, naj se poleg specifičnih napotkov, podanih v teh točkah, upoštevajo tudi splošni napotki, podani v 5.2.2 do 5.2.9.

5.2.2 Osredotočenost na odjemalce

Organizacije so odvisne od svojih odjemalcev, zato naj razumejo njihove trenutne in prihodnje potrebe, izpolnjujejo njihove zahteve in si prizadevajo preseči njihova pričakovanja [(glej ISO 9000:2000, 0.2a)].

Izpolnjevanje zahtev odjemalcev in drugih zainteresiranih strani je nujno za uspeh projekta. Te zahteve naj bodo jasno razumljene, da bi se zagotovilo, da so vsi procesi osredotočeni nanje in so jih zmožni izpolniti.

Projektni cilji, ki vključujejo cilje za proizvod, naj upoštevajo potrebe in pričakovanja odjemalcev in drugih zainteresiranih strani. Cilji se lahko v času izvajanja projekta izboljšujejo. Projektni cilji naj bodo dokumentirani v planu vodenja projekta (glej 7.2.2) in naj opredelijo, kaj je treba doseči (določeno v izrazih za čas, strošek in kakovost proizvoda) in kaj se meri.

Pri določanju razmerja med časom ali stroški in kakovostjo proizvoda naj se ovrednotijo potencialni vplivi na proizvod projekta, upoštevajoč zahteve odjemalcev.

Povezave naj se vzpostavijo z vsemi zainteresiranimi stranmi, da bo omogočena ustrezna izmenjava informacij med celotnim projektom. Kakršna koli nasprotja med zahtevami zainteresiranih strani naj se rešijo.

Kadar pride do nasprotij med zahtevami odjemalca in drugih zainteresiranih strani, imajo ponavadi prednost odjemalčeve zahteve, razen v primeru zakonskih in regulativnih zahtev.

Reševanje nasprotij naj se uskladi z odjemalcem. Dogovori zainteresiranih strani naj se dokumentirajo. Ves čas poteka projekta naj bo pozornost posvečena spremembam zahtev zainteresiranih strani, vključno z dodatnimi zahtevami novih zainteresiranih strani, ki se naknadno priključijo projektu.

In this planning, it is necessary to focus on the quality of both processes and products to meet the project objectives.

The general guidance given in 5.2.2 to 5.2.9 should also be applied to the processes described in 6.1, 6.2, 7.2 to 7.8, and in Clause 8, in addition to the specific guidance given in those clauses.

5.2.2 Customer focus

Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations [see ISO 9000:2000, 0.2a)].

Satisfaction of the customers' and other interested parties' requirements is necessary for the success of the project. These requirements should be clearly understood to ensure that all processes focus on, and are capable of, meeting them.

The project objectives, which include the product objectives, should take into account the needs and expectations of the customer and other interested parties. The objectives may be refined during the course of the project. The project objectives should be documented in the project management plan (see 7.2.2) and should detail what is to be accomplished (expressed in terms of time, cost and product quality) and what is to be measured.

When determining the balance between time or cost and product quality, potential impacts on the project's product should be evaluated, taking into consideration customers' requirements.

Interfaces should be established with all the interested parties to facilitate the exchange of information, as appropriate, throughout the project. Any conflicts between interested party requirements should be resolved.

Normally, when conflicts arise between the requirements of the customer and other interested parties, customer requirements take precedence, except in the case of statutory or regulatory requirements.

Resolution of conflicts should be agreed to by the customer. Interested party agreements should be documented. Throughout the project, attention will need to be paid to changes in the requirements of the interested parties, including additional requirements from new interested parties that join the project after it has commenced.

5.2.3 Voditeljstvo

Vodje vzpostavijo enotnost namena in usmeritve organizacije. Ustvarijo in vzdržujejo naj notranje okolje, v katerem se lahko zaposleni popolnoma vključijo v doseganje ciljev organizacije [glej ISO 9000:2000, 0.2b)].

Projektni vodja naj se določi čim bolj zgodaj. Projektni vodja je posameznik z določeno odgovornostjo in pristojnostjo za vodenje projekta in zagotavljanje, da je sistem vodenja kakovosti v projektu vzpostavljen, izveden in vzdrževan. Pooblastila, podeljena vodji projekta, naj bodo sorazmerna z dodeljeno odgovornostjo.

Najvišje vodstvo obeh organizacij, nosilne in projektne, naj prevzame vodilno vlogo pri ustvarjanju kulture kakovosti:

- z določitvijo politike kakovosti in identificiranjem ciljev (vključno s cilji kakovosti) za projekt,
- z zagotavljanjem infrastrukture in virov, ki zagotavljajo doseganje projektnih ciljev,
- z zagotavljanjem organizacijske strukture, ki vodi k doseganju projektnih ciljev,
- s sprejemanjem odločitev, ki temeljijo na podatkih in dejstvih,
- s spodbujanjem in motiviranjem vsega projektnega osebja za izboljšanje projektnih procesov in proizvodov ter
- s planiranjem prihodnjih preventivnih ukrepov.

OPOMBA: Naziv projektnega vodje se lahko spreminja od projekta do projekta.

5.2.4 Vključenost zaposlenih

Zaposleni na vseh ravneh so jedro organizacije in njihova popolna vključenost omogoča, da se njihove sposobnosti uporabijo v korist organizacije [glej ISO 9000:2000, 0.2c)].

Osebe v projektni organizaciji naj ima dobro opredeljene odgovornosti in pristojnosti za njihovo sodelovanje v projektu. Pooblastila, podeljena udeležencem v projektu, naj bodo skladna z njihovimi odgovornostmi.

5.2.3 Leadership

Leaders establish unity of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives [see ISO 9000:2000, 0.2b)].

A project manager should be appointed as early as possible. The project manager is the individual with the defined responsibility and authority for managing the project and ensuring that the project's quality management system is established, implemented and maintained. The authority delegated to the project manager should be commensurate with the assigned responsibility.

The top management of both the originating and the project organizations should assume leadership in creating a culture for quality

- by setting the quality policy and identifying the objectives (including the quality objectives) for the project,
- by providing the infrastructure and resources to ensure achievement of project objectives,
- by providing an organizational structure conducive to meeting project objectives,
- by making decisions based on data and factual information,
- by empowering and motivating all project personnel to improve the project processes and product, and
- by planning for future preventive actions.

NOTE The title of the project manager can vary from project to project.

5.2.4 Involvement of people

People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit [see ISO 9000:2000, 0.2c)].

Personnel in the project organization should have well-defined responsibility and authority for their participation in the project. The authority delegated to the project participants should correspond to their assigned responsibility.

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Pristojno osebje naj bo pooblaščen v projektni organizaciji. Da bi se izboljšalo delovanje projektne organizacije, naj bodo osebju priskrbljena ustrezna orodja, tehnike in metode, ki jim omogočijo nadzor in obvladovanje procesov.

V primeru multinacionalnih in multikulturnih projektov, projektov mešanih družb, mednarodnih projektov itn. naj se upošteva medkulturno vodenje.

5.2.5 Procesni pristop

Želeni rezultat se doseže uspešneje, kadar se aktivnosti in z njimi povezani viri vodijo kot proces [glej ISO 9000:2000, 0.2d)].

Procesi v projektu naj se identificirajo in dokumentirajo. Nosilna organizacija naj posreduje projektni organizaciji izkušnje, pridobljene pri razvoju in uporabi lastnih procesov ali pri drugih lastnih projektih. Projektna organizacija naj upošteva te izkušnje pri vzpostavljanju procesov v projektu, vendar bo mogoče morala vzpostaviti tudi procese, ki so edinstveni za ta projekt.

To je mogoče doseči:

- z identificiranjem ustreznih procesov za projekt,
- z identificiranjem vhodov, izhodov in ciljev za procese v projektu,
- z identificiranjem lastnikov procesov in vzpostavitev njihovih pooblastil in odgovornosti,
- z načrtovanjem procesov v projektu, ki bodo pospeševali nadaljnje procese v življenjskem ciklu projekta, ter
- z opredelitvijo medsebojnih povezav in vzajemnega sodelovanja med procesi.

Uspešnost in učinkovitost procesa se lahko ocenjujeta z notranjim in zunanjim pregledom. Ocenjevanje se lahko izvede tudi s primerjavo ali vrednotenjem procesov glede na zrelostne lestvice. Zrelostne lestvice so ponavadi razporejene v zrelostne stopnje od "neformalen sistem" do "najboljši v skupini". Številni zrelostni modeli so razviti za različne uporabe (glej ISO 9004:2000, dodatek A).

OPOMBA Skupina standardov ISO 9000 daje napotke glede številnih praks pri vodenju kakovosti tako v zvezi s procesi kot proizvodi. Te prakse lahko pomagajo organizaciji pri izpolnjevanju njenih projektnih ciljev.

Competent personnel should be assigned to the project organization. In order to improve the performance of the project organization, appropriate tools, techniques and methods should be provided to the personnel to enable them to monitor and control the processes.

In the case of multi-national and multi-cultural projects, joint ventures, international projects, etc., the implications of cross-cultural management should be addressed.

5.2.5 Process approach

A desired result is achieved more efficiently when activities and related resources are managed as a process [see ISO 9000:2000, 0.2d)].

The project processes should be identified and documented. The originating organization should communicate the experience gained in developing and using its own processes, or those from its other projects, to the project organization. The project organization should take account of this experience when establishing the project's processes, but it may also need to establish processes that are unique to the project.

This may be accomplished

- by identifying the appropriate processes for the project,
- by identifying the inputs, outputs and the objectives for the project's processes,
- by identifying the process owners and establishing their authority and responsibility,
- by designing the project's processes to anticipate future processes in the life cycle of the project, and
- by defining the interrelations and interactions among the processes.

Process effectiveness and efficiency may be assessed through internal or external review. Assessments can also be made by benchmarking or evaluating the processes against a maturity scale. Maturity scales typically range in degrees of maturity from "no formal system" to "best-in-class". Numerous maturity models have been developed for different applications (see ISO 9004:2000, Annex A).

NOTE The ISO 9000 family of standards provide guidance on a number of process-related and product-related quality management practices. These can assist an organization in meeting its project objectives.