EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

DIRECTORATE E- Nuclear Safeguards
The Director

Luxembourg,
DG ENER E.1 KS/bk Ares(2011)

INVITATION TO TENDER N°. ENER/E1/15/2011
(open procedure)

Dear Sir/Madam,

1. The European Commission invites tenders for a service contract regarding the following project: development and implementation of a digital multi-camera surveillance system.

This invitation to tender follows the publication of:
- the contract notice in OJEU 2012/S 40-63847 of 28/02/2012

2. If you are interested in this contract, you must submit a tender in **triplicate**, in one of the official languages of the European Union. A copy of the offer on a CD-Rom has also to be submitted.

Tenders must be:

(a) either sent by registered mail or by private courier

The tender must be sent by registered mail or by private courier, dispatched not later than May 4th, 2012 (the postmark or the receipt issued by the courier service serving as proof of the dispatch) to the following address:

European Commission
Directorate-General for Energy
Directorate E – Nuclear Safeguards
Complexe Euroforum
For the attention of Mr. Boella/Mr. Stamatopol EUFO 3484
1, rue Henry M. Schnadt
Zone d'activités Cloche d'Or
L-2530 Luxembourg

(b) or delivered by hand

Tenders should be delivered by hand at the **Central Mail of the European Commission by not later than 4 p.m.** (Brussels time), at the following address:

European Commission
Directorate-General for Energy
Directorate E – Nuclear Safeguards
Complexe Euroforum II- main entrance
For the attention of Mr. Boella/Mr. Stamatopol EUFO 3484
1, rue Henry M. Schnadt
Zone d'activités Cloche d'Or
L-2530 Luxembourg

In this case, a receipt must be obtained as proof of submission, signed and dated by the official in the Commission's central mail department who took delivery. The department is open from 08.00 to 16.00 Monday to Friday. It is closed on Saturdays, Sundays and Commission holidays.

3. Tenders must be placed inside two sealed envelopes, one inside the other. **The inner envelope should be marked:**

Call for tenders No. ENER/E1/15/2011
not to be opened by the internal mail department
EUFO – Archives

If self-adhesive envelopes are used, they must be sealed with adhesive tape and the sender must sign across this tape.

The non-compliance with these formal conditions will entail the rejection of the bids at the opening session.

To be admissible, the confidentiality of the bids must have been ensured and the deadline for the submission of the bids met.

4. Tenders will be opened on May 10th, 2012 at 15:00 EUFO II **2392**
1, rue Henry M. Schnadt,
Zone d'activités Cloche d'Or
L-2530 Luxembourg
This opening session will be public. Each tenderer may be represented by not more than one person. At the end of the opening session, the Chairman of the opening committee will

indicate the name of the tenderers and the decision concerning the admissibility of each offer received. The prices mentioned in the bids will not be communicated.

5. The specification, listing all the documents that must be produced in order to tender, including supporting evidence of economic, financial, technical and professional capacity and the draft contract are attached.

6. All tender documents shall be perfectly legible so that there can be no doubt as to words and figures.

7. The validity period of the tender shall be at least six months as from the final date for submission of tenders mentioned under point 2 above.

8. Submission of a tender implies acceptance of all the terms and conditions set out in this invitation to tender, in the specification, in the draft contract and, where applicable, waiver of the tenderer's own general or specific terms and conditions. The terms and conditions are binding on the tenderer to whom the contract is awarded during the performance of the contract.

9. Contacts between the awarding authority and tenderers are prohibited throughout the procedure except in exceptional circumstances and under the following conditions only:

Before the closing date for submission of tenders

- At the request of the tenderer, the awarding authority may provide additional information solely for the purpose of clarifying the nature of the contract.

Any requests for additional information must be sent in writing to the following address:

ENER-E1-CFT@ec.europa.eu

Request for additional information received less than five working days before the closing date for submission of tenders will not be processed.

- The Commission may, on its own initiative, inform interested parties of any error, inaccuracy, omission or any other material shortcoming in the text of the tender documents.

All additional information will be made available via Energy website (DG ENER). Tenderers are invited to consult this site regularly until the deadline for submission.

After the opening of tenders

If a tender requires clarification, or if there is a need to correct material errors which have occurred in the drafting of the tender, the Commission may take the initiative and contact the tenderer(s). Such contact shall not lead to the conditions of the tender being altered in any way.

10. This invitation to tender is in no way binding on the Commission. A commitment will come about only when a contract with the successful tenderer has been signed.

Until a contract is signed, the awarding authority may decide not to award a contract or to cancel the tendering procedure, without the candidates or tenderers being entitled to claim any compensation. Where appropriate, the decision will be substantiated and brought to the attention of the tenderers.

11. Tenderers will be informed of whether their tenders have been accepted or rejected.

12. Once the Commission has opened the tender, the document shall become the property of the Commission and it shall be treated confidentially.

13. If your offer includes subcontracting, it is recommended that contractual arrangements with subcontractors include mediation as a method of dispute resolution.

14. If processing your reply to the invitation to tender involves the recording and processing of personal data (such as your name, address and CV), such data will be processed pursuant to Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data. Unless indicated otherwise, your replies to the questions and any personal data requested are required to evaluate your tender in accordance with the specifications of the invitation to tender and will be processed solely for that purpose by the Director of the Shared Resource Directorate MOVE/ENER, acting as data controller. Details concerning the processing of your personal data are available on the privacy statement at:
http://ec.europa.eu/dataprotectionofficer/privacystatement_publicprocurement_en.pdf

15. Your personal data (name, given name if natural person, address, legal form, registration number and name and given name of the persons with powers of representation, decision-making or control, if legal person) may be registered in the Early Warning System (EWS) only or both in the EWS and Central Exclusion Database (CED) by the Accounting Officer of the Commission, should you be in one of the situations mentioned in:

- the Commission Decision 2008/969 of 16.12.2008 on the Early Warning System (for more information see the Privacy Statement on http://ec.europa.eu/budget/explained/management/protecting/protect_en.cfm), or

- the Commission Regulation 2008/1302 of 17.12.2008 on the Central Exclusion Database (for more information see the Privacy Statement on http://ec.europa.eu/budget/library/explained/management/protecting/privacy_statement_ced_en.pdf).

Yours faithfully,

P. Szymanski

P. Szymanski
Director

TENDER SPECIFICATIONS

ATTACHED TO THE INVITATION TO TENDER

Invitation to tender N° ENER/E1/15/2011

Concerning the development and purchase of a

Digital Multi-camera Surveillance System

Table of Contents

I. SPECIFICATIONS

I.1. Introduction

The Directorate for Nuclear Safeguards of DG ENER (further named as EC) is launching an invitation to tender with a view to concluding a service contract meant for development and subsequently purchase of a new generation of digital multiple camera surveillance systems. The system should be modular in design and capable of handling any number of cameras between 2 and 64.

This tender will be focused on the purchase of camera systems designed for working unattended on long periods in nuclear installations. It is very likely that commercial available cameras will not fulfil all of the requirements (like long stability of work in irradiated environment and during power loss) so that upgrades and development might be necessary. The detailed technical specifications for this system are outlined later in this document.

If the result is not to be fully created for the purpose of the contract it is to be clearly pointed out in the tender. There should be information provided about the scope of pre-existing materials, their source and when and how rights to them have been acquired.

Attention must be drawn to the Intellectual Property Rights provisions of the draft contract i.e. Articles I.9 and II.10 and Annex A1.

I.2. Scope of the tender

The project shall be organised in three phases:

- A prototyping phase (including development)
- A pre-production phase
- An industrial production phase.

This call for tender covers only the prototyping phase and pre-production phase.

During the ***prototyping phase*** the future system must be developed either by using commercial available equipment, which will be improved or from the scratch. After this phase three systems will be delivered. These systems must be capable of handling at least eight cameras. It has to be demonstrated that the offered features will be fully achieved by the pre-production modules.

The purpose of the prototyping phase is to:

- Evaluate the existing hardware and identify shortcomings,
- Evaluate the software, identify possible problems or potential improvements (e.g. authentication of images, human-machine interface, etc) and develop the software needed to fulfil the technical specifications.

The contractor agrees that the Commission reserves the right to cancel the contract execution related to the pre-production phase after the period of 8 months previewed for testing the prototypes. This cancelation must be officially notified to the contractor, in a written form, in maximum 30 days after the expiration of the 8 months previewed for testing the prototypes.

If the Commission decides to cancel the contract after the prototyping phase, the contractor shall accept any modification of the result by the new contractor.

After the ***pre-production*** phase, 10 additional systems will be delivered. These systems will be capable of handling up to 64 digital cameras. The upgrade of the three prototypes to the same level as the pre-production systems will also be performed during this phase.

The third phase – ***industrial production*** – is beyond the scope of the current call for tender. This phase is only mentioned to give an indication of the size of the project. EC expects to purchase in the next 10 years about 20 systems of small to medium scale (8...16 cameras) and approximately 10 large scale systems (up to 64 cameras).

If the Commission opts to have the pre-production phase of the contract executed, the contractor agrees to commit to the Commission with a quote valid up to 1st of January 2019 for the unit prices of a system similar to the ones delivered at the end of the pre-production phase. This quote for the unit price of a system may not exceed 90% of the price quoted per system in the pre-production phase.

In the case that a tender for the industrial production phase is launched, the satisfactory implementation of the pre-production phase does not constitute a commitment on the part of the Commission to award the contract to the same contractor.

I.3 Delivery time schedule

The call for tender and the contract will only cover the prototype and pre-production phase.

The total duration of the tasks is foreseen for 36 months (including all modifications until final technical acceptance), split as follows:

-12 months for prototype development;

-8 months for testing the prototypes delivered after the prototype development phase;

-1 (one) month to inform the contractor on the Commission's decision to continue the contract in regards to the pre-production phase or to stop the project;

-15 months for the pre-production phase

The delivery shall be done in two phases: after the prototyping phase and the pre-production phase.

At the end of the ***prototyping phase***, three systems, capable of handling at least eight cameras shall be delivered. These systems shall be delivered with minimal documentation, in order to allow EC staff to carry out a number of laboratory tests and field trials. These tests and field trials will take about 8 months. The purpose of the prototyping phase is to allow EC to identify desirable modifications to be incorporated in the pre-production systems.

The ***pre-production phase*** foresees the delivery of ten additional systems capable of handling 64 digital cameras and the upgrade of the three prototypes. These systems will be delivered with full documentation and the required certificates, as specified later in this document.

I.4. General specifications

I.4.1. Environmental test

The pre-production systems will have to undergo a number of environmental tests in an authorised and independent laboratory. These tests consist of thermal, vibration, shock, electromagnetic interference and electrostatic discharge tests, as specified in the document "Qualification Test Criteria of Common Safeguards Equipment V 2.04" that can be found in annex. The supplier will have to provide EC with the laboratory certificate that proves that the system has successfully passed the specified tests (the irradiation tests are optional) and is in line with the electrical safety requirements. The cameras units must pass the "High class" requirements, the other parts have to pass the "standard class" level. EC may also irradiate some prototypes to test their performance in irradiated environments. Before further upgrade or use the irradiation facilities will assure that no activated or contaminated components will be released.

I.4.2. Reliability test

The whole surveillance system will have to run unattended for several months up to several years.

The tenderer must therefore demonstrate that important components of their systems which are essential for image taking and storage (i.e. camera unit) will have a MTBF (Mean Time Between Failures) of more than 100 months. For the other parts a MTBF of 50 months should be achieved.

The tenderer will have to perform a reliability test with a pre-production system, showing that the system will work unattended without problems for a consecutive period of at least 6 months. This reliability test will take place after delivery of the pre-production systems to EC, but any malfunctioning discovered during this reliability test will have to be repaired by the supplier without any additional costs for EC. The 2 year warranty period will only start as of the moment that the above-mentioned reliability criterion has been met.

For reliability tests under real conditions, EC may select a site somewhere within the European Union. The supplier will have to provide HQ support during the reliability test in order to set up, repair, and modify the system as required to perform the test.

I.4.3. Quality assurance

The tenderers are requested to provide a *detailed* description of their quality assurance program. EC will have the right to make quality assurance audits during the development phase and during the production phase, based upon the information provided by the tenderer on his quality assurance program.

I.4.4. Warranty

The warranty period for the prototype systems will be at least 2 years after the technical acceptance of the prototyping delivery.

If the Commission opts to have the pre-production phase of the contract executed, the warranty period for the pre-production systems and the upgraded prototypes will be at least 2 years, to count from the moment the supplier successfully demonstrated the system's reliability as specified in the chapter "Reliability test".

The warranty will cover all deliverables (including software, software updates, hardware and documentation).

I.4.5. Modification during the warranty and evaluation period

It is likely that, after the delivery of the prototypes or pre-production units, EC may require modifications to be made to the delivered systems. Tenderers are therefore requested to indicate a daily rate for carrying out such modifications. A number of 30 days must be quoted in the baseline offers. The offers should also describe a quality control system for EC and the supplier to keep track of requests, cost estimates for requests, acceptance of cost estimates, delivery, testing and acceptance related to modifications. Spare parts prices must be guaranteed for at least 5 years.

I.4.6. Maintenance needs for long term use

The tenderers must describe the necessary maintenance actions for the next 8 years (i.e. replacement of hard disks, batteries, PCs or other components). It has to be announced how long certain components will be available on the market and what the alternatives will be if the last buy out call will come before 2019. The maintenance arrangement should also cover the availability of correction of software bugs, migration to future operating systems and modifications that could be requested after delivery of the pre-production phase.

I.4.7. Documentation

The documentation will comprise the following:

- A *user's manual*, aimed at normal end-users and describing how to stop and start the system, how the system should be used under normal operating conditions, the most important end-user configuration, a selected list of first line trouble-shooting checks, etc.
- *Technical manuals* aimed at advanced users and technical personnel and explaining how to install the system, how to make the complete detailed configuration, detailed trouble shooting, preventive maintenance instructions, list of required spare parts, etc.

The documentation must be written in the English language.

I.5. Technical specifications

I.5.1. General design

The systems should have two main components:

- The Camera Unit(s) (CU),
- The Data Server (image processing, storage and data review).

The data communication between the CUs and Data Server should be done over a lot of existing cables - such as RG 59 coax cable, U/STP (unshielded/shielded twisted pairs - i.e. Cat.5 Ethernet cable) or optical fibre (typically 62.5/125 multimode fibres). This is essential because installing of new cables in a radioactive environment is very difficult. The distances to be covered are from few meters up to several hundred meters. In most cases the cables are laid down in star topology, but also a serial connection should be possible. Wireless communication is not allowed or not recommended in most of the nuclear installations. For power transmission from the server to the CU 2 low voltage cables with a cross section of at least 0.75 mm^2 are available.

The solution proposed should have a built-in redundancy for data processing and storage, so that failure of a single component will not result in a loss of surveillance of important areas which are usually surveyed by 2 or more camera units. It is desirable that the main components (server, analogue/digital encoder, etc.) are fitted with an automatic internal 24 h reset function or at an adjustable time interval, a watchdog function or any other system that will prevent the "freezing" of the system.

The most likely failure is a power loss. Therefore the system should be powered from 2 independent power sources, one source being a built-in UPS (Uninterruptable Power Supply) able to power the whole system for minimum 10 min and to supply power for the 64 CU's for at least 24 h. The response time to fix failures will be for power loss 24 h, for all other repairs about 5 days.

The CU and the Data Server should have dedicated power down routines which should allow the components to run as long as possible and send alarm and state of health (SoH) messages to other connected systems. Each CU may have, as a possibility, its own emergency backup battery for further image recording (see I.5.2.7.). After possible shut down of CU or Data Server they must be able to restart automatically after return of main power. Saved data during power failure should be automatically retrieved.

The system should be as flexible as possible in its configuration, should use as much as possible standard devices and commercial off the shelf IT equipment. It must be modular and hot swappable and should allow easy maintenance, trouble shooting and setup even by inexperienced users (implemented help guidance). The environmental requirements are described in chapter I.4.1. Furthermore it has to be taken into account that the Data Server cabinet must be qualified against earthquakes up to level 6 on the Richter scale, so all heavy components should be mounted near to the fixing attachments. For the same reason the weight of the camera unit should not exceed 10 kg.

All displays, menus and documentation shall be in the English language.

I.5.2. Camera Units (CU) specifications

Camera unit (CU) it should be understood either as a genuine digital (IP) camera or as an analogue camera with necessary hard- and software for analogue to digital conversion. The output of the CU must be digital and authenticated (see I.5.2.3) using standard protocols and practice. The image compression and image buffering may be done either in the CU or on the Data Server (see also below). The CU should also have an input for standard analogue

composite CCTV colour or B/W signal to allow branching of video signals from other sources. The CU has to employ a progressive scan optical sensor. The sensitivity level should be indicated at 50 IRE with fully open diaphragm and the signal to noise ratio should be indicated at 50 IRE with AGC off (automatic gain control). A multi frame video processing might be possible (WDR or similar).

I.5.2.1 CU housing

The CU should be housed in a sealable and tamper indicating housing which can be mounted on standard camera brackets. The overall dimension must be smaller than 180 x 290 x 140 mm^3 (WxLxH). The tenderer shall deliver the housing but it is also possible for the prototypes to make use of existing EC housings, given that all mechanical arrangements are delivered to mount the pieces in the EC housing.

I.5.2.2 CU image compression and resolution

The CU must provide colour images with an adjustable angle of view from 20 to 90 degrees. If this range cannot be covered by an electric zoom lens, a C-mount adapter should be present to enable the use of different lenses.

The images should be compressed using a widely used standard compression algorithm such as JPEG, MPEG2, MPEG4 or H.264. The availability of several compression techniques shall be considered as an asset in the evaluation of the offers. Any deviation from the accepted standards or any use of proprietary variations from the standards should be avoided. The system should propose several levels of compression, so that the image quality is varying from a 4CIF (704x576) as a minimum up to a maximum of e.g. full HD 1080p resolution with a sub sampling scheme of 4:2:2.

I.5.2.3 CU data authentication

The CU must use a signature or authentication method (e.g. AES with asymmetric key-sets, PKI or port based authentication) aimed at establishing the genuineness of the recorded data. A valid authentication method establishes beyond any reasonable doubt the authenticity of

- The *source* of the image (camera),
- The *date and time* of image taking,
- The *data or the contents of the image* itself,
- And *any additional data* stored and transmitted along with the image.

The authenticity of each individual image as stored by the system for later use must be guaranteed for the whole lifetime of the image. The tender must contain a detailed description of the selected authentication method and of the demonstration of its relative invulnerability. Authentication methods will have to undergo a vulnerability test performed by an independent organisation selected by EC. Any information concerning vulnerability tests on the proposed authentication method, already performed by third parties should be added to the tender. It should be understood that *encryption* of the data is not necessary to achieve *authentication.* However, if tenderers are of the opinion that an encryption method can provide the same result as authentication, without any negative effect on system performance or cost, they should explain the underlying principles in their bid.

I.5.2.4 CU network capabilities

The CU should support multicast to be able to provide all images to at least 2 different (redundant) servers. If the camera will provide a high rate of images and the system is designed to process the images in the servers only, the CU should support frame rate reduction to decrease the band width requirements.

As an advantage the CU may support SNMP to get state of health data from the camera unit to allow remote diagnostics of the surveillance system.

I.5.2.5 CU buffering and encryption

Some collected images (up to 100 000) may be buffered on the CU to compensate the loss of connection to the Data Server for at least several hours, preferably 5 days. If a removable commercial media (i.e. SD cards) is used for this buffer, the stored images should be encrypted. If the buffer is not removable then the CU should have an interface which allows a quick data transfer from the full buffer to an ordinary Laptop.

I.5.2.6 CU setup and authorisation

The CU may have a web interface, which allows the setup and readout of images and SoH (State of Health) data via a network by a state of the art web browser. The network communication should be secured using e.g. TLS (Transport Layer Security) technology. Access to the camera setup and web browser configuration should require an authorisation key or password.

I.5.2.7 Power requirements

Each CU should be powered centrally by low level voltage (< 60 VDC) provided by a redundant power supply located in the Data Server cabinet. An option to power the CU by 230 V with an optional power supply unit mountable in the housing will be seen as an advantage.

The CU may have its own emergency backup battery and smart power-down routines to allow the image recording to continue as long as possible during power loss. Therefore the CU may have an adjustable power down PTI (Picture Taking Interval) from 1 to 10 min in steps of 1 min, allowing in case of emergency at least 4500 images to be taken and processed without external power.

I.5.3. Image triggering specifications

The following specification must be fulfilled by the system itself. It is the choice of the tenderer if parts or all of these tasks will be assigned to the CU or the Data Servers.

I.5.3.1 Time lapse recording

The systems must have capability of recording time lapse images, independently from motion detection triggering or any other external triggering. The Picture Taking Interval (PTI) must

be programmable independently for each channel in the range of 1 second to at least 30 minutes (in reasonable steps like 1, 2, 3, 5, 7, 10, 15, 20, 25, 30 s, 1, 2....min).

If this minimum PTI cannot be guaranteed for all channels simultaneously, tenderers should explain what the effect of using multiple channels will be on the minimum PTI. The specified PTI should be guaranteed in such a way that it will not be affected by other processing overheads such as motion detection, image authentication, compression, etc.

I.5.3.2 Motion detection triggering

The following specification applies independently for each individual channel.

Motion Triggering should be done by comparing 2 consecutive images in different regions. A minimum of 10 Regions Of Interest (ROI) should be available. Preferably, there should be no upper limit for the amount of ROI's that can be defined. The system should provide a comprehensive set of tools for the definition and the editing of ROI's. These could include tools to draw ROI's of rectangular or irregular shape or to draw ROI's that can take the shape of a uniform looking object in the field of view.

It must be possible to resize and move ROI's and to specify the sensitivity of each of the ROI's. It must also be possible to save the definition of a set of ROI's or to load ROI definitions that were saved before. ROI tools could also include a feature to monitor the detection of motion events in each of the ROI's with the aim to improve the tuning of the shape or the sensitivity of the ROI's.

Motion detection analyses should be able to be done by the system in less than 1 second intervals. This motion detection analysis interval should be a parameter of the system accessible to the user in a range of up to 5 minutes. A correction of global lighting changes is desirable to avoid unwanted false motion detection triggering.

During the alarm, images shall be stored with a separate adjustable time interval (motion-alarm interval). The motion-alarm interval shall be a parameter of the system accessible to the user, ranging from 1 second up to 5 minutes.

A special burst mode should be available to record (for all channels simultaneously) one image every 0,2 seconds up to a time span of 10 seconds. The dead time after this burst needed for image processing (compression, data authentication, buffering) should not be longer than the time span itself and should not affect the Time Lapse recording. This burst mode should be able to be triggered also by external and logical triggering.

Pre- and post-alarm images should be able to be stored during a pre-set duration before and after the triggering alarm. These pre-alarm and post-alarms images should be stored with a user defined frequency. The maximum frequency in case of a pre-alarm should be 1 image per second. In the case of post-alarm images it should be stored according the burst mode.

The motion detection triggering should be allowed to be locked-out for a certain time (lockout time) after the end of the motion-alarm interval. During the lockout time no further motion alarms will be generated. The lockout time should be a parameter accessible to the user.

The motion detection algorithm should be available both as a front-end tool, i.e. before data storage, and as a back-end tool, i.e. during the review process of time-lapse images (see chapter 5.4.2.4.).

I.5.3.3 External triggering and logical triggering

External triggering must be available through a series of inputs. The technical specifications of those inputs should correspond to standards of PC's I/O cards:

- Preferably optical-isolated inputs,
- Input voltage 5-24V DC, current 60mA max, impedance 560 Ohm/W,
- Threshold voltage 1,5V DC, adjustable,
- Withstanding voltage 1500V DC, following VDE, BS, NF norms.

The external triggering will have the same effect on the system as motion detection alarms as explained in the previous paragraph. A set of independent parameters (intervals, lockout, pre- and post-alarm duration and frequencies) must be existing and accessible to the user for each of the external triggers. It should be possible (at least on the Data Server level) to combine several external triggers and the motion detection triggers in AND, OR and NOT logical gates, in order to trigger the recording (internal triggers). A logical editor should be foreseen to this effect.

I.5.4. Data Server

I.5.4.1 Data Server design

All components necessary for system operations like the Data Server, storage devices, review screen, power supplies, routers, etc. should be rack mountable in a standardised cabinet with a maximum size of 19" and 38 HU (600 x 800 x 2000 mm^3).

The Data Server must offer high hardware reliability and durability. The hard disks and power supplies of the Data Server should be redundant and hot swappable. The server should be able to work in redundant mode where, in case of server failure, another server will take over the tasks without loss of data.

Furthermore the heat production should be optimised to avoid active cooling of the cabinet up to ambient temperatures of 310 Kelvin.

Sometimes the Data Server will be used in office environments. For this reason the noise should be minimized.

The maximum power consumption including cooling and battery charging should be lower than 3 kW allowing connection to 230 VAC main grids with a 16 Amp slow burn fuse.

The cabinet must fulfil the requirements mentioned under I.4.1 for standard class devices.

I.5.4.2 Redundant Data Server

The redundant Data Servers should be able to

- collect images from the CUs and process the data e.g. image triggering (if it is not done in the CU),
- generate State of Health (SoH) data or alarm files,
- store the information on mass storage devices and exchangeable medias,
- retrieve the images, alarm files and SoH information for an overview and the review,
- have network capabilities and
- have digital in and outputs to adapt the behaviour of the system due to different external triggers.

I.5.4.2.1 Image collection and data processing

EC request the use of a Windows based operating system using as far as possible commercially available software add-ons.

The servers must be capable of connecting up to 64 channels and (if image triggering will be performed in the data server) of being able to handle at least 500 images per second while performing image triggering (see I.5.3.), logical combination of different triggers, extracting of SoH data (see I.5.4.3.) from the image stream and performing of advanced features (I.5.5.) to trigger additional image recording by certain cameras.

I.5.4.2.2 Data storage

The servers should be able to store at least 2 TB on a commercial, server grade RAID 5 system (DAS, NAS or SAN as an option) with a redundant power supply. For data back-up and exchange, a state of the art exchangeable media with storage capacity of at least 500 GB should be available.

I.5.4.2.3 Data retrieval

The servers will be equipped with a suitable system enabling a fast and secure recovery of the data stored on the hard disks. The last downloaded images of up to 9 selectable connected cameras should be displayed for adjusting purposes and to provide a general overview of the images.

I.5.4.2.4 Data review

The servers shall be equipped with the following minimum review functionality:

The station should be able to perform while simultaneously recording, processing and storing additional images:

- the authentication verification processing, the decryption and the motion detection processing on all stored images (also as back-end motion detection),
- display images at a minimum speed of 10 images/second, having fast/slow/stepwise forward and fast/slow/stepwise backward review possibilities (also jumping to every 10^{th} or 50^{th} images),

- access to the data by time and/or triggers (including motion detection),
- multiple camera review

The system should be able to review simultaneously a minimum of 4 cameras, in a quadrant mode or by using multiple instances of the review software. It will be possible to select any camera using a selection criteria (filter) referenced by the number, name, origin (time-lapse, motion detected, externally triggered) of the camera and time/date. This information should be added and updated into the images. The review software shall provide the normal tools to review images: stop, start, fast forward, rewind, still buttons; a search and find tool to retrieve any scenes from any camera, either time-lapse, motion detected or externally triggered images.

- Report functionality

The system should be able to produce a report (in a XML document, or Excel sheet) including the following items / events (non limitative):

- Number of images recorded per camera in the time-lapse mode for a specific surveillance period,
- Number of images calculated by dividing the specific surveillance period with the time-lapse interval, per camera,
- Difference between these 2 numbers (missing scenes),
- Number of images recorded per camera in the motion detection mode for a specific surveillance period, including statistics in a chart design,
- Time and date of the beginning and the end of a surveillance period,
- Any authentication failure,
- Space left and space used on the recording media,
- Entry and edit of general and image specific user-defined comments,
- Possibility to include relevant scenes,
- List of external triggering events for the specific surveillance period.

Software should be available to allow data review from a standard PC or notebook.

I.5.4.2.5 Remote data transmission capabilities

The servers shall be able to transmit, automatically or in a solicited way, all data via a network for remote storage. The network could be a LAN or a WAN using TCP/IP technology via DSL lines or via local networks based on the same underlying technologies (e.g. Ethernet). The servers must be also capable of being completely remotely accessed for configuration, data review and diagnostics.

I.5.4.2.6 Digital in and outputs

Up to 16 digital in and output shall be available to make the system able to react on different external or logical triggers. The digital output is used as an externally available signal replicating internal alarms generated by SoH parameter evaluations or motion detection analysis. These in and outputs should be compatible with the technical specifications of standard PC's I/O cards:

- Preferably optic-isolated inputs and relay actuator outputs,

- NO / NC contacts,
- Contact rating: 230V AC/DC, 1A (low current contacts),
- Breakdown voltage: 1000V AC/DC minimum,
- Operating and release time: 10 millisecond maximum, including bounce,
- Insulation resistance: > 100 Mega-Ohms,
- Life expectancy: > 10 million operations.

I.5.4.3 State-of-Health parameters and summary data

The Data Server should be able to collect state-of-health (SoH) parameters and to provide summary data. This information will be used to inform EC about the operating conditions of the equipment and elements for decision making. It must be possible to send both SoH data and summary data over a LAN or a WAN either via TCP/IP protocol over Internet using DSL lines or via fixed networks based on Ethernet.

An interface should be available giving an overview of the server's state of health and an alarm log (e.g. voltages and other operational parameters). The server shall support sending of SoH messages via SNMP. It should also allow an authorised restart of the system.

The system should be able to detect alarm situations based on SoH or summary data going outside a range of "acceptable" values. Transmission of SoH and summary data must be possible on a daily basis, at scheduled intervals, if there are no alarms. Alarms however, should be transmitted as soon as possible after their detection.

Minimum set of SoH parameters to be acquired is:

Power supply	• 230V • low voltage • operation on UPS or mains • camera power consumption (for each camera connected)
Quality of the images	• number totally black images per camera • number of totally white images per camera • number of images with insufficient image contrast per camera
Image recorded on medium	• remaining disk space for storage • number of data storage failures (image files) • number of incomplete image files • number of images recorded
Authentication	• number of authentication alarms
Front end motion detection	• motion detection start for each camera • number of motion detection events for each camera
Log of events	• As defined by the user by means of script files + an alarm log

I.5.4.4 Software environment and libraries

It will be of primary importance for EC to understand how the software environment of the multi-camera surveillance system is suited for future modifications or additions. In particular it is the aim of EC to strive towards re-usable and pluggable software components. The software for the camera unit may be proprietary software, but the recording systems in particular, should benefit from a more standardised approach for the exchange of data between components. Therefore a Windows based operating system must be used.

In order for EC to evaluate the modularity and openness of the proposed software environment, tenderers are invited to clearly describe the methodology that they will use for providing these characteristics.

Besides the provision of a standard software environment, a number of basic functionalities provided with the multi-camera surveillance system should be built in such a way that they are easily re-usable or expandable. The deliverables must therefore include libraries, e.g. DLL or ActiveX, compatible with Microsoft Windows XP and higher, to access the totality of the recorded data from another system. These libraries should be usable with state of art programming tools and would be used by EC to access the data from other software applications such as the review station or any other integrated safeguards application. The libraries should include function calls to compress and decompress the images, access and check the authentication data, and access all other data stored by the recording and review activities, using the same algorithms as within the cameras and the recording stations. This list must not be considered as an exhaustive list and tenderers may give access to more of the underlying functionality. Proper documentation, in the English language, explaining how to use and link the DLLs must be delivered.

Tenderers should as much as possible use existing industry or de-facto standards for the format in which they treat the data. The same is true for the storage media and the data transfer technology that will be chosen. If data are stored on removable media in a recording format not directly compatible with Microsoft XP or higher, or from a workstation operating thereon, the tenderers should include in their offer a system (hardware and/or software) whereby the data could be either transferred or directly accessed from a Microsoft Windows application.

I.6. Deliverables

I.6.1. Prototypes

Three prototype systems shall be delivered and each shall consist of:

- a redundant Data Server able to handle up to 8 cameras as stand alone systems (but rack mountable for 19" cabinets, not necessarily ready to fit in the housings and weights, but able to fulfil most of the other minimal requirements, especially the time critical),
- together with 5 camera units for each Data Server (able to fulfil most of the minimal requirements, especially the time critical),
- The hardware equipment necessary for the powering and data acquisition of 8 camera units,

- Storage and exchange media (identical as foreseen in pre-production units),
- All software components including all network and remote transmission possibilities.

EC will carry out the evaluation of the 3 prototypes during 8 months, following the delivery. During this evaluation period the tenderer will have to foresee 4 review meetings in Luxembourg. During the evaluation and warranty period it will be possible, that modifications may be requested (see I.4.5.)

I.6.2. Pre-production systems

The pre-production systems shall be delivered 36 months after the signature of the contract. The pre-production systems will consist of 10 systems following the detailed specifications defined after the prototype tests.

Each of these 10 systems will consist of:

- a redundant Data Server in a cabinet (fully equipped for connection, data handling and powering of up to 64 cameras units)
- 10 camera units per system
- Upgrade of the 3 prototypes to the pre-production standard.

I.7 Estimate of the amount of work involved

The amount of work depends from the camera units available on the market. It is obvious that a development from scratch needs more effort than an upgrade of existing reliable camera hardware to the above mentioned features. Smart ideas are necessary to achieve the high reliability for long unattended operation in irradiated environment, power backup/power loss and authentication/encryption features because most of the commercial available cameras are not designed under these aspects.

The prototype phase is expected to require an amount of 500 man-days and the pre-production phase may require an amount of 400 man-days.

I.8. Reports and documents to produce - Timetable to observe

Execution of the tasks begins after the date on which the Contract enters into force.

In principle, the deadlines set out below cannot be extended. The Contractor is deemed solely responsible for delays occasioned by subcontractors or other third parties (except for rare cases of *force majeure*). Adequate resources and appropriate organisation of the work including management of potential delays should be put in place in order to observe the timetable below.

I.8.1. Interim reports

The first **interim technical report** showing progress of the work shall be submitted to the Commission before the beginning of the 9-th month from the date of the entering into force of the present contract.

The Commission shall have forty-five days from receipt to approve or reject the report. Within 20 days of receiving the Commission's observations, the Contractor will submit additional information or another report.

The second **interim technical report** showing progress of the work shall be submitted to the Commission before the beginning of the 17-th month from the date of the entering into force of the present contract.

The Commission shall have forty-five days from receipt to approve or reject the report. Within 20 days of receiving the Commission's observations, the Contractor will submit additional information or another report.

I.8.2. Final report

The contractor will submit a draft final technical report to the Commission at the latest three months before the deadline of the contract.

The Commission shall have sixty days from receipt to approve or reject the draft final report, and the Contractor shall have 20 days in which to submit additional information or a new final report.

I.8.3. Report format and publication

Two copies of the reports shall be supplied in paper form and one copy in electronic form, either in MS Word or in HTML format.

The Commission may publish the results of the study. For this purpose, the tenderer must ensure that the study is not subject to any restrictions deriving from intellectual property rights of third parties. Should he intend to use data in the study, which cannot be published, this must be explicitly mentioned in the offer.

II. TERMS OF CONTRACT

In drawing up his offer, the tenderer should bear in mind the provisions of the draft contract attached to this invitation to tender (Annex 7). Any limitation, amendment or denial of the terms of contract will lead to automatic exclusion from the procurement procedure.
The Commission may, before the contract is signed, either abandon the procurement procedure or cancel the award procedure without the tenderers being entitled to claim any compensation.

II.1. Terms of payment

Payments shall be made in accordance with the provisions specified in Annex 7, the draft service contract.

II.2. Financial guarantees

Guarantee on pre-financing

The guarantee on pre-financing is not applicable as no pre-financing will be paid.

II.3. Subcontracting

Subcontracting is permitted. If the tenderer intends to subcontract part of the service, he shall indicate in his offer which part will be subcontracted and to what extent (% of the total contract value), specifying the names, addresses and legal status of the subcontractors. Legal persons must produce a document containing a list of the professional qualifications of the subcontractor The overall responsibility for the work shall remain with the contractor.

Tenderers must ensure that Article II.17 of the draft contract (Annex 7) can be applied to subcontractors. Once the contract has been signed, Article II.13 of the above-mentioned contract shall govern the subcontracting.

II.4. Joint tenders

In case of a joint tender submitted by a group of tenderers, these latter will be regarded as partners. If awarded the contract, they will have an equal standing towards the contracting authority in the execution of the contract.

The tenderers should indicate in their offer whether the partnership takes the form of:

a) a new or existing legal entity which will sign the contract with the Commission in case of award

or

b) a group of partners not constituting a new legal entity, who via a power of attorney (Annex 6), signed by an authorised representative of each partner (except the lead partner), designate one of the partners as lead partner, and mandate him as lead contractor to sign the contract with the Commission in case of award.

If the contractor is a grouping or consortium of two or more persons, all such persons shall be jointly and severally liable to the Commission for the fulfilment of the terms and conditions of the contract. Such persons shall designate one of them to act as leader with full authority to bind the grouping or the consortium and each of its members. The composition and

constitution of the grouping or consortium, and the allocation of the scope of tasks amongst the members, shall not be altered without the prior written consent of the Commission which can be withheld at discretion.

III. FORM AND CONTENT OF THE TENDER

III.1. General

- Tenders must be written in **one of the official languages** of the European Union and submitted in **triplicate** (one clearly marked "original" and two copies) as well as a copy of the offer on a CD-Rom.
- Tenders must be clear and concise, with continuous page numbering, and assembled in a coherent fashion (e.g. bound or stapled, etc...)Since tenderers will be judged on the content of their written bids, they must make it clear that they are able to meet the requirements of the specifications.

- Tenderers must state their commitment to use economic models used by the Commission where feasible and appropriate.

- The original signature of the single tenderer' or lead partner's autorised representative's) (preferably in blue ink) on the administrative identification form (Annex 1) shall be considered as the signature of the tender, binding the single tenderer or the group of partners to the terms included in the tender.

III.2. Structure of the tender

All tenders must include three sections i.e. an administrative, a technical and a financial proposal.

III.2.1. Section One: Administrative proposal

This section must provide the following information, set out in the standard identification forms attached to these tender specifications (Annexes 2, 3,4 and 5 as well other evidence required):

1. Tenderers' identification (Annex 2)

   - All tenderers must provide proof of **registration**, as prescribed in their country of establishment, on one of the **professional or trade registers** or provide a declaration or certificate.
   - If the tenderer is a natural person, he/she must provide a copy of the identity card/passport or driving licence and proof that he/she is covered by a social security scheme as a self-employed person.

   Each tenderer (including subcontractor(s) or any member of a consortium or grouping) must complete and sign the identification forms in Annex 1 and also provide above-mentioned documents. However, the subcontractor(s) shall not be required to fill in or provide those documents when the services represent less than 20% of the contract.

2. Financial identification (Annex 3)

The **bank identification form** must be filled in and signed by an authorised representative of the tenderer and his/her banker. A standard form is attached in Annex 3 and a specific form for each Member State is available at the following Internet address:
http://ec.europa.eu/budget/contracts_grants/info_contracts/financial_id/financial_id_en.cfm

In the case of a grouping, this form must only be provided by the person heading the project.

If the corresponding bank account of economic operators is already registered in the Commission's files they are not obliged to provide a new form on the condition that they confirm that no change in the information already provided as occurred. In case of doubt, we recommend submitting a new form.

3. Legal entities (Annex 4)

   The legal entity form in Annex 4must be filled in and should be accompanied by a number of supporting documents, available on the Web site:

   http://ec.europa.eu/budget/contracts_grants/info_contracts/legal_entities/legal_entities_en.cfm

   In the case of a grouping, this form must be provided by all partners.
   Economic operators already registered as a legal entity in the Commission's files (i.e. they are or have been contractors of the Commission) are not obliged to provide a new form on the condition that they confirm that no change in the information already provided as occurred, In case of doubt, we recommend submitting a new form.

4. Declaration of honour with respect to the Exclusion criteria and absence of conflict of interest (Annex 5)

   An original should be filled and signed by (an) authorised representative(s) of all partners. Only sub-contractors with a part of the contract above 20% should sign the form.

5. Power of attorney (Annex 6) – in case of grouping only

   An original should be filled and signed by (an) authorised representative(s) of each partner.

All the supporting documentation for the purpose of checking the selection criteria (IV.2) should also be submitted under this section

The Commission reserves the right, however, to request clarification or additional evidence in relation to the bid submitted for evaluation or verification purposes within a time-limit stipulated in its request.

III.2.2. Section Two: Technical proposal

This section is of great importance in the assessment of the bids, the award of the contract and the future execution of any resulting contract.

The award criteria as set out in chapter IV.3 define those parts of the technical proposal to which the tenderers should pay particular attention. The technical proposal should address all matters laid down in the specifications and should include models, examples and technical solutions to address problems raised in the specifications.

The level of detail of the tender will be important for the evaluation of the tender.

The technical proposal must provide all the information needed for the purpose of awarding the contract.

III.2.3. Section Three: Financial proposal

All tenders must contain a financial proposal and should include separately:

- A lump sum price of the prototype phase (including all the development works until the final technical acceptance of the Commission of the three prototypes).
- A lump sum price for 10 pre-production systems (fully equipped for the connection of up to 64 cameras, including the upgrade of the 3 prototypes to the pre-production standard).
- The daily rate for modification.
- A list of spare parts and with a fixed prices per part for the contract and warranty duration.

If the Commission opts to have the pre-production phase of the contract executed, the contractor agrees to commit to the Commission with a quote valid up to 1st of January 2019 for the unit price of a system similar to the ones delivered at the end of the pre-production phase. This quote for the price of a system may not exceed 90% of the price quoted per system in the pre-production.

The tenderer's attention is drawn to the following points:

- Prices must be quoted (**Euros/unit**) for each category of equipment
- Prices must be quoted in **Euros**, including the countries which are not in the Euro-area. As far as the tenderers of those countries are concerned, they cannot change the amount of the bid because of the evolution of the exchange rate. The tenderers choose the exchange rate and assume all risks or opportunities relating to the rate fluctuation.
- Prices must be fixed amounts and include all expenses, such as travel expenses and daily allowances.
- **Prices should be quoted free of all duties, taxes and other charges, i.e. also free of VAT**, as the Communities are exempt from such charges in the EU under Articles 3 and 4 of the Protocol on the Privileges and Immunities of the European Communities of 8 April 1965 (OJ L 152 of 13 July 1967).

Exemption is granted to the Commission by the governments of the Member States, either through refunds upon presentation of documentary evidence or by direct exemption. For those countries where national legislation provides an exemption by means of a reimbursement, the amount of VAT is to be shown separately. In case of doubt about the applicable VAT system, it is the tenderer's responsibility to contact his or her national authorities to clarify the way in which the European Community is exempt from VAT.

- **Prices must be** fixed and not subject to revision during the performance of the contract.

Bids involving more than one supply provider (consortium) must specify the amounts indicated above for each provider.

IV. ASSESSMENT AND AWARD OF THE CONTRACT

Participation in tendering procedures is open on equal terms to all natural and legal persons coming within the scope of the Treaties and to all natural and legal persons in a third country which has a special agreement with the Communities in the field of public procurement, under the conditions laid down in that agreement.

Where the Multilateral Agreement on Public Contracts concluded within the framework of the WTO applies, the contracts are also open to nationals of States which have ratified this Agreement, under the conditions provided for therein.

The procedure for the award of the contract, which will concern only admissible bids (see requirements in the invitation to tender, in particular, regarding the deadline for submission and the presentation of the offers and packaging), will be carried out in three successive stages.

The aim of each of these stages is:

1) to check on the basis of the exclusion criteria, whether tenderers can take part in the tendering procedure;
2) to check on the basis of the selection criteria, the technical and professional capacity and economic and financial capacity of each tenderer;
3) to assess on the basis of the award criteria each bid which has passed the exclusion and selection stages.

The assessment will be based on each tenderer's bid. All the information will be assessed in the light of the criteria set out in these specifications.

IV.1. Exclusion criteria (exclusion of tenderers)

IV.1.1. Exclusion criteria (Article 93 Financial Regulation[1])

1. To be eligible for participating in this contract award procedure, tenderers must not be in any of the following exclusion grounds:

   (a) they are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

   (b) they have been convicted of an offence concerning their professional conduct by a judgement which has the force of res judicata;

   (c) they have been guilty of grave professional misconduct proven by any means which the contracting authority can justify;

   (d) they have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;

   (e) they have been the subject of a judgement which has the force of res judicata for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Communities' financial interests;

   (f) they are currently subject to an administrative penalty referred to in Article 96(1) of the Financial Regulation[2] for being guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in a contract procurement procedure or by the authorising officer as a condition of participation in a grant award procedure, for failing to supply this information or for having been declared to be in serious breach of their obligations under contracts or grants covered by the Community budget.

2. The cases referred to in point IV.1.1. 1.e) above shall be the following:

   (a) cases of fraud as referred to in Article 1 of the Convention on the protection of the European Communities' financial interests established by the Council Act of 26 July 1995 (OJ/C 316 of 27.11.1995, p. 48);

   (b) cases of corruption as referred to in Article 3 of the Convention on the fight against corruption involving officials of the European Communities or officials of Member States of the European Union, established by the Council Act of 26 May 1997 (OJ/C 195 of 25.6.1997, p. 1);

   (c) cases of involvement in a criminal organisation, as defined in Article 2(1) of Joint Action 98/733/JHA of the Council (OJ/L 315 of 29.12.1998, p. 1);

   (d) cases of money laundering as defined in Article 1 of Council Directive 91/308/EEC (OJ/L 166 of 28.6.1991, p.77).

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[1] Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities (OJ L 248 of 16.9.2002)

[2] Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial regulation applicable to the general budget of the European Communities, OJ L 248 of 16 September 2002, p. 1, amended by Council Regulation (EC, Euratom) No 1995/2006 of 13 December 2006, OJ L 390 of 30 December 2006, p.1.

IV.1.2. Other cases of exclusion

1.Contracts will not be awarded to tenderers who, during the procurement procedure (Article 94 Financial Regulation):

a) **are subject to a conflict of interest;**

Tenderers must declare:

- that they do not have any conflict of interest in connection with the contract; a conflict of interest could arise in particular as a result of economic interests, political or national affinities, family or emotional ties, or any other relevant connection or shared interest;
- that they will inform the contracting authority, without delay, of any situation constituting a conflict of interest or which could give rise to a conflict of interest;
- that they have not made and will not make any offer of any type whatsoever from which an advantage can be derived under the contract;
- that they have not granted and will not grant, have not sought and will not seek, have not attempted and will not attempt to obtain, and have not accepted and will not accept, any advantage, financial or in kind, to or from any party whatsoever, constituting an illegal practice or involving corruption, either directly or indirectly, as an incentive or reward relating to the award of the contract.

The Commission reserves the right to check the above information.

b) **are guilty of misrepresentation** in supplying the information required by the contracting authority as a condition of participation in the contract procedure or fail to supply this information.

c) find themselves in one of the **situations of exclusion**, referred to in paragraph IV.1.1. above for this procurement procedure.

2. As mentioned under section III.2.1. the tenderers must provide proof of **registration,** as prescribed in their country of establishment, on one of the professional or trade registers or provide a declaration or certificate.

IV.1.3. Evidence to be provided by the tenderers

1. When submitting their bids, each tenderer (including subcontractor(s) or any member of a consortium or grouping) shall provide a declaration on their honour, duly signed and dated, stating that they are not in one of the situations mentioned above (cf. IV.1.1 and VI.1.2). For that purpose, they must complete and sign the form attached in Annex 4. Where the tenderer is a legal entity, they shall, whenever requested by the Commission, provide information on the ownership or on the management, control and power of representation of the legal entity.

2. The tenderer to whom the contract is to be awarded shall provide, within 15 calendar days after notification of the results of the procurement procedure and in

any case before the signature of the contract, the following evidence, confirming the declaration referred to above:

The Commission shall accept, as satisfactory evidence that the tenderer is not in one of the situations described in point IV.1.1 (a), (b) or (e) above, a recent extract from the judicial record or, failing that, an equivalent document recently issued by a judicial or administrative authority in the country of origin or provenance showing that those requirements are satisfied.

The Commission accepts, as satisfactory evidence that the tenderer is not in the situation described in point IV.1.1 (d) above, a recent certificate issued by the competent authority of the State concerned.

Where no such document or certificate is issued in the country concerned, it may be replaced by a sworn or, failing that, a solemn statement made by the interested party before a judicial or administrative authority, a notary or a qualified professional body in his country of origin or provenance.

3. Depending on the national legislation of the country in which the candidate or tenderer is established, the documents referred to in paragraph 1 and 2 above shall relate to legal and/or natural persons including, if applicable with regard to points b) and e), company directors or any person with powers of representation, decision-making or control in relation to the tenderer.

4. When the subcontracted part is above 20% of the contract value, the subcontractor(s) must also provide the above-mentioned declaration on honour. In case of doubt on this declaration on the honour, the contracting authority may also request the evidence referred to in paragraphs 2 and 3 above.

5. The Commission reserves the right to request any other document relating to the proposed tender for evaluation and verification purpose, within a delay determined in its request.

Remark:
The tenderers will be waived of the obligation to submit the documentary evidence above mentioned if such evidence has already been submitted for the purposes of another procurement procedure launched by Directorate General for Energy and provided that the documents are not more than one year old starting from their issuing date and that they are still valid. In such a case, the tenderer shall declare on his honour that the documentary evidence has already been provided in a previous procurement procedure, specifying the reference of the call for tender for which the documents have been provided, and confirm that no changes in his situation have occurred.

IV.1.4. Administrative and financial penalties

Without prejudice to the application of penalties laid down in the contract, candidates or tenderers and contractors who have been found guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the procurement procedure or have failed to supply this information or have been declared to be in serious breach of their obligations under contracts covered by the Community budget may

be subject to administrative or financial penalties, in accordance with Article 96 of the Financial Regulation and Articles 134b and 133a of the Implementing Rules[3].

IV.2. Selection criteria (selection of tenderers)

To be eligible, the tenderers must have the economic and financial capacity as well as the technical and professional capacity to perform the tasks required in this call for tender.

IV.2.1. Economic and financial capacity – References required

The tenderer must provide proof of their financial and economic capacity by means of the following documents: the balance sheets or extracts from balance sheets for the last three financial years, and a statement of overall turnover relating to the relevant services for the last three financial years.

This rule applies to all service providers, regardless of the percentage of tasks they intend to execute, once they have chosen to submit a tender. However, if the tender includes subcontractors whose tasks represent less than 20% of the contract, those subcontractors are not obliged to provide evidence of their economic and financial capacity.

The tenderer has to prove that the company turnover is of at least 500.000 € per year over the last three years.

IV.2.2. Technical and professional capability – References required

The tenderer has to submit substantial evidence to prove:

- Demonstrated experience of at least 5 years in the field of digital surveillance technology. This experience should be supported by:
  - Demonstrating existing and operational implementations of high reliable (MTBF > 4 years for loss of images) digital multiple camera surveillance systems on at least 3 locations,
  - Providing a list of customers, together with a contact person in the customer's organisation, that purchased such digital multiple camera surveillance system.
- Project leader
  For the future project leader and his deputy a short CV specifying his/her specific experience, considered relevant for this job has to be provided. The project leader must have at minimum a university degree in mechatronics, electronics or natural science with at least 3 year of experience in management, development or deployment of digital surveillance systems.

For all points mentioned above supporting documentation will have to be provided.

If several service providers/subcontractors are involved in the bid, each of them must have and show that they have the professional and technical capacity to perform the tasks assigned to them.

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[3] Commission Regulation (EC, Euratom) n° 2342/2002 of 23 December 2002 laying down detailed rules for the implementation of Council Regulation (EC, Euratom) No 1605/2002 on the Financial Regulation applicable to the general budget of the European Communities, OJ L 357 of 31 December 2002, p. 1, last amended by Commission Regulation (EC, Euratom) n° 478/2007 of 23 April 2007, OJ L 111 of 28 April 2007, p.1.

IV.3. Evaluation of tenders – Award criteria

The contract will be awarded according to the criteria given below, on the basis of the economically most advantageous tender.

Only bids that have reached a total score of a minimum of 70% and a minimum score of 60 % for each criterion will be taken into consideration for awarding the contract.

For evaluation the following points will be allocated:

a) Technical evaluation criteria in their order of importance as weighted by percentage

1. Understanding of General specifications as described in I.4	25%
2. Understanding of Camera Unit specifications	25%
3. General design, image taking capabilities	30%
4. Data collection and network capabilities	20%

b) Total price (sum of prices in III.2.3, based on 30 days for modification)

The contract will be awarded to the tender which offers the best ratio quality/price.

IV.4. Information for tenderers

The Commission will inform tenderers of decisions reached concerning the award of the contract, including the grounds for any decision not to award a contract or to recommence the procedure.
If a written request is received, the Commission will inform all rejected tenderers of the reasons for their rejection and all tenderers submitting an admissible tender of the characteristics and relative advantages of the selected tender and the name of the successful tenderer.
However, certain information may be withheld where its release would impede law enforcement or otherwise be contrary to the public interest, or would prejudice the legitimate commercial interests of economic operators, public or private, or might prejudice fair competition between them.

V. ANNEXES

1. Qualification Test Criteria of Common Safeguards Equipment V 2.04
2. Identification of the tenderer
3. Financial identification
4. Legal entity form
5. Declaration by the tenderer
6. Power of attorney (mandate in case of join offer)

7Draft service contract

ANNEX 1 – QUALIFICATION TEST CRITERIA OF COMMON SAFEGUARDS EQUIPMENT V2.04

EUROPEAN COMMISSION
DIRECTORATE-GENERAL TREN
NUCLEAR SAFEGUARDS

INTERNATIONAL ATOMIC ENERGY AGENCY
DEPARTMENT OF SAFEGUARDS

Technical Note No. I.02.XXX

Common Qualification Test Criteria for New Safeguards Equipment

Joint Research Centre
EUROPEAN COMMISSION
Institute for the Protection and the Security of the Citizen
Non Proliferation and Nuclear Safeguards Unit
T.E.M.P.E.S.T Laboratory
TP 361 I-21020 Ispra (Va)

1. Aim:

The Euratom Safeguards Directorate (EURATOM), part of Directorate General TREN of the European Commission, and the Department of Safeguards of the International Atomic Energy Agency (IAEA) utilise both commercially available and specially developed equipment in safeguards applications. This document describes the tests that such equipment must pass to be approved by both organisations for field use.

The various tests described in this procedure are divided into four test categories which simulate the life cycle of the equipment.

The five test categories of the EURATOM / IAEA approval are:

- 1st category: Operational Test
- 2nd category: Thermal and Humidity Tests
- 3rd category: Mechanical Tests
- 4th category: Electromagnetic Tests
- 5th category: Irradiation Tests

Test categories 2, 3 and 4 reference International Electrotechnical Commission (IEC) and/or European Norm (EN) and/or International standards (ISO) and will be performed in the TEMPEST lab of the JRC. Test category 5 is an adaptation of the MIL STD 883E standard for non-destructive gamma and neutron irradiation during equipment operation based on experience of IAEA and Euratom and cannot be performed in the TEMPEST lab.

For testing, EURATOM / IAEA shall provide two identical specimens (S1 and S2) of the equipment. S1 is tested under categories 1, 2 and 3; S2 is tested under categories 1 and 4.
The specimens S1 and S2 shall be delivered to the test laboratory with all ancillary equipment needed for operation, e.g. cables, power supplies, computer with special system related software, user's manual, etc.
Prior to the start of the tests, the equipment shall be installed at the test laboratory and test laboratory personnel shall be trained in the proper operation of the equipment, including the retrieval of appropriate performance data. This training shall be conducted by a EURATOM / IAEA responsible (Task Officer) and / or by the manufacturer (developer) in order to avoid any mistakes in equipment operation.

2. Description of the Tests:

2-1. Operational Test:

Both specimens shall be operated in their standard configuration for 96 hours at room temperature. This test will be used to verify correct operation of the equipment and also, if necessary, to collect reference performance data.

2-2. Thermal and Humidity Tests:

2-2-1. Thermal Tests with Non-operating Equipment:

Non-operating means that the equipment is not powered on, and is installed in its standard transport package.

2-2-1-1: Cold , Test Ab, IEC 60068-2-1:

Cold Test 1:

Test specimen S1 shall be exposed to an environment of T = -40°C ± 3°C for 16 hours, according to test Ab, IEC 60068-2-1.
The temperature ramp from ambient temperature to -40°C shall last 2 hours.

After return to room temperature, the specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

Cold Test 2:

Test specimen S1 shall be exposed to an environment of T = -25°C ± 3°C for 96 hours, according to test Ab, IEC 60068-2-1.
The temperature ramp from ambient temperature to -25°C shall last 1 hour.

After return to room temperature, the specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-1-2: Dry Heat, Test Bb, IEC 60068-2-2:

Test specimen S1 shall be exposed to an environment of T = +70°C ± 2°C for 16 hours, according to Test Bb, IEC 60068-2-2.
The temperature ramp from ambient temperature to +70°C shall last 1 hour.

After return to room temperature, the specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-1-3.Change of Temperature, Test Na, IEC 60068-2-14:

Test specimen S1 shall be exposed to the following thermal cycle, according to Test Na, IEC 60068-2-14:

Ta = -40°C for t_1 = 3 hours, Tb = +70°C for t_1 = 3 hours

The transfer time t_2, from one temperature to the other should be one of the following three, depending on the size and weight of the specimen:

- 2 min to 3 min.
- 20 s to 30 s.
- less than 10 s.

The thermal cycle shall be repeated 5 times for a total of 30 hours of test.
After return to room temperature, the specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-2. Ageing tests with unpackaged equipment

These tests are intended for non-operating equipment, unprotected by transport packages.

2.2.2.1. High Temperature and Humidity (HTH)

The HTH ageing test levels are related to the Dry Heat Test levels defined for operating equipment in each equipment class.
Ageing test temperature is equal to the Dry Heat Test temperature plus 15°C. Test environment relative humidity is set to 85% ± 5%. Duration is fixed at 200 hours, for all application classes, see Table 1.

Equipment Class	Standard	High	Special Application
Temperature	55°C ± 2°C	70°C ± 2°C	85°C ± 2°C

Table 1: Exposure temperatures for each equipment class (duration 200 hours; 85% ± 5% r.h.)

To avoid thermal shocks, the equipment will be taken from room temperature to test temperature at a controlled rate (e.g. 1°C/min according to IEC 60068.2.2).

On completion of the HTH tests, the EUT shall be maintained in a controlled environment of 23°C ± 2°C, 50% ± 5% r.h. for 12 hours of storage prior to a functional test.
After return to room temperature, the specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-3. Thermal and Humidity Tests on Unpackaged Equipment:

Normal operation means that the equipment is powered on, outside its transport package, and is in its standard operational mode.

2-2-3-1. Damp Heat - Steady State, Non-operating

On special request from EURATOM / IAEA, test specimen S1, non-operating, outside its transport package, shall be exposed to the environment described in Table 2, according to Test Ca, IEC 60068-2-56:

Equipment Class	Standard	High	Special Application
Environment Temp.	N/A	N/A	+30°C ± 2°C
Relative Humidity			93% ± 3%
Temp. Ramp Duration			1 hour
R.H Ramp Duration			1 hour
Test Duration			10 days

Table 2: Damp heat, non-operating equipment test environment

The temperature ramp from ambient to +30°C shall last one hour. At +30°C the relative humidity shall be increased to 93% over one hour. On completion of the test, the relative humidity shall be reduced to 15% over one hour; after which the temperature is reduced to room temperature in one hour.

During the test, the test specimen shall be checked periodically.
After return to room temperature, the test specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-3-2. Cold, Normal Operation

According to the equipment class, test specimen S1, in normal operation, shall be exposed to one of the environments described in Table 3, according to Test Ab, IEC 60068-2-1:

Equipment Class	Standard	High	Special Application
Environment Temp.	+5°C ± 3°C	-10°C ± 3°C	-25°C ± 3°C
Temp. Ramp Duration	1 hour	1 hour	1 hour
Test Duration	96 hours	96 hours	96 hours

Table 3: Cold test environments for each equipment class

During the test, the test specimen shall be checked periodically.
After return to room temperature, the test specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-3-3. Dry Heat, Normal Operation

According to the equipment class, test specimen S1, in normal operation, shall be exposed to one of the environments described in Table 4, according to Test Bb, IEC 60068-2-2:

Equipment Class	Standard	High	Special Application
Environment Temp.	+40°C ± 2°C	+55°C ± 2°C	+70°C ± 2°C
Temp. Ramp Duration	1 hour	1 hour	1 hour
Test Duration	96 hours	96 hours	96 hours

Table 4: Dry heat test environments for each equipment class

During the test, the test specimen shall be checked periodically.
After return to room temperature, the test specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-2-3-4. Damp Heat - Steady State, Normal Operation

According to the equipment class, test specimen S1, in normal operation, shall be exposed to one of the environments described in Table 5, according to Test Ca, IEC 60068-2-56:

Equipment Class	Standard	High	Special Application
Environment Temp.	+40°C ± 2°C	+40°C ± 2°C	+40°C ± 2°C
Relative Humidity	85% ± 3%	93% ± 3%	93% ± 3%
Temp. Ramp Duration	1 hour	1 hour	1 hour
R.H Ramp Duration	1 hour	1 hour	1 hour
Test Duration	10 days	10 days	21 days

Table 5: Damp heat test environments for each equipment class

The temperature ramp from ambient to +40°C shall last one hour. At +40°C the relative humidity shall be increased to the test level (85% or 93%) over one hour. On completion of the test, the relative humidity shall be reduced to 15% over one hour; after which the temperature is reduced to room temperature in one hour.

During the test, the specimen will be regularly checked.
After return to room temperature, the test specimen shall be visually checked and operated for a minimum of one hour in order to verify correct operation.

2-3. Mechanical Tests with Non-operating Equipment:

All mechanical tests described in this section will be conducted with test specimen S1, non-operating, installed in its standard transport package.

2-3-1. Low frequency transport simulation, ISO 2247

IV.1.1. 2-3-1-1. Transport – Secured Cargo (TSC)

The test simulates road transport on paved highways, where the package is secured against free movement. The test frequency shall lie in the range 2 – 5 Hz, the frequency being selected to ensure that no resonance occurs in the test object.
The package shall be securely fastened to the vibration Table. Test levels are given in Table 6.

Equipment Class	Standard	High	Special Application
Frequency	2 – 5 Hz	2 – 5 Hz	2 – 5 Hz
Table Motion	Vertical	Vertical	Vertical
Duration per axis	15 minutes	30 minutes	60 minutes

Table 6: Test levels for each equipment class

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

IV.1.2. 2-3-1-2. Transport – Loose Cargo (TLC)

The test simulates road transport on paved highways, where the package is free to bounce or collide with the sides of the vehicle. The test frequency shall be the lowest frequency in the range 2 – 5 Hz at which the package repeatedly lifts off the Table surface by a distance of 2 mm.
The package shall be placed unsecured on the vibration Table. Test levels are given in Table 7.

Equipment Class	Standard	High	Special Application
Frequency	N/A	2 – 5 Hz	2 – 5 Hz
Table Motion		Circular	Circular
Test Duration		10 minutes	30 minutes

Table 7: Test levels for each equipment class

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-3-2. Mechanical Shock, Test Ea, IEC 60068-2-27:

Subject the package to three shocks per axis, 15g and 11ms each, with a final peak sawtooth shape.
After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-3-3. Mechanical Vibrations, Tests Fc, IEC 60068-2-6:

Test Fc_1: Low Frequency Vibration Cycle:

Subject the package, on each axis, to the following sine wave vibration cycle:

Frequency (Hz)	10-55
Displacement (mm)	0.75
Sweep rate (oct./min.)	1
N° of Sweeps	10

Table 8: Low frequency vibration cycle

After each vibration cycle in each axis, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

Test Fc_2: Medium Frequency Vibration Cycle:

Subject the package, on each axis, to the following sine wave vibration cycle:

Frequency (Hz)	10-59	59-150
Displacement (mm)	0.70	
Acceleration (g)		5
Sweep rate (oct./min.)	1	
N° of Sweeps	10	

Table 9: Medium frequency vibration cycle

After each vibration cycle in each axis, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-3-4. Drop, Test Ed, IEC 60068-2-32:

Allow the package to fall freely from a height of 1 metre on to a concrete floor.

Subject the package to two drops.

After the test, the specimen will be visually checked and operated during for a minimum of hour at room temperature in order to verify correct operation.

2-4. Electromagnetic Tests:

All these tests will be conducted on specimen S2, in normal operation.

The end user (EURATOM and/or the IAEA) shall decide whether or not to accept the tested item based on the results obtained during and after each electromagnetic test.

2-4-1. Emission Measurements - NF EN 55022

2-4-1-1. Conducted perturbations Limits on AC Power Line

The equipment shall respect the limits presented in Table 10 below (Class A from NF EN 55022):

Frequency range Mhz	Limits DB (µV)	
	Q – Peak	Average
0.15 to 0.50	79	66
0.5 to 30	73	60

Table 10: Conducted perturbation limits on AC power line

Note: The lower limit is applicable at the transition frequency.

2-4-1-2. Radiated Perturbations Limits on Enclosure (at 10 m) - NF EN 55022

The equipment shall respect the limits presented in Table 11 below (Class A from NF EN 55022):

Frequency range Mhz	Limits dB (µV) Q – Peak
30 to 230	40
230 to 1000	47

Table 11: Radiated perturbation limits on enclosure - Test distance 10 m.

Note: The lower limit is applicable at the transition frequency.

2-4-1-3 Magnetic Field emission measurements on enclosure - EN 55103-1

The equipment shall respect the limits presented in Table 12 below:

Frequency Range	Limit at 10 cm	Limit at 1 m
50 Hz to 500 Hz	4 A/m to 0.4 A/m (Log)	N/A
500 Hz to 50 kHz	0.4 A/m	N/A
50 Hz to 5 kHz	N/A	1A/m to 0.01 A/m (Log)
5 kHz to 50 kHz	N/A	0.01 A/m

Table 12: limits of magnetic field measurements

Measurements are conducted at 10 cm if the equipment is rack mounted and at 1 m if equipment is not rack mounted.

2-4-1-4 Harmonic measurements on main power line - IEC 61000-3-2

The equipment shall respect the limits presented in Table 13 below.

Definitions:

- Class A: Balanced three-phase equipment and all other equipment, except that stated in other classes.
- Class D: Equipment having a specified power according to 6.2.2 of the IEC 61000-3-2 standard less than or equal to 600W, of the following type:
  - Personal computers and personal computer monitors;
  - Television receivers.
- Classes B and C are not considered for Safeguards equipment.

Limits for Class A equipment		Limits for Class D equipment		
Harmonic order n	**Maximum permissible harmonic current A**	**Harmonic order n**	**Maximum permissble harmonic current per watt mA/W**	**Maximum permissible harmonic current A**
Odd harmonics		3	3.4	2.30
3	2.30	5	1.9	1.14
5	1.14	7	1.0	0.77
7	0.77	9	0.5	0.40
9	0.40	11	0.35	0.33
11	0.33	$13 \leq n \leq 39$	3.85 / n	See class A
13	0.21	Odd harmonics only		
$15 \leq n \leq 39$	0.15 15/n			
Even harmonics				
2	1.08			
4	0.43			
6	0.30			
$8 \leq n \leq 40$	023 8/n			

Table 13: limits of harmonic measurements

2-4-2. General Immunity Testing:

2-4-2-1. Radiated Perturbations on Enclosure - IEC 61000-4-3:

The test procedure shall conform to IEC 61000-4-3.

The test level is presented in Table 14 below:

Frequency Range Mhz	Field Strength V/m	%AM 1kHz	Dwell Time s.
80 to 1000	3	80	5

Table 14: Test level for radiated immunity test

Both polarisations (horizontal and vertical) are tested.

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-2 Magnetic Field on enclosure - IEC 61000-4-8

The test procedure shall conform to IEC 61000-4-8.

The test level is presented in Table 15 below corresponding to class 4 of IEC 61000-4-8:
- typical industrial environment

Test level for continuous field	Test level for short duration: 1s to 3 s
Magnetic field strength = 30 A/m	Magnetic field strength = 300 A/m

Table 15: Test level for magnetic field test

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-3 Conducted Disturbances, Induced by RF Fields - IEC 61000-4-6 :

The test procedure shall conform to IEC 61000-4-6.
This test will be applied to AC power lines and to signal lines.

The test level is presented in Table 16 below:

Frequency Range Mhz	Field Strength V/m	%AM 1kHz	Dwell Time s.	Frequency steps
0.15 to 80	3	80	5	1%

Table 16: Test level for conducted disturbances, induced by RF fields

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-4. Voltage Dips and Short Interruptions - IEC 61000-4-11:

This test only applies to AC powered equipment.
The test procedure shall conform to IEC 61000-4-11.
Table 17 below gives the levels of voltage dips and short interruptions that need to be generated in order to test the equipment on its main power line.

Test level % U_T	Voltage dips and short interruptions % U_T	Duration ms	No. Dips
0	100	20	1000
40	60	20	1000
70	30	20	1000

Table 17: Voltage dips and short interruptions test levels

The time interval between two dips is equal to: 1 second.
Each dip must be generated for each phase angle which are: - 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°.
After each test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-5 Harmonics and interharmonics - IEC 61000-4-13

This test only applies to AC powered equipment.
The test procedure shall conform to IEC 61000-4-13.
Tables 18 to 21 below gives the levels of harmonics, interharmonics and frequency that need to be generated in order to test the equipment on its main power line (corresponding to class 3 of IEC 61000-4-13 standard).

Harmonic order	3	5	9	11	13
Test level (%Uf)	8.19	3.47	1.01	0.44	0.29
Phase °	0	180	0	180	180

With

Frequency range (Hz)	50
Frequency Test level (%Uf)	11.17
Phase °	0

Table 18a Test Harmonic Combination - Flat Curve

IV.1.2.1 Harmonic order	3	5
Test level (%Uf)	6.00	4.00
Phase °	180	0

Table 18b Test Harmonic Combination - Over Swing

Frequency range (Hz)	16-100	100-500	500-1000	1000-1500	1500-2000
step in frequency	5	10	10	25	25
Test level (%Uf)	4.50	14.00	9.00	6.00	4.00

Table 19 Test Sweep in frequency

Harmonic order	x	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Test level (%Uf)	x	5	9	2	12	2	10	2	4	2
Harmonic order	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Test level (%Uf)	7	2	7	2	3	2	6	2	6	2
Harmonic order	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Test level (%Uf)	2	2	6	2	6	2	2	2	5	2
Harmonic order	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
Test level (%Uf)	3	2	2	2	3	2	3	2	2	2

Table 20: Test levels for harmonic test

Frequency range (Hz)	16-100	100-500	500-750	750-1000	1000-2000
step in frequency	5	10	10	10	25
Test level (%Uf)	4.00	9	5	3	2

Table 21a: Test levels for interharmonic test

Frequency range (Hz) f	16-100	100-500	500-1000	1000-2000
step in frequency	5	10	10	25
Test level (%Uf)	4	10	4500/f	4500/f

Table 21b Test of Meister (used in place of interharmonic test if the EUT is to be used in a country where signals transmission and control by ondulation are applied)

After all the harmonic's tests, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-6. Burst - IEC 61000-4-4:

This test will be conducted on the AC power port and on all the equipment's signal input /output lines using a capacitive coupling clamp.
The test procedure shall conform to IEC 61000-4-4.

Table 22 below indicates the tests levels and the requested performance criteria.

IV.1.2.1.1 Test level kV	Tr/Th ns	Rep.Frequency kHz
1 (AC line)	5/50	5
0.5 (signal lines)	5/50	5

Table 22: Test levels for burst test

The test duration is about 10 minutes per coupling mode and/or polarity as presented below:

- polarities: "+" and "-"
- coupling modes (only for AC port): L, N, PE, L-N, L-PE, N-PE, L-N-PE

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-7 Surge - IEC 61000-4-5:

This test only applies to AC powered equipment.

The test procedure shall conform to IEC 61000-4-5.

On its AC power line, the equipment will be exposed to a surge of 1 kV (corresponding to the class 2 test level of the IEC 61000-4-5) with a 1,2/50µs open circuit voltage waveform.

5 tests shall be conducted for each polarity ("+", "-" and "Alternate"), for each phase angle (0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°) and for each coupling mode (L-N, L-PE, N-PE, L-N-PE) with a repetition rate of 1surge/minute.

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-2-8. Electrostatic Discharges - IEC 61000-4-2:

The test procedure shall conform to IEC 61000-4-2.

The test levels are: 4 kV for contact discharge
8 kV for air discharge

The discharge points are defined in accordance with the user (EURATOM and/or the IAEA) considering the man-machine interactions during normal operation.

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-3. Special case of equipment using long data / signal cables

In order to test the immunity against electromagnetic perturbations which may disturb Safeguards equipment composed of various systems connected by data / signal cables of various lengths, the following tests will be conducted on cables.

2.4.3.1 Burst test on cable – IEC 61000-4-4:

This test is conducted using a capacitive coupling clamp according to IEC 61000-4-4. The clamp is placed respectively to one end of the cable and then to the second end of the cable with all the equipment in operation. The test levels which may be applied to both ends of the cable (s) are the following:

IV.1.2.1.2 Test level kV	Tr/Th ns	Rep.Frequency kHz
2	5/50	5

Table 23: Test levels for burst test

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2-4-3-2 Conducted Disturbances, Induced by RF Fields - IEC 61000-4-6 :

This test is conducted using a clamp according to IEC 61000-4-6. The clamp is placed respectively to one end of the cable and then to the second end of the cable with all the equipment in operation. The test levels which may be applied to both ends of the cable (s) are the following is detailed in table 24 below.
For shielded cables, the same stress level is applied but using a CDN M1 (according to IEC 61000-4-6 standard) directly connected to the shield.

Frequency Range Mhz	Field Strength V/m	%AM 1kHz	Dwell Time s.	Frequency steps
0.15 to 80	10	80	5	1%

Table 24: Test level for conducted disturbances, induced by RF fields on cables

After the test, the specimen will be visually checked and operated for a minimum of one hour at room temperature in order to verify correct operation.

2.5. Irradiation tests

2.5.1 Purpose

The irradiation tests are performed to determine the reliability of specimens (sensors or functional units of safeguards equipment) in irradiated environment. This test should be non-destructive and includes gamma, thermal neutron and fast neutron irradiation during operation of the specimen.

Objectives of the test are:
- To determine if the specified functionality of the specimen is ensured in the specified limits during gamma and neutron exposure or
- To detect and quantify the degradation of the functionality of specimen as a function of the dose and /or dose rate and neutron fluence and /or neutron flux respectively.

The tests should allow a decision if the tested specimen is working reliable over several years in a nuclear environment with normal (up to 0,1 mSv/h), medium (up to 5 mSv/h) or high-level neutron irradiation.

2.5.2 Apparatus

2.5.2.1 Test Instruments

All tests have to be performed in labs either QM certified or accredited by measurement with devices calibrated to national standards.
Test instrumentation to be used in the irradiation test shall be standard laboratory equipment capable of measuring the specified parameters.
Wherever possible, other components of the future safeguards system shall be included if the correct functioning is proven by other tests.

2.5.2.2. Radiation Sources

(1) For the Gamma irradiation a appropriate shielded 60-Co or 137-Cs source with a sufficient activity (of about 1...10 TBq or more) should be used to guarantees a homogeneous field over the specimen.

(2) For the thermal neutron irradiation (neutron energy En < 10 keV) a thermal research reactor with a qualified irradiation channels (if possible a thermal outlet) should be used. The neutron spectra and gamma dose rate including the measurement errors must be reported.

(3) For the fast neutron irradiation (En > 1MeV) either

- an ion accelerator using an appropriate target (En = 2 MeV or 14 MeV) or
- a neutron sources (like 252 Cf or Am-Be with En of about 2 MeV) or
- a 14 MeV neutron generator shall be used

if they are powerful enough to achieve the flux mentioned under 2.5.3.3.(4).

- A research reactor radiation field might be used

- if the spectra and the flux of gamma and neutrons are known with errors estimated on the irradiation point and
- if the ratio of the fast neutrons to all neutrons will be greater than 80 %.

(4) If on a reactor irradiation channel the relation of Gamma dose rate, thermal and fast neutron fluxes are in relation to the values recommended in table 2.5.1., this reactor can be used to perform all irradiation test simultaneously.

(5) The dose rate/neutron flux on the crucial sensor components should be in the range of:

for Gamma radiation : 0,1 ....20 Gy/h
for thermal neutrons : 1×10^4 ... 5×10^8 n/cm²s
for fast neutrons : 1×10^3 ... 1×10^7 n/cm²s

(6) The distance between the radiation source and the crucial (digital processing) components of the sensor should be such that a homogeneous radiation field is achieved. The specimen should be arranged against the beam in normal working position (i.e. a camera sensor should "look" into the beam).

2.5.2.3. Dosimetry Equipment and Measurements

(1) A certified commercial gamma dose rate meter should be used to check the gamma dose rate on the selected irradiation point. Appropriate TLD or a certified gamma dose meter should be used to measure the dose simultaneously during the test irradiation.

(2) A certified measurement device should be used to check the thermal neutron flux on the selected irradiation point. If this device will also be used to estimate the fluence by time integration, a second independent device (like TLD or REM counter) should be used to measure the fluence simultaneously during the test irradiation.

(3) A certified measurement device should be used to check the fast neutron flux on the selected irradiation point. If this device will also be used to estimate the fluence by time integration, a second independent device (like solid state track detector or fission chamber) should be used to measure the fluence simultaneously during the test irradiation.

2.5.3. Test Procedure

2.5.3.1. Specimen selection and test set-up

(1) The specimen has to be randomly selected from batch of production. The Test Requester should define how many specimen must be tested and in which order the tests will be performed.

(2) Before the test will start it has to be defined

- against which test level (1 = standard, 2 = high class or 3 = special class) the specimen and other parts (like batteries, data buffer,...) of the future system have to be tested,
- the "test failed" criteria's for each test level (in general the specimen (sensor) and also the recording system must work without any human interaction during the test period) and
- what test instruction has to be used.

If no detailed working instructions for irradiation tests exist, they have to be created before the test and agreed by the Test Requester, the Test Company and the specimen Manufacture. These test instructions should include detailed procedures,

- in which order, on what position and how long (based on the values of the table in 2.5.3.3.) the test have to be perform,
- what information in what time interval is required, how it should be provided by the sensor and how often it has to be recorded (i.e. by a data recording station, which might be part of the system in future),
- if any other conditions have to be fulfilled (i.e. that a certain maximum of data's storage is not allowed to exceed in a certain period to avoid i.e. a too early filling of storage capacity).

(3) The test equipment set-up has to be defined by the test requester together with the manufacture or developer. Wherever possible, units of the future safeguard system shall be used with the future set-up. Furthermore the set-up should be adjusted in such a way that enough data's will be acquired to allow statistical evaluations.

2.5.3.2. Pre-Exposure Measurements

(1) At first a functionality test must be performed with the test set-up. It should be evaluated if all required information in the required time is recorded on the receiving station. A significant amount of data's should be recorded to allow statistical evaluation later.

(2) During this test a quality check must be performed to have representative and enough data (i.e. image quality, processing time for some well-defined routines) for the comparison with the post exposure measurement later. Also electrical checks (i.e. power consumption, back-up battery lifetime) should be performed and recorded.

2.5.3.3. Test Exposure

(1) All test activities including the final test arrangement must be reported in detail to allow a later evaluation. The tests should be performed at a temperature of 20 +/- 5 °C

(2) The test should start with the Gamma irradiation at the dose rate recommended in the table 2.5.1. at the required distance (5.2.2(4)).
If the specimen has to pass test level 1 (qualified as standard class equipment) a dose rate of 0,2 Gy/h should be applied and the specimen must work[4] at least 15 h unattended.
To pass test level 2 a dose rate of 3 Gy/h will be applied and the specimen should work at least for 50 h unattended.

[4] "work" means that the sensor must deliver to a receiving station (preferable a part of the later system) all required information in 150% of the expected time without any human interaction. I.e. a camera with a pti of 10 s has to take authentic images at least every 15 s or earlier and has to send them authentic to the recording station out of the beam so that later at least every 15 s an authentic image will be present. It doesn't matter how many resets are generated either by the sensor itself or by the receiving station.

If with the same device a test of level 1 was performed than the already applied dose can be subtracted from the level 2 dose.

(3) After that Gamma irradiation the resistance against thermal and fast neutron irradiation should be tested in the same manner (and in the mentioned order to avoid long deactivation times). For fast neutron test either the fluence values for 2 or 14 MeV (not both together) have to be applied depending from the neutron energy.
If the practical dose rate or flux might be several times higher (or lower) than the recommended values in the table (i.e. factor of 10) than the irradiation time can be reduced (or increased) by the same factor. This scaling might be necessary for reaching test level 3 and is also useful for test level 2, but there is a higher risk that non-linear irradiation effects[5] are overlapping the results.

(4) The following doses / fluence have to applied to the crucial part of the specimen:

Equipment Class = Test Level	**Standard = 1**	**High Class = 2**	**Special Applic.**
Corresponding values for levels [1)]	0,1 mSv/h for 7 y	5 mSv/h for 7 y	to be defined
= Total Dose equivalent (g + n)	6 Sv	300 Sv	3000 Sv [2)]
Gamma dose (50% of total dose) [3)]	**3 Gy**	**150 Gy**	**1500 Gy** [2)]
Gamma dose rate (recommended) [4)]	0,2 Gy/h	3 Gy/h	20 Gy/h
Irradiation times (dose/dose rate)	15 h	50 h	75 h
Thermal neutrons fluence (25%) [3)]	**$1{,}5 \times 10^{11}$ n/cm²**	**$7{,}5 \times 10^{12}$ n/cm²**	**$7{,}5 \times 10^{13}$ n/cm²**
Thermal neutrons flux (recomm.) [4)]	1×10^{7} n/cm²s	1×10^{8} n/cm²s	5×10^{8} n/cm²s
Irradiation times (fluence/flux)	4 h 10 min	20 h 50 min	41 h 40 min
Fast neutron (2 MeV) fluence [3) 5)]	**$3{,}7 \times 10^{9}$ n/cm²**	**$1{,}8 \times 10^{11}$ n/cm²**	**$1{,}8 \times 10^{12}$ n/cm²**
Fast neutron (2 MeV) flux [4)]	2×10^{5} n/cm²s	2×10^{6} n/cm²s	5×10^{6} n/cm²s
Irradiation times (fluence/flux)	5 h 10 min	25 h	100 h
Fast neutron (14 MeV) fluence [3) 5)]	**3×10^{9} n/cm²**	**$1{,}5 \times 10^{11}$ n/cm²**	**$1{,}5 \times 10^{12}$ n/cm²**
Fast neutron (14 MeV) flux [4)]	2×10^{5} n/cm²s	2×10^{6} n/cm²s	5×10^{6} n/cm²s
Irradiation times (fluence/flux)	4 h 10 min	20 h 50 min	83 h 20 min

Table 2.5.1: Irradiation Values to be applied (highlighted values)

1) – Ambient dose equivalent H*(10) is used because all data coming from plant equipment are related to H*(10) and the dose fluence conversion factor is well known (ICRP 74).
2) – This value has to be defined case by case and is only a calculation example.

[5] Non-linear effects are effects which increase super linear vs. the dose rate/flux in the range mentioned in 2.5.2.2 (5), cause by additional bulk ionisation and high dose rate effects.

3) – It is assumed that 50% from the total dose equivalent are cause by gamma radiation, 25 % by thermal neutrons (En < 10 keV) and 25 % by fast neutrons (En > 1 MeV).
4) - All dose rate of fluxes are recommended values and can be lower or higher by respecting point 2.5.2.1(5) and longer or shorter irradiation times respectively.
5) - For fast neutron irradiation either the 2 or 14 MeV values have to be chosen depending from the neutron energy.

(5) If a human interaction is necessary the test could be repeated one's again. This will allow to get experience or to improve the set-up of the sensor.

(6) If at the test levels for standard or high class devises the sensor self-correcting rate is too high or too much information (i.e. images) will be created by too much self-correcting (i.e. resets) the number of resets vs. flux has to be calculated. Than a check on 10 times lower rate/flux are recommended. If the self-correcting rate is in the same order, the average self-correcting rate for normal working conditions can be forecast. If the rate on the lower level is acceptable, the test could be finished on the lower dose rate/flux. That, of course, required longer irradiation time to achieve the test levels.

2.5.3.3. Post exposure investigations

(1) Safety requirements:
Neutron irradiated parts may be radioactive. Handling and storage of test specimens or equipment subjected to radiation environments shall be governed by procedures established by the Local Radiation Safety Officer or Health Physicists.

(2) Post test and anomaly investigation
All checks made during pre-exposure shall be repeated and the data's should be compared. Differences are to be recorded.
If anomalies exist an investigation shall be started and the reason should be worked out. All possible reasons have to be recorded.

(3) Reporting
The report must included the sensor type, serial number, manufacture related information and the date and time of tests. All data's collected during pre-, post- and exposure itself must be recorded.

2.5.4. Irradiation Test Summary

The test summary has to take a decision if the tested sensor is working reliable in nuclear environment with normal (up to 0,1 mSv/h), medium (up to 5 mSv/h) or high level gamma and neutron irradiation (to be specified case by case).
A test report has to be written which should contain the complete record of all information and data recorded and evaluated during and after the test.

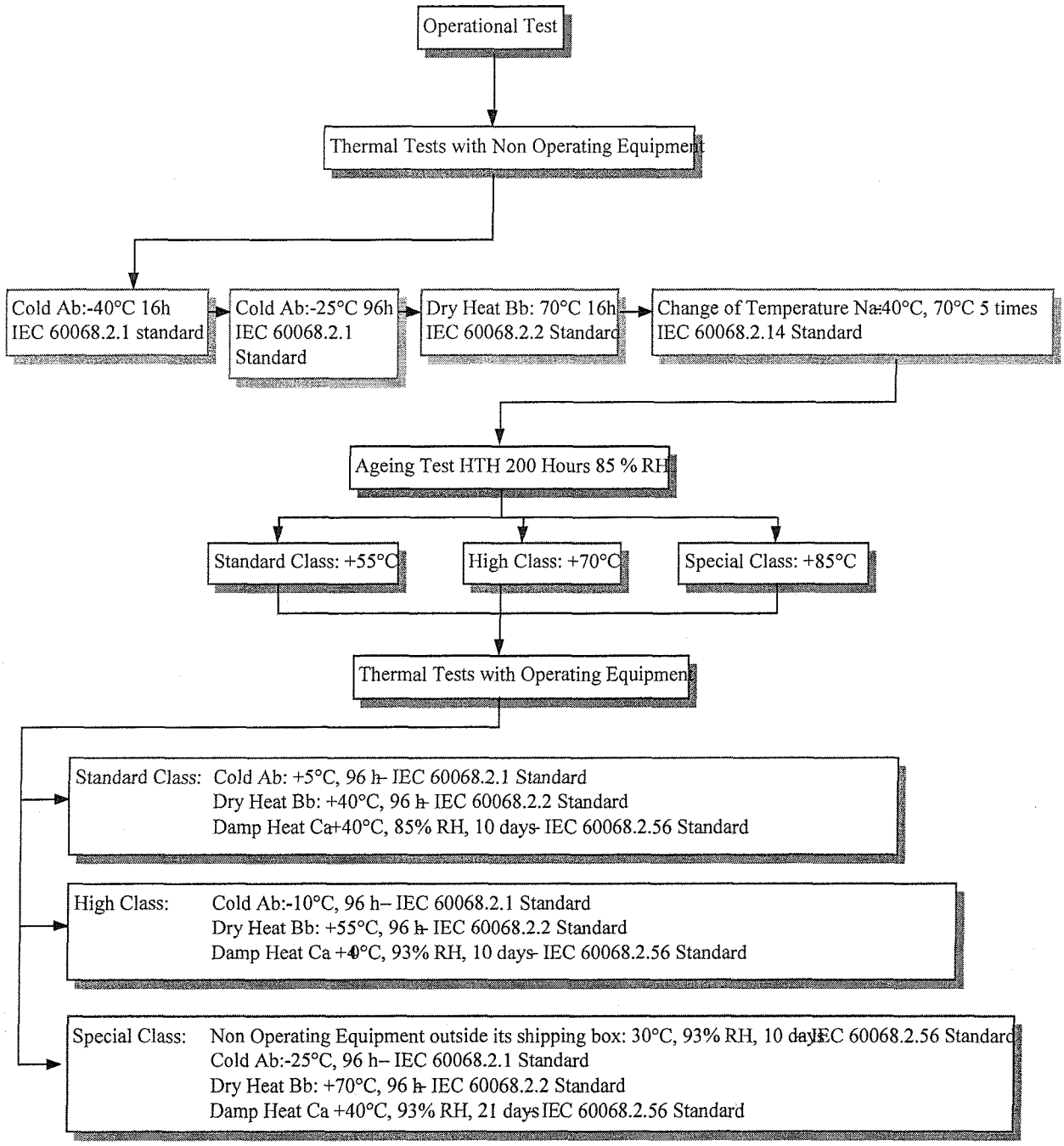
3. Reference Documents:

Standard	Title	
IEC 60068-2-1	Environmental testing	Part 2: Tests - Tests A: Cold
IEC 60068-2-2	Basic environmental testing procedures	Part 2: Tests - Tests B: Dry heat
IEC 60068-2-14	Basic environmental testing procedures of temperature	Part 2: Tests - Tests N: Change
IEC 60068-2-56	Environmental testing heat, steady state, equipment	Part2: Tests - Test Cb: Damp primarily for
IEC 60068-2-6	Environmental testing (sinusoidal)	Part2: Tests - Test Fc: Vibration
IEC 60068-2-27	Basic environmental testing procedures guidance: Shock	Part 2: Tests - Tests Ea and
IEC 60068-2-32	Basic environmental testing procedures	Part 2: Tests - Tests Ed: Free fall
ISO 2247	Packaging	Complete, filled transport packages – Vibration test at fixed low frequency
IEC 61000-3-2	Electromagnetic compatibility (EMC) harmonic current current < 16 A per	Part 3-2 : Limits – Limits for Emissions (equipment input Phase)
IEC 61000-4-2	Electromagnetic compatibility (EMC) techniques - immunity test	Part 4: Testing and measurement Section 2: Electrostatic discharge
IEC 61000-4-3	Electromagnetic compatibility (EMC) techniques - frequency, immunity test	Part 4: Testing and measurement Section 3: Radiated, radio electromagnetic field
IEC 61000-4-4	Electromagnetic compatibility (EMC) techniques - transient/burst	Part 4: Testing and measurement Section 4: Electrical fast immunity test
IEC 61000-4-5	Electromagnetic compatibility (EMC) techniques -	Part 4: Testing and measurement Section 5: Surge immunity test
IEC 61000-4-6	Electromagnetic compatibility (EMC) techniques - conducted disturbances, frequency fields	Part 4: Testing and measurement Section 6: Immunity to induced by radio

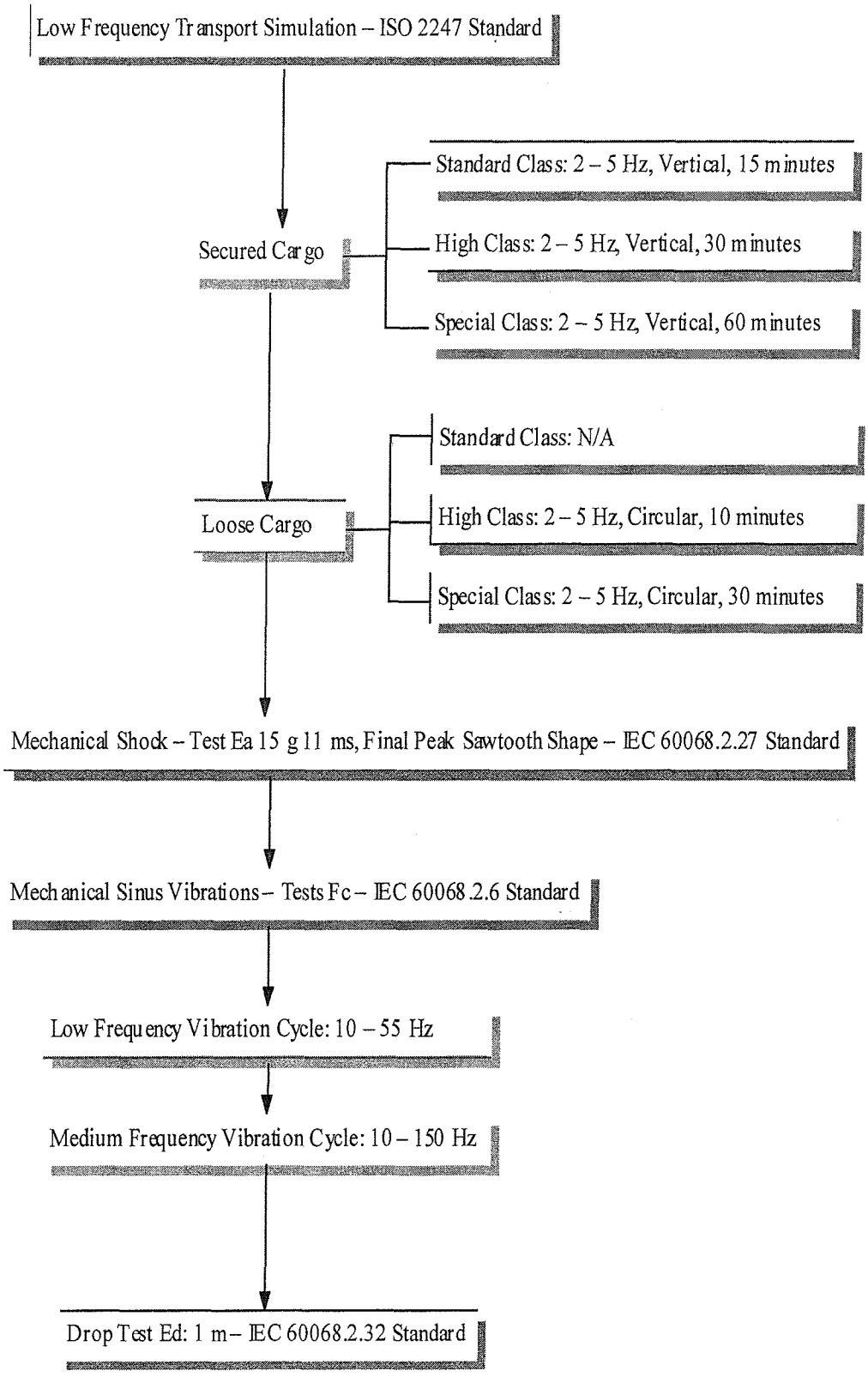
IEC 61000-4-8	Electromagnetic compatibility (EMC) measurement techniques magnetic field	Part 4 : Testing and Section 8 : Power frequency immunity test
IEC 61000-4-11	Electromagnetic compatibility (EMC) measurement techniques - interruptions and immunity tests	Part 4: Testing and Section 11: Voltage dips, short voltage variations
IEC 61000-4-13	Electromagnetic compatibility (EMC) measurement techniques- including mains frequency	Part 4-13 Testing and Harmonics and interharmonics Signaling at a.c. power port, low Immunity tests
EN 55103-1	Electromagnetic compatibility (EMC) audio, video, audio- control Part 1 : Emssion	Product family standard for visual and entertainment lighting apparatus for professional use –
NF EN 55022	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	

4. Summary of the Tests

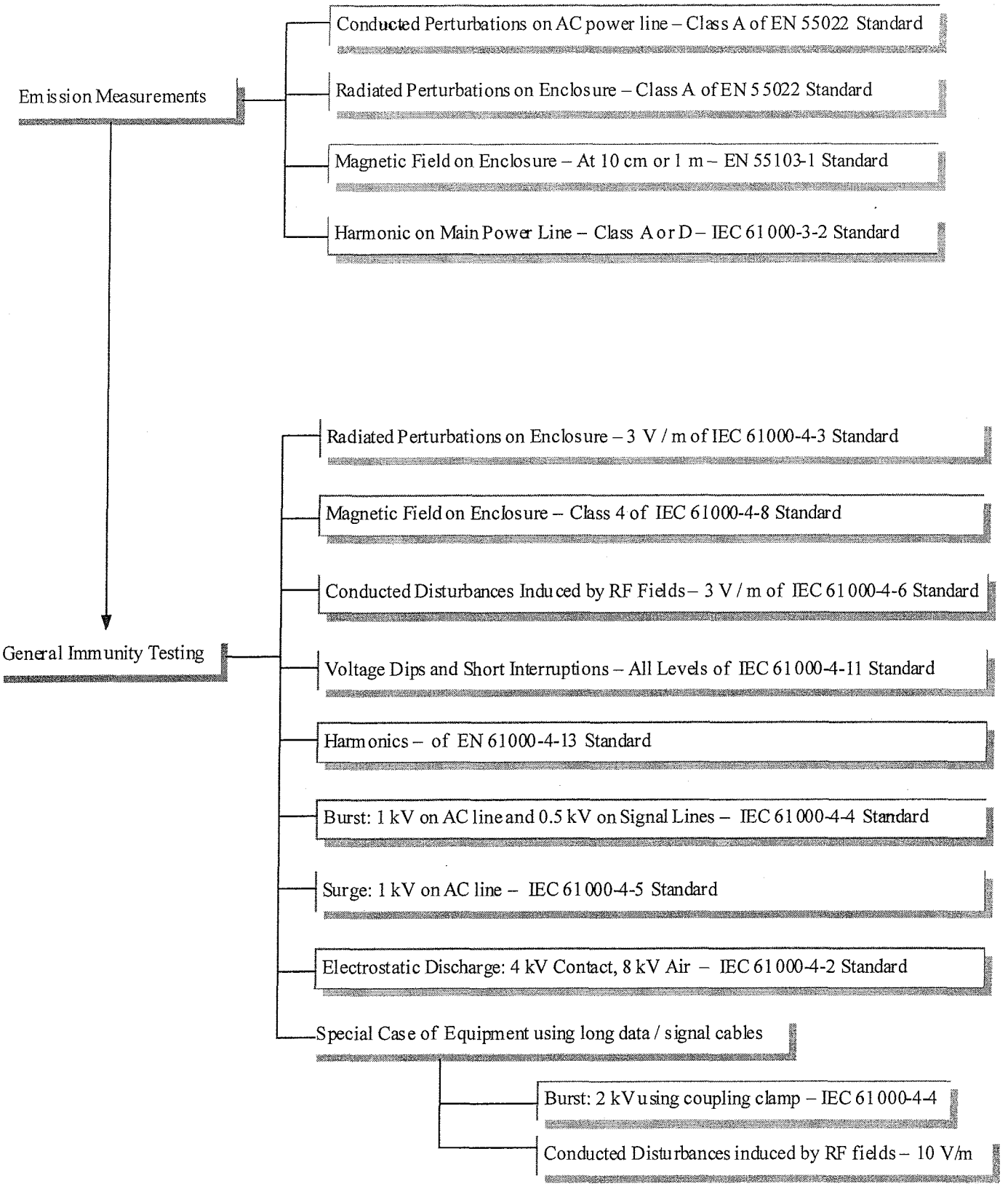
4-1 Summary of the Tests- Specimen S1– Thermal and Humidity Tests



4-2 Summary of the Tests – Specimen S1 – Mechanical Tests



3-3 Summary of the Tests – Specimen S2 – Electromagnetic Tests



ANNEX 2 - IDENTIFICATION OF THE TENDERER

(Each service provider, including subcontractor(s) or any member of a consortium or grouping, must complete and sign this identification form)

Identity	
Name of the tenderer	
Legal status of the tenderer	
Date of registration	
Country of registration	
Registration number	
VAT number	
Description of statutory social security cover (at the level of the Member State of origin) and non-statutory cover (supplementary professional indemnity insurance)[6]	
Address	
Address of registered office of tenderer	
Where appropriate, administrative address of tenderer for the purposes of this invitation to tender	
Contact Person	
Surname: First name: Title (e.g. Dr, Mr, Ms) : Position (e.g. manager): Telephone number: Fax number: E-mail address:	
Legal Representatives	

[6] For natural persons

Names and function of legal representatives and of other representatives of the tenderer who are authorised to sign contracts with third parties	
Declaration by an authorised representative of the organisation[7] I, the undersigned, certify that the information given in this tender is correct and that the tender is valid.	
Surname: First name:	Signature:

[7] This person must be included in the list of legal representatives; otherwise the signature on the tender will be invalidated.

ANNEX 3 – FINANCIAL IDENTIFICATION

(to be completed by the tenderer and his or her financial institution)

The tenderer's attention is drawn to the fact that this document is a model and that a specific form for each Member State is available at the following Internet address:

http://ec.europa.eu/budget/contracts_grants/info_contracts/financial_id/financial_id_en.cfm

FINANCIAL IDENTIFICATION

PRIVACY STATEMENT http://ec.europa.eu/budget/execution/ftiers_fr.htm

ACCOUNT NAME

ACCOUNT NAME[1]	
ADDRESS	
TOWN/CITY	POSTCODE
COUNTRY	

CONTACT	
TELEPHONE	FAX
E - MAIL	

BANK

BANK NAME	
BRANCH ADDRESS	
TOWN/CITY	POSTCODE
COUNTRY	
ACCOUNT NUMBER	
IBAN[2]	

REMARKS:

BANK STAMP + SIGNATURE OF BANK REPRESENTATIVE (Both Obligatory)[3]	DATE + SIGNATURE ACCOUNT HOLDER : (Obligatory)
	DATE

[1] The name or title under which the account has been opened and not the name of the authorized agent

[2] If the IBAN Code (International Bank account number) is applied in the country where your bank is situated

[3] It is preferable to attach a copy of recent bank statement, in which event the stamp of the bank and the signature of the bank's representative are not required. The signature of the account-holder is obligatory in all cases.

ANNEX 4 - LEGAL ENTITY FORM

Complete the legal entity form, which should be accompanied by a number of supporting documents, available on the Web site:

http://ec.europa.eu/budget/contracts_grants/info_contracts/legal_entities/legal_entities_en.cfm

Please note that we can only accept either original documents or certified copies, which must be less than 6 months old.

ANNEX 5 - DECLARATION OF HONOUR WITH RESPECT TO THE EXCLUSION CRITERIA AND ABSENCE OF CONFLICT OF INTEREST

The undersigned *[name of the signatory of this form, to be completed]*:

- ☐ in his/her own name *(if the economic operator is a natural person or in case of own declaration of a director or person with powers of representation, decision making or control over the economic operator[8])*

or

- ☐ representing *(if the economic operator is a legal person)*

official name in full *(only for legal person)*:

official legal form *(only for legal person)*:

official address in full:

VAT registration number:

declares that the company or organisation that he/she represents / he/she:

a) is not bankrupt or being wound up, is not having its affairs administered by the courts, has not entered into an arrangement with creditors, has not suspended business activities, is not the subject of proceedings concerning those matters, and is not in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

b) has not been convicted of an offence concerning professional conduct by a judgment which has the force of *res judicata*;

c) has not been guilty of grave professional misconduct proven by any means which the contracting authorities can justify;

d) has fulfilled all its obligations relating to the payment of social security contributions and the payment of taxes in accordance with the legal provisions of the country in which it is established, with those of the country of the contracting authority and those of the country where the contract is to be carried out;

e) has not been the subject of a judgement which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Union's financial interests;

[8] To be used depending on the national legislation of the country in which the candidate or tenderer is established and where considered necessary by the contracting authority (see art. 134(4) of the Implementing Rules).

f) is not a subject of the administrative penalty for being guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the procurement procedure or failing to supply an information, or being declared to be in serious breach of his obligation under contract covered by the budget.

In addition, the undersigned declares on their honour:

g) they have no conflict of interest in connection with the contract; a conflict of interest could arise in particular as a result of economic interests, political or national affinities, family or emotional ties or any other relevant connection or shared interest;

h) they will inform the contracting authority, without delay, of any situation considered a conflict of interest or which could give rise to a conflict of interest;

i) they have not made and will not make any offer of any type whatsoever from which an advantage can be derived under the contract;

j) they have not granted and will not grant, have not sought and will not seek, have not attempted and will not attempt to obtain, and have not accepted and will not accept any advantage, financial or in kind, to or from any party whatsoever, constituting an illegal practice or involving corruption, either directly or indirectly, as an incentive or reward relating to award of the contract;

k) that the information provided to the Commission within the context of this invitation to tender is accurate, sincere and complete;

l) that in case of award of contract, they shall provide upon request the evidence that they are not in any of the situations described in points a, b, d, e above.

For situations described in (a), (b) and (e), production of a recent extract from the judicial record is required or, failing that, a recent equivalent document issued by a judicial or administrative authority in the country of origin or provenance showing that those requirements are satisfied. Where the Tenderer is a legal person and the national legislation of the country in which the Tenderer is established does not allow the provision of such documents for legal persons, the documents should be provided for natural persons, such as the company directors or any person with powers of representation, decision making or control in relation to the Tenderer.

For the situation described in point (d) above, recent certificates or letters issued by the competent authorities of the State concerned are required. These documents must provide evidence covering all taxes and social security contributions for which the Tenderer is liable, including for example, VAT, income tax (natural persons only), company tax (legal persons only) and social security contributions.

For any of the situations (a), (b), (d) or (e), where any document described in two paragraphs above is not issued in the country concerned, it may be replaced by a sworn or, failing that, a solemn statement made by the interested party before a judicial or administrative authority, a notary or a qualified professional body in his country of origin or provenance.]

By signing this form, the undersigned acknowledges that they have been acquainted with the administrative and financial penalties described under art 133 and 134 b of the Implementing Rules (Commission Regulation 2342/2002 of 23/12/02), which may be applied if any of the declarations or information provided prove to be false.

Full name Date Signature

ANNEX 6

POWER OF ATTORNEY

Mandating one of the partners in a joint tender as lead partner and lead contractor [9]

The undersigned:

– Signatory (Name, Function, Company, Registered address, VAT Number)

having the legal capacity required to act on behalf of his/her company,

HEREBY AGREES TO THE FOLLOWING:

1) To submit a tender as a partner in the group of partners constituted by Company 1, Company 2, Company N, and led by Company X, in accordance with the conditions specified in the tender specifications and the terms specified in the tender to which this power of attorney is attached.
2) If the European Commission awards the Contract to the group of partners constituted by Company 1, Company 2, Company N, and led by Company X on the basis of the joint tender to which this power of attorney is attached, all the partners shall be co-signatories of the Contract in accordance with the following conditions:
   (a) All partners shall be jointly and severally liable towards the European Commission for the performance of the Contract.
   (b) All partners shall comply with the terms and conditions of the Contract and ensure the proper delivery of their respective share of the services and/or supplies subject to the Contract.

1) Payments by the European Commission related to the services and/or supplies subject to the Contract shall be made through the lead partner's bank account: [Provide details on bank, address, account number].
2) The partners grant to the lead partner all the necessary powers to act on their behalf in the submission of the tender and conclusion of the Contract, including:
   (a) The lead partner shall submit the tender on behalf of the group of partners.
   (b) The lead partner shall sign any contractual documents — including the Contract, and Amendments thereto — and issue any invoices related to the Services on behalf of the group of partners.
   (c) The lead partner shall act as a single contact point with the European Commission in the delivery of the services and/or supplies subject to the Contract. It shall co-ordinate the delivery of the services and/or supplies by the group of partners to the European Commission, and shall see to a proper administration of the Contract.

Any modification to the present power of attorney shall be subject to the European Commission's express approval. This power of attorney shall expire when all the contractual obligations of the group of partners towards the European Commission for the delivery of the services and/or supplies subject to the Contract have ceased to exist. The parties cannot terminate it before that date without the Commission's consent.

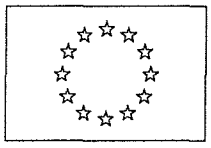
Signed in ..... on [dd/mm/yyyy]

Place and date:

Name (in capital letters), function, company and signature:

[9] **To be filled in and signed by each of the partners in a joint tender, except the lead partner;**

ANNEX 7– DRAFT SERVICE CONTRACT

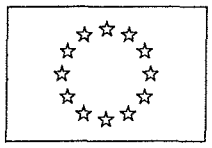


EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

Directorate Nuclear Safeguards

SERVICE CONTRACT

CONTRACT NUMBER – [ ]



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR ENERGY

DIRECTORATE E- Nuclear Safeguards
The Director

SERVICE CONTRACT

CONTRACT NUMBER – [complete]

The European Atomic Energy Community (hereinafter referred to as "the Community") represented by the European Commission (hereinafter referred to as "the Commission"), which is represented for the purposes of the signature of this contract by Mr. Piotr Szymanski, Director in the Directorate-General for Energy, Directorate E-Nuclear Safeguards

of the one part,

and

[official name in full]

[*official legal form*

[*statutory registration number*

[official address in full]

[*VAT registration number*]

(hereinafter referred to as "the Contractor"), represented for the purposes of the signature of this contract by [name in full and function,]

of the other part,

HAVE AGREED

the **Special Conditions** and the following Annexes:

Annex I General Conditions for service contracts

Annex II – Tender Specifications (Invitation to Tender No [*complete*] of [*complete*])

Annex III– Contractor's Tender (No [*complete*] of [*complete*])

which form an integral part of this contract (hereinafter referred to as "the Contract").

- The terms set out in the Special Conditions shall take precedence over those in the other parts of the Contract.
- The terms set out in the General Conditions shall take precedence over those in the Annexes.
- The terms set out in the Tender Specifications (Annex I) shall take precedence over those in the Tender (Annex II)

Subject to the above, the several instruments forming part of the Contract are to be taken as mutually explanatory. Ambiguities or discrepancies within or between such parts shall be explained or rectified by a written instruction issued by the Commission, subject to the rights of the Contractor under Article I.7 should he dispute any such instruction.

I – SPECIAL CONDITIONS

ARTICLE I.1 - SUBJECT

I.1.1. The subject of the Contract is the development and subsequently the purchase of a new generation of digital multiple camera surveillance systems.

I.1.2. The Contractor shall execute the tasks assigned to him in accordance with the Tender Specifications annexed to the Contract (Annex II).

ARTICLE I.2 - DURATION

I.2.1. The Contract shall enter into force on the date on which it is signed by the last contracting party.

I.2.2. Execution of the tasks may under no circumstances begin before the date on which the Contract enters into force.

I.2.3. The duration of the tasks shall not exceed 36 months. This period and all other periods specified in the Contract are calculated in calendar days. Execution of the tasks shall start from date of entry into force of the Contract. The period of execution of the tasks may be extended only with the express written agreement of the parties before such period elapses.

The execution of the tasks is divided in two phases. The first phase lasts for 21 months and the second phase lasts for 15 months. The Contractor is authorised to continue the execution of the tasks in the second phase only with a written consent of the Commission given during the last month of the first phase following an analysis of an interim report.. The Commission shall inform the Contractor about its consent by a written notice in advance.

ARTICLE I.3 – CONTRACT PRICE

I.3.1. The maximum total amount to be paid by the Commission under the Contract shall be EUR [amount in figures and in words] covering all tasks executed (EUR [amount in figures and in words] for the prototype development phase and EUR [amount in figures and in words] for the pre-production phase).

This price also covers any fees payable to the Contractor in relation to the vesting of rights in the Community and where applicable the transfer of rights to the Community and any use of the results by the Commission.

I.3.2. Prices shall be expressed in EUR.

ARTICLE I.4 – PAYMENT PERIODS AND FORMALITIES

I.4.1 First interim payment:

The Contractor shall submit an admissible invoice indicating the reference number of the Contract for the first interim payment of EUR [amount in figures and in words] 40% of the amount for the prototype phase referred in Article I.3.1.

The invoice for the first interim payment shall be admissible if accompanied by the first interim technical report in accordance with the instructions laid down in Annex II.

The Commission shall have fourty-five days from receipt to approve or reject the first interim technical report, and the Contractor shall have 20 days in which to submit additional information or a new report.

Provided the first interim technical report has been approved, the Commission shall have 30 days from the date of receipt of the relevant invoice to pay the first interim payment.

I.4..2 Second interim payment:

The Contractor shall submit an admissible invoice indicating the reference number of the Contract for the second interim payment of EUR [amount in figures and in words] 60% of the amount for the prototype phase referred in Article I.3.1.

The invoice for the second interim payment shall be admissible if accompanied by the second interim technical report in accordance with the instructions laid down in Annex II.

The Commission shall have forty-five days from receipt to approve or reject the second interim technical report, and the Contractor shall have 20 days in which to submit additional information or a new report.

Provided the second interim technical report has been approved, the Commission shall have 30 days from the date of receipt of the relevant invoice to pay the second interim payment.

I.4.3. Payment of the balance:

The request for payment of the balance shall be admissible if the Commission opts to have the pre-production phase of the contract executed by the Contractor.

Within sixty days of completion of the Pre-production phase tasks referred to in Annex II, the Contractor shall submit an admissible invoice indicating the reference number of the Contract for payment of the balance.

The invoices shall be admissible if accompanied by the final technical report in accordance with the instructions laid down in Annex II.

The Commission shall have sixty days from receipt to approve or reject the report, and the Contractor shall have 20 days in which to submit additional information or a new report.

Provided the final report has been approved, the Commission shall have thirty days from the receipt of the relevant invoice to pay the balance.

For Contractors established in Belgium, the provisions of the Contract constitute a request for VAT exemption No 450, provided the Contractor includes the following statement in his invoice(s): "Exonération de la TVA, article 42, paragraphe 3.3 du code de la TVA" or an equivalent statement in the Dutch or German language.

ARTICLE I.5 – BANK ACCOUNT

Payments shall be made to the Contractor's bank account denominated in euro, identified as follows:

Name of bank: [complete]
Address of branch in full: [complete]
Exact designation of account holder: [complete]
Full account number including codes: [complete]
[IBAN code: [complete]

ARTICLE I.6 – GENERAL ADMINISTRATIVE PROVISIONS

Any communication relating to the Contract shall be made in writing and shall bear the Contract number. Ordinary mail shall be deemed to have been received by the Commission on the date on which it is registered by the department responsible indicated below. Communications shall be sent to the following addresses:

Commission:

European Commission

Directorate General for Energy

Financial and Contractual Cell of Directorates D and E

1, rue Henry M. Schnadt

L-2530 Luxembourg

Contractor:

Mr/Mrs/Ms [complete]
[Function]
[*Company name*]
[Official address in full]

ARTICLE I.7– APPLICABLE LAW AND SETTLEMENT OF DISPUTES

I.7.1. The Contract shall be governed by the law of the Community and of the European Union complemented, where necessary, by the national substantive law of Luxembourg.

I.7.2. Any dispute between the parties resulting from the interpretation or application of the Contract which cannot be settled amicably shall be brought before the courts of Luxembourg.

ARTICLE I.8 – DATA PROTECTION

Any personal data included in the Contract shall be processed pursuant to Regulation (EC) No 45/2001 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data. Such data shall be processed solely for the purposes of the performance, management and monitoring of the Contract by the Director of the Shared Resource Directorate MOVE/ENER acting as data controller without prejudice to possible transmission to the bodies charged with monitoring or inspection task in application of Community and European Union law.

ARTICLE I.9 - USE OF THE RESULTS

I.9.1 Modes of exploitation

All elaborations/ materials (i.e. software, software updates, hardware and documentation)/ reports, performance, scientific work, designs, documented data, methods of creation, industrial design, discoveries produced within this Contract and for which the rights vest in the Community and thereby the Community has acquired the ownership in accordance with Article II.10 may be used in the following way:

i) storage:
   - in original format

ii) archiving in line with the applicable document management rules

iii) modifications made by the Commission or by a third party:
   - technical changes to the content:
     - necessary correction of technical errors
     - adding new parts or functionalities
     - changing functionalities
     - providing third parties with additional information concerning the result e.g. in case the pre-production phase is executed by a different contractor
   - preparation in audio form, preparation as a presentation, animation, pictograms story, slide-show, public presentation etc.
   - use of a concept or preparation of a derivate work
   - digitisation or converting the format for storage or usage purposes

v) language versions of documentation:
   - official languages of EU

vi) use for own purposes:
   - making available to the staff of the Commission
   - making available to the persons and entities working for the Commission or cooperating with it, including: contractors, subcontractors whether legal or natural persons, EU-institutions, agencies and bodies, Member States institutions
   - installing, uploading, processing

vii) allow use of results by third parties:
   - for commercial or non commercial purposes,
   - against payment, without payment or against fulfilment of other conditions
   - assignment in full or in part
   - for a particular period or unlimited in time

Where the Commission becomes aware that scope of modifications exceeds the scope envisaged in the Contract the creator shall be consulted. The creator will be obliged to provide his response within two weeks. He shall provide his agreement including any suggestions of modifications free of charge. The creator may refuse the intended modification only when it may harm his honour, reputation or distort integrity of the work.

I.9.2 Pre-existing rights, intermediaries, creators' rights

Where industrial and intellectual property rights, including rights of ownership and use of the Contractor and third parties, exist prior to the Contract being entered into, ("pre-existing rights") the Contractor shall establish a list which shall specify all pre-existing rights and disclose it to the Commission at the latest when delivering a final result.

All pre-existing rights to delivered results shall vest in the Community and thereby under the terms of the Contract be effectively transferred to the Community, as provided for in Article I.9.1.

The Contractor shall present relevant and exhaustive proofs of acquiring all necessary rights together with delivery of the final report at the latest. The latter should be fulfilled by presentation of the contractors', all subcontractors' intermediating in the transfer of rights and creators' statements prepared in accordance with annex A1.

In case parts of the results were created by employees of the Contractor, documentary evidence shall be provided as to how the creators' or authors' rights were transferred to the Contractor, i.e. a copy of the relevant agreement or extract from the employment contract should be provided.

I.9.3 Partial vesting of rights (pre-existing or not pre-existing)

Not applicable.

ARTICLE I.10 – TERMINATION BY EITHER CONTRACTING PARTY

Either contracting party may, of its own volition and without being required to pay compensation, terminate the Contract by serving [*complete*[2]] formal prior notice. Should the Commission terminate the Contract, the Contractor shall only be entitled to payment corresponding to part-performance of the Contract before the termination date. Article II.14.4 applies accordingly.

ARTICLE I.11-CONTRACT CONCLUDED DURING STANDSTILL PERIOD

In case this Contract was signed by both the Commission and the Contractor before the expiry of 14 calendar days from the day after simultaneous dispatch of information about the award decisions and decisions to reject, this Contract shall be null and void.

This article is not applicable for contracts not covered by Directive 2004/18/EC and in cases indicated in Article 158a(2) of the rules for the implementation of the Financial Regulation (Regulation No 2342/2002).

SIGNATURES

For the Contractor, [*Company name*/forename/surname/function]	For the Commission, [forename/surname/function]
signature[s]: _____	signature[s]:_____
Done at [Brussels], [date]	Done at [Brussels], [date]

In duplicate in English.

2 It is recommended to indicate 14 days or one month but depending on your assessment of the situation you may decide to settle for a longer period.

ANNEX I

II – GENERAL CONDITIONS

ARTICLE II.1 – PERFORMANCE OF THE CONTRACT

II.1.1. The Contractor shall perform the Contract to the highest professional standards. The Contractor shall have sole responsibility for complying with any legal obligations incumbent on him, notably those resulting from employment, tax and social legislation.

II.1.2. The Contractor shall have sole responsibility for taking the necessary steps to obtain any permit or licence required for performance of the Contract under the laws and regulations in force at the place where the tasks assigned to him are to be executed.

II.1.3. Without prejudice to Article II.3 any reference made to the Contractor's staff in the Contract shall relate exclusively to individuals involved in the performance of the Contract.

II.1.4. The Contractor must ensure that any staff performing the Contract have the professional qualifications and experience required for the execution of the tasks assigned to him.

II.1.5. The Contractor shall neither represent the Commission nor behave in any way that would give such an impression. The Contractor shall inform third parties that he does not belong to the European public service.

II.1.6. The Contractor shall have sole responsibility for the staff who execute the tasks assigned to him.

The Contractor shall make provision for the following employment or service relationships with his staff:

- staff executing the tasks assigned to the Contractor may not be given orders direct by the Commission;

- the Commission may not under any circumstances be considered to be the staff's employer and the said staff shall undertake not to invoke in respect of the Commission any right arising from the contractual relationship between the Commission and the Contractor.

II.1.7. In the event of disruption resulting from the action of a member of the Contractor's staff working on Commission premises or in the event of the

expertise of a member of the Contractor's staff failing to correspond to the profile required by the Contract, the Contractor shall replace him without delay. The Commission shall have the right to request the replacement of any such member of staff, stating its reasons for so doing. Replacement staff must have the necessary qualifications and be capable of performing the Contract under the same contractual conditions. The Contractor shall be responsible for any delay in the execution of the tasks assigned to him resulting from the replacement of staff in accordance with this Article.

II.1.8. Should any unforeseen event, action or omission directly or indirectly hamper execution of the tasks, either partially or totally, the Contractor shall immediately and on his own initiative record it and report it to the Commission. The report shall include a description of the problem and an indication of the date on which it started and of the remedial action taken by the Contractor to ensure full compliance with his obligations under the Contract. In such event the Contractor shall give priority to solving the problem rather than determining liability.

II.1.9. Should the Contractor fail to perform his obligations under the Contract in accordance with the provisions laid down therein, the Commission may - without prejudice to its right to terminate the Contract - reduce or recover payments in proportion to the scale of the failure. In addition, the Commission may claim compensation or impose liquidated damages provided for in Article II.12.

ARTICLE II.2 – LIABILITY

II.2.1. The Commission shall not be liable for damage sustained by the Contractor in performance of the Contract except in the event of wilful misconduct or gross negligence on the part of the Commission.

II.2.2. The Contractor shall be liable for any loss or damage caused by himself in performance of the Contract, including in the event of subcontracting under Article II.6. The Commission shall not be liable for any act or default on the part of the Contractor in performance of the Contract.

II.2.3. The Contractor shall provide compensation in the event of any action, claim or proceeding brought against the Commission by a third party as a result of damage caused by the Contractor in performance of the Contract.

II.2.4. In the event of any action brought by a third party against the Commission in connection with performance of the Contract, the Contractor shall assist the Commission. Expenditure incurred by the Contractor to this end may be borne by the Commission.

II.2.5. The Contractor shall take out insurance against risks and damage relating to performance of the Contract if required by the relevant applicable legislation.

He shall take out supplementary insurance as reasonably required by standard practice in the industry. A copy of all the relevant insurance contracts shall be sent to the Commission should it so request.

ARTICLE II.3 - CONFLICT OF INTERESTS

II.3.1. The Contractor shall take all necessary measures to prevent any situation that could compromise the impartial and objective performance of the Contract. Such conflict of interests could arise in particular as a result of economic interest, political or national affinity, family or emotional ties, or any other relevant connection or shared interest. Any conflict of interests which could arise during performance of the Contract must be notified to the Commission in writing without delay. In the event of such conflict, the Contractor shall immediately take all necessary steps to resolve it.

The Commission reserves the right to verify that such measures are adequate and may require additional measures to be taken, if necessary, within a time limit which it shall set. The Contractor shall ensure that his staff, board and directors are not placed in a situation which could give rise to conflict of interests. Without prejudice to Article II.1 the Contractor shall replace, immediately and without compensation from the Commission, any member of his staff exposed to such a situation.

II.3.2. The Contractor shall abstain from any contact likely to compromise his independence.

II.3.3. The Contractor declares:

- that he has not made and will not make any offer of any type whatsoever from which an unjustified advantage can be derived under the Contract,
- that he has not granted and will not grant, has not sought and will not seek, has not attempted and will not attempt to obtain, and has not accepted and will not accept, any advantage, financial or in kind, to or from any party whatsoever, where such advantage constitutes an illegal practice or involves corruption, either directly or indirectly, inasmuch as it is an incentive or reward relating to performance of the Contract.

II.3.4. The Contractor shall pass on all the relevant obligations in writing to his staff, board, and directors as well as to third parties involved in performance of the Contract. A copy of the instructions given and the undertakings made in this respect shall be sent to the Commission should it so request.

ARTICLE II.4 – CONFIDENTIALITY

II.4.1. The Contractor undertakes to treat in the strictest confidence and not make use of or divulge to third parties any information or documents which are linked to performance of the Contract. The Contractor shall continue to be bound by this undertaking after completion of the tasks.

II.4.2. The Contractor shall obtain from each member of his staff, board and directors an undertaking that they will respect the confidentiality of any information which is linked, directly or indirectly, to execution of the tasks and that they will not divulge to third parties or use for their own benefit or that of any third party any document or information not available publicly, even after completion of the tasks.

ARTICLE II.5 – DATA PROTECTION

II.5.1 The Contractor shall have the right of access to his/her personal data and the right to rectify any such data. Should the Contractor have any queries concerning the processing of his/her personal data, s/he shall address them to the entity acting as data controller provided for in Article I.8.

II.5.2 The Contractor shall have right of recourse at any time to the European Data Protection Supervisor.

II.5.3 Where the Contract requires the processing of personal data by the Contractor, the Contractor may act only under the supervision of the data controller, in particular with regard to the purposes of the processing, the categories of data which may be processed, the recipients of the data, and the means by which the data subject may exercise his/her rights.

II.5.4 The Contractor shall limit access to the data to the staff strictly necessary for the performance, management and monitoring of the Contract.

II.5.5 The Contractor undertakes to adopt appropriate technical and organisational security measures having regard to the risks inherent in the processing and to the nature of the personal data concerned in order to:

a) prevent any unauthorised person from having access to computer systems processing personal data, and especially:

aa) unauthorised reading, copying, alteration or removal of storage media;

ab) unauthorised data input as well as any unauthorised disclosure, alteration or erasure of stored personal data;

ac) unauthorised use of data-processing systems by means of data transmission facilities;

b) ensure that authorised users of a data-processing system can access only the personal data to which their access right refers;

c) record which personal data have been communicated, when and to whom;

d) ensure that personal data being processed on behalf of third parties can be processed only in the manner prescribed by the contracting institution or body;

e) ensure that, during communication of personal data and transport of storage media, the data cannot be read, copied or erased without authorisation;

f) design its organisational structure in such a way that it meets data protection requirements.

ARTICLE II.6 – SUBCONTRACTING

II.6.1. The Contractor shall not subcontract without prior written authorisation from the Commission nor cause the Contract to be performed in fact by third parties.

II.6.2. Even where the Commission authorises the Contractor to subcontract to third parties, he shall none the less remain bound by his obligations to the Commission under the Contract and shall bear exclusive liability for proper performance of the Contract.

II.6.3. The Contractor shall make sure that the subcontract does not affect rights and guarantees to which the Commission is entitled by virtue of the Contract, notably Article II.20.

ARTICLE II.7 – AMENDMENTS

Any amendment to the Contract shall be the subject of a written agreement concluded by the contracting parties before fulfilment of all their contractual obligations. An oral agreement shall not be binding on the contracting parties.

ARTICLE II.8 – ASSIGNMENT

II.8.1. The Contractor shall not assign the rights and obligations arising from the Contract, in whole or in part, without prior written authorisation from the Commission.

II.8.2. In the absence of such authorisation, or in the event of failure to observe the terms thereof, assignment by the Contractor shall not be enforceable against and shall have no effect on the Commission.

ARTICLE II.9 - USE, DISTRIBUTION AND PUBLICATION OF INFORMATION ABOUT THE CONTRACT

II.9.1. The Contractor shall authorise the Commission to process, use, distribute and publish, for whatever purpose, by whatever means and on whatever medium, any data contained in the Contract, in particular the identity of the Contractor, the subject matter, the duration and the amount paid. Where personal data is concerned, Articles I.8 and II.5 shall apply.

II.9.2. Unless otherwise provided by the Special Conditions, the Commission shall not be required to distribute or publish documents or information supplied in performance of the Contract. If it decides not to distribute or publish the documents or information supplied, the Contractor may not have them distributed or published elsewhere without prior written authorisation from the Commission.

II.9.3. Any distribution or publication of information relating to the Contract or use of outcome of the implementation of the Contract and provided as such by the Contractor shall require prior written authorisation from the Commission and, if so requested, shall mention that it was produced within a contract with the Commission. It shall state that the opinions expressed are those of the Contractor only and do not represent the Commission's official position.

II.9.4. The use of information obtained by the Contractor in the course of the Contract for purposes other than its performance shall be forbidden, unless the Commission has specifically given prior written authorisation to the contrary.

ARTICLE II.10 – OWNERSHIP OF THE RESULTS - INTELLECTUAL AND INDUSTRIAL PROPERTY

II.10.1 A result shall be any outcome of the implementation of the Contract and provided as such by the Contractor.

A creator shall be any person who contributed to production of the result.

Pre-existing intellectual property rights, sometimes referred to as background technology, are any industrial and intellectual property rights which exist prior to the contract being entered into and include rights of ownership and use of the Contractor, the Commission and any third parties ("pre-existing rights").

It shall be a material term of the Contract and of the essence of the Contract that Contractors shall be under a duty to provide a list of pre-existing rights at the date of delivery of the final result the latest.

II.10.2 The ownership of all the results or rights thereon as listed in the tender specification and the tender attached to the contract, including copyright and other intellectual or industrial property rights, and all technological solutions and information embodied therein, obtained in performance of the Contract, shall be irrevocably and fully vested to the Community, which may use them as described in the Contract. All the rights shall be vested on the Community from the moment the results were delivered and accepted by the Commission.

For the avoidance of doubt and where applicable, any such vesting of rights is also deemed to constitute an effective transfer of the rights from the Contractor to the Community.

The payment of the fee under Article I.3 is deemed to include all forms of use by the Community of the results as set out in Article I.9.

The above vesting of rights in the Community under this Contract covers all territories worldwide and is valid for the whole duration of intellectual property rights protection.

II.10.3 Any intermediary sub-result, raw data, intermediary analysis made available to the Commission by the Contractor cannot be used by the Community

without written consent of the Contractor, unless the tender specification explicitly provides for it to be treated as self-contained result.

II.10.4 The Contractor retains all right, title and interest in pre-existing rights not fully vested into the Community in line with Article I.9.2, and hereby grants the Union for the requested period a licence to use the pre-existing rights to the extent necessary to use the delivered results.

II.10.5 The Contractor shall ensure that delivered results are free of rights or claims from third parties including in relation to pre-existing rights, for any use envisaged by the Commission. This does not concern the moral rights of natural persons and rights referred to in Article II.10.4.

II.10.6 The Contractor shall clearly point out all quotations of existing textual works made by the Contractor. The complete reference should include as appropriate: name of the author, title of the work, date of publishing, date of creation, place of publication, address of publication on internet, number, volume and other information allowing to identify the origin easily.

II.10.7 The Contractor shall clearly indicate all parts to which there are pre-existing rights and all parts of the result originating from external sources: parts of other documents, images, graphs, tables, data, software, technical inventions, know-how etc. (delivered in paper, electronic or other form).

For non-textual results or results provided in electronic form only, the description, instruction or information document shall list all parts coming from external sources: IT development tools, routines, subroutines and/or other programs ("background technology"), concepts, designs, installations or pieces of art, data, source or background materials or any other parts of external origin.

II.10.8 If the Commission so requires, the Contractor shall provide proof of ownership or rights to use all necessary rights to the materials referred to in Article II.10.7.

II.10.9. By delivering the results the Contractor confirms that the creators undertake not to oppose their names being recalled when the results are presented to the public and confirms that the results can be divulged.

The Contractor shall possess all relevant agreements of the creator and provide proof by way of documentary evidence.

II.10.10. By delivering the results the Contractor warrants that the above transfer of rights does not violate any law or infringe any rights of others and that he possesses the relevant rights or powers to execute the transfer. He also warrants that he has paid or has verified payment of all fees including fees to collecting societies, related to the final results.

II.10.11. The Contractor shall indemnify and hold the Community harmless for all damages and cost incurred due to any claim brought by any third party including creators and intermediaries for any alleged breach of any intellectual, industrial or other property right based on the Community's use of the works and in relation to which the Contractor has granted the Community user rights.

ARTICLE II.11 – FORCE MAJEURE

II.11.1. Force majeure shall mean any unforeseeable and exceptional situation or event beyond the control of the contracting parties which prevents either of them from performing any of their obligations under the Contract, was not due to error or negligence on their part or on the part of a subcontractor, and could not have been avoided by the exercise of due diligence. Defects in equipment or material or delays in making it available, labour disputes, strikes or financial problems cannot be invoked as force majeure unless they stem directly from a relevant case of force majeure.

II.11.2. Without prejudice to Article II.1.8, if either contracting party is faced with force majeure, it shall notify the other party without delay by registered letter with acknowledgment of receipt or equivalent, stating the nature, likely duration and foreseeable effects.

II.11.3. Neither contracting party shall be held in breach of its contractual obligations if it has been prevented from performing them by force majeure. Where the Contractor is unable to perform his contractual obligations owing to force majeure, he shall have the right to remuneration only for tasks actually executed.

II.11.4. The contracting parties shall take the necessary measures to reduce damage to a minimum.

ARTICLE II.12 – LIQUIDATED DAMAGES

Should the Contractor fail to perform his obligations under the Contract within the time limits set by the Contract, then, without prejudice to the Contractor's actual or potential liability incurred in relation to the Contract or to the Commission's right to terminate the Contract, the Commission may decide to impose liquidated damages per calendar day of delay according to the following formula: $0.3 \times (V/d)$

V is the amount specified in Article I.3.1;

d is the duration specified in Article I.2.3 expressed in days

The Contractor may submit arguments against this decision within thirty days of notification by registered letter with acknowledgement of receipt or equivalent. In the absence of reaction on his part or of written withdrawal by the Commission within thirty days of the receipt of such arguments, the decision imposing the liquidated damages shall become enforceable. These liquidated damages shall not be imposed where there is provision for interest for late completion. The Commission and the Contractor expressly acknowledge and agree that any sums payable under this Article are in the nature of liquidated damages and not penalties, and represent a reasonable estimate of fair compensation for the losses that may be reasonably anticipated from such failure to perform obligations.

ARTICLE II.13 – SUSPENSION OF THE CONTRACT

Without prejudice to the Commission's right to terminate the Contract, where the Contract is subject to substantial error, irregularity or fraud the Commission may suspend execution of the Contract or any part thereof. Suspension shall take effect on the day the Contractor receives notification by registered letter with acknowledgment of receipt or equivalent, or at a later date where the notification so provides. The Commission shall as soon as possible give notice to the Contractor to resume the service suspended or inform that it is proceeding with contract termination. The Contractor shall not be entitled to claim compensation on account of suspension of the Contract or of part thereof.

ARTICLE II.14 – TERMINATION BY THE COMMISSION

II.14.1. The Commission may terminate the Contract in the following circumstances:

(a) where the Contractor is being wound up, is having his affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, is the subject of proceedings concerning those matters, or is in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

(b) where the Contractor has not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which he is established or with those of the country applicable to the Contract or those of the country where the Contract is to be performed;

(c) where the Commission has evidence or seriously suspects the Contractor or any related entity or person, of professional misconduct;

(d) where the Commission has evidence or seriously suspects the Contractor or any related entity or person, of fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Community's financial interests;

(e) where the Commission has evidence or seriously suspects the Contractor or any related entity or person, of substantial errors, irregularities or fraud in the award procedure or the performance of the Contract;

(f) where the Contractor is in breach of his obligations under Article II.3;

(g) where the Contractor was guilty of misrepresentation in supplying the information required by the Commission as a condition of participation in the Contract procedure or failed to supply this information;

(h) where a change in the Contractor's legal, financial, technical or organisational situation could, in the Commission's opinion, have a significant effect on the performance of the Contract;

(i) where execution of the tasks has not actually commenced within three months of the date foreseen, and the new date proposed, if any, is considered unacceptable by the Commission;

(j) where the Contractor is unable, through his own fault, to obtain any permit or licence required for performance of the Contract;

(k) where the Contractor, after receiving formal notice in writing to comply, specifying the nature of the alleged failure, and after being given the opportunity to remedy the failure within a reasonable period following receipt of the formal notice, remains in serious breach of his contractual obligations.

II.14.2. In case of force majeure, notified in accordance with Article II.11, either contracting party may terminate the Contract, where performance thereof cannot be ensured for a period corresponding to at least to one fifth of the period laid down in Article I.2.3.

II.14.3. Prior to termination under point c), d), e), h) or k), the Contractor shall be given the opportunity to submit his observations.

Termination shall take effect on the date on which a registered letter with acknowledgment of receipt terminating the Contract is received by the Contractor, or on any other date indicated in the letter of termination.

II.14.4. Consequences of termination

In the event of the Commission terminating the Contract in accordance with this article and without prejudice to any other measures provided for in the Contract, the Contractor shall waive any claim for consequential damages, including any loss of anticipated profits for uncompleted work. On receipt of the letter terminating the Contract, the Contractor shall take all appropriate measures to minimise costs, prevent damage, and cancel or reduce his commitments. He shall draw up the documents required by the Special Conditions for the tasks executed up to the date on which termination takes effect, within a period not exceeding sixty days from that date.

The Commission may claim compensation for any damage suffered and recover any sums paid to the Contractor under the Contract.

On termination the Commission may engage any other contractor to execute or complete the services. The Commission shall be entitled to claim from the Contractor all extra costs incurred in doing so, without prejudice to any other rights or guarantees it has under the Contract.

ARTICLE II.14a – SUBSTANTIAL ERRORS, IRREGULARITIES AND FRAUD ATTRIBUTABLE TO THE CONTRACTOR

Where, after the award of the Contract, the award procedure or the performance of the Contract prove to have been subject to substantial errors, irregularities or fraud, and where such errors, irregularities or fraud are attributable to the Contractor, the Commission may refuse to make payments, may recover amounts already paid or may terminate all the contracts concluded with the Contractor, in proportion to the seriousness of the errors, irregularities of fraud.

ARTICLE II.15 – INVOICING AND PAYMENTS

II.15.1. Pre-financing guarantee:

Where required by Article I.4.1 or if the pre-financing is over €150 000, the Contractor shall provide a financial guarantee in the form of a bank guarantee or equivalent supplied by a bank or an authorised financial institution (guarantor) equal to the amount indicated in the same article to cover pre-financing under the Contract. Such guarantee may be replaced by a joint and several guarantee by a third party.

The guarantor shall pay to the Commission at its request an amount corresponding to payments made by it to the Contractor which have not yet been covered by equivalent service rendered on his part.

The guarantor shall stand as first-call guarantor and shall not require the Commission to have recourse against the principal debtor (the Contractor).

The guarantee shall specify that it enters into force at the latest on the date on which the Contractor receives the pre-financing. The guarantee shall be retained until the pre-financing has been cleared against interim payments or payment of the balance to the Contractor. It shall be released the following month or, in the absence of such clearing, four months after the issuance of a corresponding debit note. The cost of providing such guarantee shall be borne by the Contractor.

II.15.2. Interim payments and payment of the balance:

Payments shall be executed only if the Contractor has fulfilled all his contractual obligations by the date on which the invoice is submitted.

At the end of each of the periods indicated in Annex II the Contractor shall submit to the Commission an invoice accompanied by the documents provided for in the Special Conditions.

If providing a progress report is a condition for payment, on receipt the Commission shall have the period of time indicated in the Special Conditions in which:

- to approve it, with or without comments or reservations, or suspend such period and request additional information; or
- to reject it and request a new progress report.

Approval of the progress report shall not imply recognition of the regularity or of the authenticity, completeness and correctness of the declarations and information it contains.

Where the Commission requests a new progress report because the one previously submitted has been rejected, this shall be submitted within the period of time indicated in the Special Conditions. The new progress report shall likewise be subject to the above provisions.

II.15.3. Payment currency and costs:

Payments are executed in the currency of the contract.

Costs of the transfer are borne in the following way:

- costs of dispatch charged by the bank of the Commission are borne by the Commission,
- cost of receipt charged by the bank of the Contractor are borne by the Contractor,
- all costs of repeated transfer caused by one of the parties are borne by the party who caused repetition of the transfer.

ARTICLE II.16 – GENERAL PROVISIONS CONCERNING PAYMENTS

II.16.1. Payments shall be deemed to have been made on the date on which the Commission's account is debited.

II.16.2. The payment periods referred to in Article I.4 may be suspended by the Commission at any time if it informs the Contractor that his invoice is not admissible, either because the amount is not due or because the necessary supporting documents have not been properly produced. The Commission may proceed with further verification, including an on-the-spot check, in order to ascertain, prior to payment, that the invoice is admissible.

The Commission shall notify the Contractor accordingly and set out the reasons for the suspension by registered letter with acknowledgment of receipt or equivalent. Suspension shall take effect from the date of dispatch of the letter. The remainder of the period referred to in Article I.4 shall begin to run again once the suspension has been lifted.

II.16.3. In the event of late payment the Contractor shall be entitled to interest, provided the calculated interest exceeds EUR 200. In case interest does not exceed EUR 200, the Contractor may claim interest within two months of receiving the payment. Interest shall be calculated at the rate applied by the European Central Bank to its most recent main refinancing operations (*"the reference rate"*) plus seven percentage points (*"the margin"*). The reference rate in force on the first day of the month in which the payment is due shall apply. Such interest rate is published in the C series of the Official Journal of the European Union. Interest shall be payable for the period elapsing from the calendar day following expiry of the time limit for payment up to the day of payment. Suspension of payment by the Commission may not be deemed to constitute late payment.

ARTICLE II. 17 – TAXATION

II.17.1. The Contractor shall have sole responsibility for compliance with the tax laws which apply to him. Failure to comply shall make the relevant invoices invalid.

II.17.2. The Contractor recognises that the Commission is, as a rule, exempt from all taxes and duties, including value added tax (VAT), pursuant to the provisions of Articles 3 and 4 of the Protocol on the Privileges and Immunities of the European Union.

II.17.3. The Contractor shall accordingly complete the necessary formalities with the relevant authorities to ensure that the goods and services required for performance of the Contract are exempt from taxes and duties, including VAT.

II.17.4. Invoices presented by the Contractor shall indicate his place of taxation for VAT purposes and shall specify separately the amounts not including VAT and the amounts including VAT.

ARTICLE II.18 - REIMBURSEMENTS

II.18.1. Where provided by the Special Conditions or by Annex II, the Commission shall reimburse the expenses which are directly connected with execution of the tasks on production of original supporting documents, including receipts and used tickets.

II.18.2. Travel and subsistence expenses shall be reimbursed, where appropriate, on the basis of the shortest itinerary.

II.18.3. Travel expenses shall be reimbursed as follows:

a) travel by air shall be reimbursed up to the maximum cost of an economy class ticket at the time of the reservation;

b) travel by boat or rail shall be reimbursed up to the maximum cost of a first class ticket;

c) travel by car shall be reimbursed at the rate of one first class rail ticket for the same journey and on the same day;

d) travel outside Community territory shall be reimbursed under the general conditions stated above provided the Commission has given its prior written agreement.

II.18.4. Subsistence expenses shall be reimbursed on the basis of a daily allowance as follows:

a) for journeys of less than 200 km (return trip) no subsistence allowance shall be payable;

b) daily subsistence allowance shall be payable only on receipt of a supporting document proving that the person concerned was present at the place of destination;

c) daily subsistence allowance shall take the form of a flat-rate payment to cover all subsistence expenses, including accommodation, meals, local transport, insurance and sundries;

d) daily subsistence allowance, where applicable, shall be reimbursed at the rate specified in Article I.3.

II.18.5. The cost of shipment of equipment or unaccompanied luggage shall be reimbursed provided the Commission has given prior written authorisation.

II.18.6. Conversion between the euro and another currency shall be made using the daily euro exchange rate published in the C series of the *Official Journal of the European Union* of the day on which the expense was made.

ARTICLE II.19 – RECOVERY

II.19.1. If total payments made exceed the amount actually due or if recovery is justified in accordance with the terms of the Contract, the Contractor shall reimburse the appropriate amount in euro on receipt of the debit note, in the manner and within the time limits set by the Commission.

II.19.2. In the event of failure to pay by the deadline specified in the debit note, the sum due shall bear interest at the rate indicated in Article II.16.3. Interest shall be payable from the calendar day following the due date up to the calendar day on which the debt is repaid in full.

II.19.3. The Commission may, after informing the Contractor, recover amounts established as certain, of a fixed amount and due by offsetting, in cases where the Contractor also has a claim on the Union or the European Atomic Energy Community that is certain, of a fixed amount and due. The Commission may also claim against the guarantee, where provided for.

ARTICLE II.20 – CHECKS AND AUDITS

II.20.1. Pursuant to Article 142 of the Financial Regulation applicable to the general budget of the European Communities, the Court of Auditors shall be empowered to audit the documents held by the natural or legal persons receiving payments from the budget of the Union from signature of the Contract up to five years after payment of the balance.

II.20.2. The Commission or an outside body of its choice shall have the same rights as the Court of Auditors for the purpose of checks and audits limited to compliance with contractual obligations from signature of the Contract up to five years after payment of the balance.

II.20.3. In addition, the European Anti Fraud Office may carry out on-the-spot checks and inspections in accordance with Council Regulation (Euratom, EC) No 2185/96 and Parliament and Council Regulation (Euratom) No 1074/1999 from signature of the Contract up to five years after payment of the balance.

Annex A1

Statement of Contractor concerning right to delivered result

I, [*insert name of the authorised representative of the Contractor*] representing [*insert name of the Contractor*], party to the Contract [*insert title and/or number of the contract*] warrants that the Contractor holds full right to the delivered [*insert title and/or description of result*] which is free of any claims, including claim of the creators who transferred all their rights and [were fully paid] [will be paid as agreed within [*complete*] weeks from [delivery of this statement.] [receipt of confirmation of acceptance of the work].

Date, place, signature

ANNEX II

Tender Specifications

ANNEX III

Contractor's Tender