 OPC Test Lab Specification

Part 3: Test Lab Realization

Release Candidate Version 1.00.02

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OPC Foundation

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OPC Test Lab Certification

FOREWORD

This specification is intended for developers and users of the OPC Certification Test Lab. Its goal is to define a certification process to ensure interoperability between OPC server and client products.

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This Agreement shall be governed by and construed under the laws of the State of Minnesota, excluding its choice or law rules.

This Agreement embodies the entire understanding between the parties with respect to, and supersedes any prior understanding or agreement (oral or written) relating to, this specification.

# Scope

This specification defines how to become and to run an accredited OPC Certification Test Lab.

The interoperability of the member-developed components and the compliance of these components to OPC specifications are critical to the success of the OPC Foundation and its members. In addition, quality, reliability, performance and ease of use are the key factors that will lead to increased use of OPC Interfaces in different branches of industry.

To help improve the quality, robustness and interoperability of OPC Client and Server products this document defines the requirements and rules to become and run a Certification Test Lab for OPC product certification. This document is part of a multi-part specification that serves as a base for the development and operation of Certification Test Labs. The Certification Test Lab realization is addressed to the management of Certification Test Labs and to the management of the OPC Foundation.

Part 5 of this multipart specification defines the quality management manual for a Certification Test Lab. Part 5 covers the requirements defined in this document. All quality management related documents mentioned in this document are defined in Part 5.

# Reference documents

This document is part 3 of the OPC Test Lab multi-part specification. It uses concepts defined by the organization PROFIBUS INTERNATIONAL (PI) in their document TC1-03-0015\_Testlab\_PROFIBUS. Another document related to the topics in this part is the business plan document for the OPC Certification Test Labs.

# Terms, definitions, and conventions

## OPC Test Lab Part 1 terms

The following terms defined in Part 1 of this multi-part specification apply.

1. Board of Directors
2. Technical Advisory Council
3. Compliance Testing
4. Certification Testing
5. Certification Test Lab

## OPC Test Lab Part 2 terms

1. OPC Server
2. OPC Client
3. Test Records
4. Test Report

## Certification Test Lab Realization terms

### Accreditation

Certification as complying with the Certification Test Lab standard for structure, process and outcome, as set by the OPC Foundation.

### Audit

A timely process or system inspection to ensure that OPC Certification Test Lab conforms to documented quality standards. An Audit also identifies discrepancies between the documented standards and the standards followed by the Certification Test Lab. It may also show how well the documented standards support the processes currently followed.

Corrective, preventive and improvement actions should be undertaken to eliminate the discrepancies between what is documented, what is done and what is required to comply with the appropriate quality standard.

### Compliance Committee

A committee that oversees the Certification Testing of OPC products. See Clause 4 for detailed definition.

### Compliance Director

The director of the Compliance Committee. See Clause 4.2 for detailed definition.

### Customer

Vendor of a product that would like to test and certify his product in a Certification Test Lab.

# OPC Compliance Committee

## Overview

The OPC Compliance Committee is a committee designated by the OPC Foundation. Among other duties, it oversees the operation of Certification Test Lab activities. The leadership of this committee is appointed by the OPC Foundation. The membership of this committee is determined jointly by the leadership of the committee and the OPC Foundation management. The proceedings of this committee are available to OPC members.

## OPC Compliance Director

The OPC Compliance Director is the leader of the OPC Compliance Committee. The OPC Compliance Director is defined by the OPC Foundation.

## Members of the OPC Compliance Committee

The OPC Compliance Committee is composed of the Compliance Director, at least one representative from each Certification Test Lab, representatives of OPC member companies and representatives from the OPC User Group. The Compliance Committee also includes the President of the OPC Foundation and the Technical Lead of the OPC Foundation, as do all OPC committees.

## Responsibilities of the OPC Compliance Committee

The Compliance Committee is responsible for the oversight activities described throughout this multi-part specification. It is also responsible for the initial draft of this specification.

All decisions made by this committee must be documented as part of its meeting minutes and made available to the committee members. The committee will attempt to reach a consensus on all issues, but if a consensus cannot be reached, the Compliance Director can poll the members that are in attendance and adopt an issue by a simple majority vote. All meetings shall be announced a minimum of three weeks in advance, allowing members to arrange to attend. All phone conferences shall be announced a minimum of one week in advance, allowing members to arrange to attend. Quorum for a meeting or phone conference in which final decisions are made shall be 2/3 of the active committee members. A member who has attended at least two of the previous four conference calls or meetings shall be considered active.

The director of the OPC Compliance committee is responsible for establishing the agenda of the meetings and coordinating the work of the committee.

# Accreditation criteria

The accreditation criteria must at least comprise those listed in this section, form which the competence of an OPC Certification Test Lab when it is audited is determined.

The OPC Foundation may define further technical criteria tailored to an individual test or type of test.

The economic market must be such that the OPC Foundation can ascertain a demand for the Certification Test Lab to be accredited.

An audit team checks the conformance with the accreditation criteria. This procedure is called an “audit”.

# Scope of accreditation

## Definition of the Scope of accreditation

The scope of accreditation is defined by reference to one or more test specifications and the base Certification Test Lab described in this multi-part document.

## Change of scope

If the Certification Test Lab wishes to extend its test scope between audits, it shall apply to extend the scope to the OPC Foundation Compliance Committee. The application shall identify the scope of the extension by referring to the test specification(s) and shall include a declaration that the Certification Test Lab has suitable test tools and trained staff. The OPC Foundation Compliance Committee shall evaluate the application and determine whether it should be accepted.

The change of scope requires a new audit to confirm compliance with the test requirements and synchronization with other Certification Test Lab executing the same scope. Training by an expert for the new test scope may be required before the first certification. The OPC Foundation Compliance Committee will determine if the training is required.

# Requirements for an OPC Certification Test Lab

## Legally identifiable

The Certification Test Lab must be legally identifiable.

## Impartiality, independence and integrity

The activities of the Certification Test Lab must be free from all commercial, financial or other influences that could have an adverse effect on its technical judgment. Any influence whatsoever by outside persons or organizations on the assessment or test results must be excluded.

The Certification Test Lab may not certify products of its own organization or company, or products which it has developed for another company. However, it may certify products of companies that it has supported during development.

The Certification Test Lab shall not be engaged in any activity that could jeopardize confidence in the independence of its judgment or the integrity of its testing activities. In general a Certification Test Lab should not be run by a company or organization that provides OPC client or server products. A company that provides OPC server or client products must receive special approval from the OPC Compliance Committee before becoming a Certification Test Lab. If a company begins to offer its own client or server products after becoming a Certification Test Lab, it shall disclose this to the OPC Compliance Committee. It must then obtain the special approval or cease operating as a Certification Test Lab.

The special approval, as described above, is obtained by providing a written (electronic) description of the products being offered by the applicant Certification Test Lab to the Compliance Director. The Compliance Director will review the submitted document along with the OPC Foundation President. The Compliance Director will generate a recommendation with regard to the Certification Test Lab status to the Compliance Committee and arrange for a Compliance Committee discussion of the issue. The Compliance Committee director will call for a vote on the subject and notifies the company of the Compliance Committee decision.

The compensation of the staff members of the Certification Test Lab shall not depend on the test results or on the business volume of the testing lab.

## Technical competence

### Administration and organization

The Certification Test Lab must have the competence required to carry out OPC tests. It must be organized so that each employee knows the extent and limits of his or her area of responsibility.

In organizational terms it must be assured that adequate supervision is provided by persons who are familiar with the test procedures, the purpose of the test and the evaluation of the test results. The numerical ratio between the supervisory staff and the other staff must be such that adequate supervision is possible.

The Certification Test Lab must have a technical manager who bears overall responsibility for the technical aspects of the laboratory.

### Staff

The Certification Test Lab must

* have sufficient staff with the qualification, training, technical knowledge and experience required to carry out its responsibilities,
* be active in the OPC Compliance working group and involved in current OPC working groups and
* maintain documentation on the qualifications, training and experience of the technical staff.

### Premises and facilities

To run a Certification Test Lab, a room of sufficient size is required. It must have enough tables to bear the test equipment. Cabinets to store the test specifications as well as the files that document the test results must be available as part of the facility. For the temporary storage of products being tested, additional storage may be required.

Access to the Certification Test Lab must be restricted to the test personnel. Conditions must be specified for access to the laboratory by outside persons. If the Certification Test Lab is accessible via a remote electronic link, this link must be secured. It must be ensured that a company can only access the test lab while they are testing and only has access to their own product that is under test.

The environment in which the tests are carried out must provide true and accurate test results. The environment must be sufficiently spacious to limit the risk of injury or equipment damage and must allow the staff sufficient freedom of movement. The rooms must be equipped with the facilities and power connections required for the test. The rooms must provide a sufficient environmental control to meet the operating requirements of the products to be tested.

### Test equipment

All equipment must be properly maintained. Exact maintenance instructions must be available. Records must be made of each important test instrument.

The test tools and test equipment used in the Certification Test Lab must be kept up to date and synchronized with the other Certification Test Labs based on the requirements defined in the test specifications for the testing scope of the test lab.

### Documents

Written documents of the Certification Test Lab must be available, kept up to date and indicate organization and competencies.

### Technical competence for additional services

The Certification Test Lab must have the technical competence to provide additional OPC product development related services such as white box testing and OPC development consulting.

Part 2 of this multi-part specification declares that white box testing is not required for Certification Testing. However a Certification Test Lab should be able to provide the necessary services.

In addition to white box testing, the Certification Test Lab should be able to provide OPC product development consulting to help vendors to reach the common quality standard and feature set for OPC products.

# Accreditation procedure

The accreditation procedure is comprised of the following steps:

## Application for accreditation

An organization that wants to become an accredited Certification Test Lab or wants to renew its accreditation must file an official application form signed by a duly authorized representative of the applicant.

The application shall be directed to the President of the OPC Foundation with a copy sent to the OPC Compliance Director. For new applications, the OPC Foundation reserves the right to reject an application if it determines that a new Certification Test Lab is not required in the requested region.

Once the application is accepted, the applying organization will be audited as part of the accreditation process. The application includes legal terms describing the association between the OPC Foundation and the Certification Test Lab. See Appendix A.1 for a starting agreement, this agreement can be modified for each test lab.

## The appointment and engagement of a qualified auditor

The OPC Compliance Director will propose to the applying organization an audit team with a minimum of two members. Audit team members should be members of the OPC Compliance Committee. It is recommended that the audit team include a manager of an existing Certification Test Lab. The audit team will provide a quotation for the costs of the audit and will propose a date for the audit. The applying organization will engage the audit team by written statement.

## Collection of information required for auditing

The following information must be supplied by the applying organization to Compliance Director prior to audit. The Compliance Director provides this information to the audit team and it serves as a preparation for the on-site accreditation.

* General information on the applying organization (name, address, legal form, personnel-related and technical information).
* General information on the applying organization, such as main field of activity, position within a larger organization and the location of the proposed Certification Test Lab.
* The intended scope of the Certification Test Lab. The scope is related to a particular test specification or a list of test specifications such as OPC Data Access Client.
* Description of the internal organization of the Certification Test Lab and of the quality assurance system which the applying organization uses to generate confidence in the quality of its testing activities, including its quality assurance manual. This multi-part specification defines the framework for quality assurance in the Certification Test Lab. The quality assurance system must follow these rules.

## The on-site audit of the applying organization

The applying organization will be the subject of an on-site audit by the appointed audit team. The audit will be divided into two parts:

* The audit of the quality management system
* The assessment of the test performance.

The first part will determine whether all elements of the quality management system are implemented and conform to the Quality Management manual defined in Part 5 of this multi-part specification. Part 5 provides a template and samples, and the Certification Test Lab must implement its own system based on the OPC Test Lab Specification rules.

The second part will determine whether the test personnel are able to perform the tests according to the defined test procedures and whether the required recording work is carried out properly.

The audit team will explain the major results of the audit and the required actions. They will also prioritize the observations according to their importance and will reach an agreement with the Certification Test Lab management on the next actions to be taken.

The findings of the audit team will be documented in a detailed audit report. The audit report must include a recommendation to the OPC Compliance Committee and the OPC Foundation President as to whether or not the applying organization should be accredited. The audit report may also contain recommendations of procedures that should be improved prior to subsequent audits.

The audit team will provide the applying organization with a copy of the audit report. If the applying organization disagrees with the findings of the audit team, it may communicate these disagreements to the OPC Compliance Committee via the Compliance Director and OPC Foundation President prior to the decision on the application.

## Decision on the application

The decision as to whether the applying organization is to be accredited is made by the OPC Foundation President based on the recommendation of the OPC Compliance Committee and on the basis of the audit results and business evaluation. The OPC Foundation President may involve the OPC Foundation Board of Directors and Technical Advisory Council in these decisions.

All decisions must be recorded in writing. Accreditation will be limited in time and subject to certain conditions. Certification Test Labs must be re-accredited on a periodic basis. The period is defined by the OPC Compliance Committee. The maximum interval is three years.

# Running the OPC Certification Test Lab

## OPC test specifications and lab instructions

The Certification Test Lab must have suitable written instructions for the use of all test facilities. All instructions, standards, manuals and reference data important for the activities of the Certification Test Lab must be kept up to date and easily accessible to the staff.

The Certification Test Lab must use the procedures defined in OPC test specifications and test cases. These specifications must be accessible to the test staff.

The Certification Test Lab must turn down requests to carry out tests using test procedures that may jeopardize an objective result or that are of insufficient validity.

All test records and test case results must be verifiable in a suitable form.

For test results obtained using electronic data processing, the data processing system must be reliable and stable enough to ensure that the accuracy of the test results is not impaired. The system must be in a position to detect faults during the running of a program and to take suitable measures.

## Quality assurance system

The Certification Test Lab must operate a quality management system. The elements of this system must be recorded in a quality assurance manual, which is available to the staff of the laboratory. A staff member of the Certification Test Lab appointed for this task must keep the quality assurance manual up to date. The requirements for this quality management system are described in Part 5 of this multi-part specification.

The Certification Test Lab management team must appoint a staff member responsible for quality assurance within a laboratory and this staff member must have direct access to the management team.

The quality assurance manual must contain at least:

* A statement of quality policy
* Structure of the Certification Test Lab (system flowchart)
* Responsibilities and competencies with respect to quality assurance, clearly stating the extent and limits of responsibility of every person involved
* General quality assurance sequences
* Sufficient measures for information feedback and for corrective measures if inconsistencies are found in tests
* Procedures for handling complaints

An outline of a quality management manual is defined in Part 5 of this multi-part specification.

The quality assurance system must be systematically and regularly monitored by, or on behalf of, the management, to confirm the long-term effectiveness of sequences and the introduction of the necessary corrective measures. These monitoring operations and the details of all corrective measures taken must be recorded. The OPC Foundation reserves the right to audit any Certification Test Lab at any time for any reason. The OPC Foundation may revoke the accreditation of a Certification Test Lab in the event of an audit failure.

## Test reports

The work carried out by the Certification Test Lab must be drawn up in a report that conscientiously, clearly and unequivocally records the test results and all material information.

This report is automatically generated by the WEB base application that is used to record all test results. Two versions of the report are available. The first is a summary of the overall test results. The second is a detailed report listing all test cases, test results and any comments associated with the test case (both tester and vendor comments)

All comments regard the testing and test results are time stamped and stored as part of the results. The comment also includes the vendor, tester or administrator that made the comment.

A test report must not contain advice or recommendations arising from the test results.

The test results must be reproduced conscientiously, clearly, fully and unequivocally, in conformance with instructions that may be part of the documents relating to the test procedure.

Quantitative results must be given with the calculated or estimated measurement tolerance.

The test reports must be signed by an authorized member of the Certification Test Lab staff. This signature is provided by an electronic approval of the products test results. Before results are available for publishing a vendor must also approve the test result report (again via a selection on the report)

## Records

The Certification Test Lab must maintain a records system adapted to its particular conditions. All original observations, calculations and derived data, as well as the records concerning calibration, and the final test report, must be archived for a period of at least five (5) years. The records of each test must contain sufficient information to be able to repeat the test. The records must contain information on the persons involved in the test. These records may be electronic or printed.

All records and test reports must be kept safe and treated confidentially in the interests of the Customer. After the test, a copy of electronically-stored records must be sent to the OPC Foundation or an archive facility designated by the OPC Foundation.

## Handling the test items

The items to be tested must be systematically identified, either through documents or marking, to preclude the possibility of mistakes concerning the identity of the test items and the measured results.

This system must include precautions to ensure that the test items are treated anonymously, for example with respect to other Customers. All testing and test information shall be performed under a mutual non-disclosure agreement. See Part 5 of this multi-part specification for a sample non-disclosure form.

At each stage of storage, handling and preparation for the test, precautionary measures must be taken to prevent damage to the test items. All instructions enclosed with the samples or test items must be followed.

There must be unequivocal provisions for the receipt, storage and disposal of test items.

## Assuring confidentiality

In accordance with the contractual conditions, the Certification Test Lab must guarantee the confidentiality of its work.

## Subcontracts

Subcontractors are permitted in the test process without prior approval of the OPC Compliance Committee. These subcontractors must agree to all of the stipulations in this specification. Prior to testing, all subcontractors must be disclosed to and approved by the Customers of the Certification Test Lab.

## Cooperation with Customers

The Certification Test Lab must cooperate with the Customer or its representative in such a way that the latter can explain the job and supervise the performance of the Certification Test Lab with respect to the work to be carried out. This cooperation must include:

* Providing access for the Customer or its representative to the relevant areas of the Certification Test Lab to be able to witness any tests carried out on the Customer’s behalf. Such access must not compromise safety or the confidentiality of work for other Customers.
* Preparation, packaging and dispatch of test items that the Customer requires for purposes of examination.

## Complaint procedure

The OPC Foundation provides multiple methods for a vendor to provide feedback on the testing process and the test results. The test expert can object to the result of a test, if the tester and vendor expert can not agree on the result, the result is marked as “Exception”. Test exceptions are referred back to the OPC Foundation Compliance committee for review and determination of results. If a result is agreed upon, but the vendor wish to provide additional comment regarding it, the WEB interface allows a vendor to provide test result comments on any test case. These result comments will be publish as part of the test results. Lastly the vendor, via the WEB interface, can provide general feedback related to the testing process and testing of the particular product. The OPC Foundation will review all vendor feedback comments as part of its review of completed product tests. In addition an e-mail address for participants to enter disputes will be provided as part of the registration process, this e-mail will be directed at the Compliance Director and OPC Foundation staff.

## Cooperation with the OPC Foundation

The Certification Test Lab must cooperate sufficiently with the OPC Foundation for the latter to be able to monitor compliance with its requirements and other criteria. This cooperation must include:

* Providing access for an OPC Foundation representative to the relevant areas of the Certification Test Lab, in order to allow OPC Compliance Committee officials to observe test execution.
* Carrying out an appropriate examination so that the OPC Foundation can determine the testing capability of the Certification Test Lab.
* Permission to examine the results of the internal audits carried out by the Certification Test Lab itself.
* Personnel changes must be reported to the Compliance working group and it must decide if a new audit is necessary. In particular any management position changes may trigger the requirement for a new audit.

## Cooperation with other OPC Certification Test Labs and with agencies preparing standards and regulations

The Certification Test Lab is urged to participate, as much as possible, in the preparation of national and international standards for the scope of the tests.

The Certification Test Lab is urged to participate in the exchange of information with other Certification Test Labs performing tests in the same technical field. The goal is to have uniform test procedures and to improve testing quality. Cooperation platforms are the working groups of the OPC Foundation.

# Obligations arising from accreditation

An accredited OPC Certification Test Lab:

* Must meet the requirements of these defined criteria at all times.
* Must make it clear that it is only accredited for test services for which it has been granted accreditation and which are performed in accordance with the requirements of these defined criteria.
* Must not use its accreditation in such a way as to bring the OPC Foundation into disrepute, and with respect to its accreditation may make no statements which the OPC Foundation may justifiably regard as misleading.
* Can lose its accreditation if it does not pass an audit or if it violates the rules defined in this multi-part specification.
* On termination of the validity of its accreditation for any reason, may make no further use of it and must stop any related advertising.
* Must make it clear in all contracts with its Customers that the accreditation of the Certification Test Lab or its test reports do not mean that the OPC Foundation or any other corporate enterprise has approved the tested product.
* Must make it clear in all contracts with its Customers that the tested vendor must follow the OPC Foundation rules for publishing results, certificates and logos for advertising purposes. If the test lab notices that a Customer does not follow the rules, it must report this to the OPC Foundation. Under no circumstances may excerpts of the test report be copied without written permission of the OPC Foundation and the tested vendor.
* Must notify the OPC Foundation without delay about any change that affects compliance with the requirements of these criteria or affects the efficiency or the field of activity of the Certification Test Lab.

References to the Certification Test Lab’s accredited status in publications such as documents, brochures or advertisements, must use the following or a similar sentence: "OPC Certification Test Lab, accredited by the OPC Foundation for ... (scope of accreditation)”.

In the event of withdrawal of its accreditation, the Certification Test Lab must work towards ensuring that such references are no longer made.

Customers wishing to refer to the utilization of an accredited Certification Test Lab must be required by the Certification Test Lab to use the following sentence: “Tested by an OPC Certification Test Lab accredited by the OPC Foundation for ... (scope of accreditation)”.

If a Customer wants to publish the test report for a product, it must publish the whole report and not only parts of it.

A Certification Test Lab can waive its accreditation by notifying the OPC Foundation in writing and observing a minimum period of one month's notice. The Certification Test Lab must also resolve any scheduled activities to the satisfaction of the Customers and the OPC Foundation during this period. The notification shall be directed to the President of the OPC Foundation and copied to the OPC Compliance Director. The actual period required will be described in the contract between the OPC Foundation and the test lab.

* 1. Appendix – Application Form

**OPC FOUNDATION**

**INDEPENDENT CERTIFICATION TEST LAB**

This Agreement is made and entered into as of the 1st day of April, 2007 (the “Effective Date”) by and between OPC Foundation, a Minnesota non-profit corporation located at 16101 N. 82nd Street, Suite 3B, Scottsdale, Arizona, 85260-1830 (the “Foundation”), and XXXXX

This contract replaces and supersedes all prior agreements, contracts, extensions and addenda.

WHEREAS, the OPC Foundation was formed for the purpose of promoting the use of the OPC computer programming standard; the Independent Certification Test Labs which are part of the larger enhanced certification program of the OPC Foundation are devoted to ensuring that the interoperability set forth in the OPC specifications describing the OPC Computer programming standard are adhered to and to provide support to the general OPC Community with regard to these standards.

WHEREAS, the OPC Foundation is a consortium of its individual members and member companies and has no employees. The OPC Foundation therefore desires to engage XXXXX as an OPC Independent Certification Test Lab and to execute the said process and services as prescribed by the OPC Foundation.

WHEREAS, Independent Certification Test Lab has expertise in the certification and validation of standards in the manufacturing industry and understands the benefits of interchange ability between various programs and applications provided by the OPC standard, and is familiar with the Foundation’s efforts to develop and promote the use of such standards. Independent Certification Test Lab is willing and able to provide to the OPC Foundation the services as specified herein, under the direction of and subject to the needs and requirements of the OPC Foundation’s officers and Director of Compliance.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

**ARTICLE 1. SERVICES TO BE PERFORMED**

**Section 1.1** **Services.** The OPC Foundation hereby engages Independent Certification Test Lab as an independent contractor to provide the compliance and certification services described in Exhibits A and C attached hereto, together with such other services as may reasonably be required of Independent Certification Test Lab to implement the purpose of the OPC Foundation (collectively, the “Services”), and Independent Certification Test Lab hereby agrees to provide these Services to the OPC Foundation. To the extent that other services may reasonably be required by the OPC Foundation, which are not described in Exhibits A or C, Independent Certification Test Lab and the OPC Foundation shall reasonably cooperate with each other to establish in writing the nature of such required services, the terms and conditions pursuant to which such services shall be provided (including any appropriate standards for such required services), and the basis for calculation of the fees for such services.

**Section 1.2 Performance of Services.** During the term of this Agreement, Independent Certification Test Lab agrees to perform the Services in a faithful, professional and diligent manner and shall use its best efforts to cause its personnel, to devote a substantial proportion of their respective business time, attention, skill and energy to the compliance and certification of the OPC Foundation.

**Section 1.3 Nonexclusivity.**  The OPC Foundation acknowledges that Independent Certification Test Lab may enter into other professional, consulting, administrative or management agreements with other persons, including, without limitation, other information systems-related consortia, provided, however, Independent Certification Test Lab may not render such services to any other organization developing or promoting a particular software standard that competes with the technology promoted by the OPC Foundation.

**Section 1.4 Services Details.**  The OPC Foundation has generated and maintains a set of specifications that describe the functionality and requirements of an Independent Certification Test Lab. These specifications are listed in exhibit C. Exhibit C also include specifications that describe the general testing required for the various OPC Specifications. It is understood that this list of specifications will grow with time and that an Independent Certification Test Lab may be required by the OPC Foundation to add support to these additional specifications. The OPC Foundation will provide in writing the nature of such additional required services and the Independent Certification Test Lab and the OPC Foundation shall reasonably cooperate regarding any additional fees for such services. In addition these specifications include stipulations with regard to non-disclosure agreements that the lab must execute with all vendors that attend the lab.These Non-disclosure agreement must include all employees of the Independent Certification Test Lab that have access to any information related to the services provided by the Independent Certification Test Lab.

**ARTICLE 2. CONFIDENTIAL INFORMATION**

**Section 2.1 Confidential Information.** Independent Certification Test Lab acknowledges that the OPC Foundation shall disclose to Independent Certification Test Lab, or Independent Certification Test Lab may obtain or develop for the OPC Foundation, certain confidential and secret knowledge and information, including, without limitation, membership information, cost and price data, market analyses, inventions, formulae, software (in object and source code), algorithms, and other materials (“Confidential Information”), some of which may be owned by the OPC Foundation and some of which may be owned by its members or affiliates. Except as expressly permitted by this Agreement or otherwise authorized and directed by the OPC Foundation during the term of this Agreement or for three (3) years thereafter, Independent Certification Test Lab shall not divulge, furnish or make accessible to anyone or use in any way (other than in the ordinary course of the business of the OPC Foundation) any Confidential Information of the OPC Foundation, of any member of the OPC Foundation, or of a third party entrusting the same to the OPC Foundation, which Independent Certification Test Lab has acquired or become acquainted with or shall acquire or become acquainted with prior to the termination of this Agreement, whether developed by Independent Certification Test Lab or by others. Independent Certification Test Lab acknowledges that the Confidential Information constitutes a unique and valuable asset of the OPC Foundation and that any disclosure or other use of such knowledge or information other than for the sole benefit of the OPC Foundation could be wrongful and could cause irreparable harm to the OPC Foundation. Independent Certification Test Lab shall refrain from any acts or omissions that would reduce the value of the Confidential Information to the OPC Foundation. The foregoing obligations of nondisclosure and nonuse shall not apply to any knowledge or information which (a) is now published or which subsequently becomes generally publicly known through no fault of Independent Certification Test Lab; (b) was already known to Independent Certification Test Lab prior to is disclosure by the OPC Foundation, as shown by Independent Certification Test Lab’ books and records; (c) was received from a third party under no obligation to the OPC Foundation of nondisclosure and nonuse; or (d) is required to be revealed pursuant to law, provided, however, in the latter event, Independent Certification Test Lab shall use its best efforts to give written notice to the OPC Foundation of such required revelation and to afford the OPC Foundation a reasonable opportunity to contest or limit the nature and extent of such revelation.

**Section 2.2 Copyrightable Material.** All right, title, and interest in all copyrightable material which Independent Certification Test Lab shall conceive or originate, either individually or jointly with others, and which arises out of the performance of the Services shall be a “work made for hire” as provided in 17 U.S.C. Section 101 and shall be the sole and exclusive property of the OPC Foundation. Independent Certification Test Lab shall execute all papers and perform all other acts necessary to assist the OPC Foundation to obtain and register copyrights on such materials in any and all countries in the world and shall require any subcontractors who are involved in performance of the Services to do the same. In the event that any work of authorship resulting from Independent Certification Test Lab’ services fails to qualify as a “work made for hire,” Independent Certification Test Lab hereby irrevocably assigns, transfers, conveys and sets over to the OPC Foundation, any and all interest in such work of authorship.

**Section 2.3 Know-How and Trade Secrets.** All know-how and trade secret information conceived or originated by Independent Certification Test Lab, which arises out of the performance of the Services or any related material or information shall be the sole and exclusive property of the OPC Foundation, and Independent Certification Test Lab hereby irrevocably assigns, transfers, conveys and sets over to the OPC Foundation, any and all interest in such know-how and trade secret information.

**Section 2.4 Notification and Disclosure.** Independent Certification Test Lab shall promptly notify the OPC Foundation in writing of the existence and nature of, and shall promptly and fully disclose to the OPC Foundation, any and all ideas, designs, practices, processes, apparatus, improvements and inventions, whether or not they are believed to be "patentable" (collectively, “Inventions”), which Independent Certification Test Lab has conceived or first actually reduced to practice and/or may conceive or first actually reduce to practice during the term of this Agreement or which Independent Certification Test Lab may conceive or reduce to practice within six (6) months after termination of this Agreement, if such Inventions relate to any of the Services upon which Independent Certification Test Lab worked during the term of this Agreement. All such Inventions shall be the sole and exclusive property of the OPC Foundation or its nominee, and during the term of this Agreement and thereafter, whenever requested to do so by the OPC Foundation, Independent Certification Test Lab shall execute and assign any and all applications, assignments and other instruments that the OPC Foundation shall deem necessary or convenient in order to apply for and obtain Letters Patent of the United States and/or of any foreign countries for such Inventions and in order to assign and convey to the OPC Foundation or its nominee the sole and exclusive right, title and interest in and to such Inventions. Independent Certification Test Lab shall render aid and assistance to the OPC Foundation in any interference or litigation pertaining to such Inventions, and all expenses reasonably incurred by Independent Certification Test Lab at the request of the OPC Foundation shall be borne by the OPC Foundation. In this connection, if such aid or assistance requires any expenditure of Independent Certification Test Lab’ time after termination of this Agreement, Independent Certification Test Lab shall be entitled to reasonable compensation for the time requested by the OPC Foundation at a rate comparable to the rate at which Independent Certification Test Lab was being paid for the last full normal billing period immediately prior to the end of the term of this Agreement.

**ARTICLE 3. FEES AND EXPENSES**

**Section 3.1 Fees.** As its sole and exclusive compensation for its Services hereunder, the Independent Certification Test Lab shall be entitled to receive from the OPC Foundation the fees set forth on Exhibit B. Fees payable to Independent Certification Test Lab, as set forth on Exhibit B, shall be paid from an account for which OPC Foundation has the authority to sign checks. Independent Certification Test Lab agrees that receipts for such payments shall be provided to the OPC Foundation’s Treasurer with the normal quarterly report.

**Section 3.2 Expenses.** Independent Certification Test Lab shall be reimbursed by the OPC Foundation for the expenses set forth on Exhibit B, in the amounts set forth therein, that are incurred by Independent Certification Test Lab in the performance of or in connection with the Services pursuant to the terms and conditions of this Agreement.

**Section 3.3 Invoices and Records.** Independent Certification Test Lab shall submit for approval to the OPC Foundation quarterly invoices for its fees and expenses in accordance with Exhibit B, together with such receipts or other documentation as the OPC Foundation may reasonably request. Independent Certification Test Lab shall maintain complete, accurate and current books and records of all such fees and expenses. Independent Certification Test Lab acknowledges that the OPC Foundation is a non-profit corporation whose books and records are subject to the audit of the Internal Revenue Service, state tax authorities and state agencies responsible for the supervision of non-profit foundations, and any and all Independent Certification Test Lab books and records pertaining to fees earned or expenses incurred in connection with the Services shall be made available for inspection and copying at any time during normal business hours upon the request of any of the foregoing government agencies or the OPC Foundation or its representatives. Independent Certification Test Lab shall maintain all such books and records for a period of at least three (3) years after the termination of this Agreement or, at its option, may deliver the originals of all such books and records to the Foundation upon such termination.

**ARTICLE 4. FUNDING AND INSURANCE**

**Section 4.1 Funding** Independent Certification Test Lab financials shall be handled directly by the OPC Foundation. The Independent Certification Test Lab shall submit expenses and invoices directly to the OPC Foundation. Revenue form services provided by the Independent Certification Test Lab will be collected from the OPC Foundation Vendors by the OPC Foundation. An approval process and corresponding invoicing by the OPC Foundation for each vendor will be established.

**Section 4.2 Insurance Requirements.** During the term of this Agreement, Independent Certification Test Lab shall maintain a policy or policies of insurance in substance indemnifying and holding the OPC Foundation, its officers, directors, employees (if any), agents, members and the officers, directors, employees or agents of its members harmless against claims and liabilities arising out of or in connection with the performance by Independent Certification Test Lab of the Services under this Agreement. Such insurance shall be in an amount equal to US $1,000,000 for the period commencing of the Effective Date and ending on the termination of this Agreement. Independent Certification Test Lab shall provide the OPC Foundation with a certificate of insurance or other evidence, in a form reasonably acceptable to the OPC Foundation that demonstrates the existence of such coverage upon the commencement of this Agreement, the continuation of such coverage at least thirty (30) days prior to the expiration of any such insurance and the identification of the OPC Foundation as an additional insured and loss payee.

**ARTICLE 5. INDEMNIFICATION**

**Section 5.1 Indemnification by Independent Certification Test Lab.** Independent Certification Test Lab shall indemnify, hold harmless and defend the OPC Foundation, each member of the OPC Foundation, its officers, directors, employees (if any) or agents, its members and the officers, directors, employees or agents of its members from and against any and all losses, claims, damages, liabilities, whether joint or several, expenses (including reasonable legal fees and expenses), judgments, fines and other amounts paid in settlement incurred or suffered by any such person(s) in connection with any threatened, pending or completed claim, demand, action suit or proceeding (whether civil, criminal, administrative or investigative and whether formal or informal) arising out of or in connection with (i) the alleged infringement of the intellectual property of other proprietary rights of a third party in the performance of the Services hereunder including, without limitation, development of any materials, know-how, information or Inventions in connection therewith; (ii) the relationship between Independent Certification Test Lab and any outside agency; (iii) any breach or alleged breach of this Agreement by Independent Certification Test Lab; and (iv) any negligent acts or omissions or willful misconduct by Independent Certification Test Lab in connection with the Services provided pursuant to this Agreement.

**Section 5.2 Indemnification by the Foundation.** The OPC Foundation shall indemnify, hold harmless and defend Independent Certification Test Lab, its shareholders, officers, directors, employees or agents from and against any and all losses, claims, damages, liabilities, whether joint or several, expenses (including reasonable legal fees and expenses), judgments, fines and other amounts paid in settlement incurred or suffered by any such party in connection with any threatened, pending or completed claim, demand, action suit or proceeding (whether civil, criminal, administrative or investigative and whether formal or informal) arising out of or in connection with any breach or alleged breach of this Agreement by the OPC Foundation, but the OPC Foundation’s indemnification obligation pursuant to this Section 5.2 shall not include any matters for which Independent Certification Test Lab is indemnifying the OPC Foundation pursuant to Section 5.1 above.

**Section 5.3 Rights Upon Indemnification.** The rights of the parties hereto to be indemnified pursuant to this Agreement shall be governed by the following:

1. Promptly after receipt by an indemnified party of notice of the commencement of any action which may result in a claim for indemnification pursuant to either Section 5.1 or Section 5.2, an indemnified party shall notify in writing the indemnifying party thereof within a reasonable time thereafter; and the omission to notify any indemnifying party or to provide such notice in a timely manner shall relieve it of any liability for indemnification hereunder as to the particular item for which indemnification may then be sought to the extent that the failure shall have been prejudicial to such indemnifying party, but not from any other liability which it may have to any indemnified party.
2. An indemnified party shall have the right (i) to employ separate counsel in any action as to which indemnification may be sought under any provision of this Agreement and to participate in the defense thereof, or (ii) to the extent that it may wish, jointly with any other indemnified party, to assume the defense of any such action with counsel reasonably satisfactory to the indemnifying party, but the fees and expenses of such counsel shall be at the expense of such indemnified party unless (x) the indemnifying party has agreed in writing to pay such fees and expenses, (y) the indemnifying party has failed to assume the defense thereof without reservation and employ counsel within a reasonable period of time after being given the notice required above, and as a

consequence thereof the indemnified party has employed separate counsel to protect its rights, or (z) the named parties to any such action (including any impleaded parties) include both such indemnified party and the indemnifying party and such indemnified party shall have been advised by it counsel that representation of such indemnified party and the indemnifying party by the same counsel would be inappropriate under applicable standards of professional conduct (whether or not such representation by the same counsel has been proposed) due to actual or potential differing interests between them. It is understood, however, that the indemnifying party shall, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of only one (1) separate firm of attorneys (in addition to any local counsel) at any time for all such indemnified parties having actual or potential differing interests with the indemnifying party.

1. The indemnifying party shall not be liable for any settlement of any such action effected without its written consent, which consent shall not be unreasonably withheld, but if settled with such written consent, or if there be a final judgment against any indemnified party in any such action, the indemnifying party agrees to indemnify and hold harmless any indemnified parties to the extent provided above from and against any loss, claim, damage, liability or expense by reason or such settlement or judgment.
2. The indemnification obligations set forth in Sections 5.1, 5.2 and 5.3 shall survive the termination of this Agreement.
3. The indemnification provided in Sections 5.1 and 5.2 is for the benefit of the specified persons only and shall not be deemed to create any right to indemnification for any other person.

**ARTICLE 6. TERM AND TERMINATION**

**Section 6.1 Term.** Unless terminated earlier in accordance with the provisions hereof, this Agreement shall take effect upon the Effective Date and shall remain in effect for a period of two (2) years thereafter. The term of this Agreement may be extended pursuant to Section 6.2.

**Section 6.2 Extension.** Two years after the Effective Date, this Agreement shall automatically terminate unless it shall have been extended by the mutual written agreement for Independent Certification Test Lab and the OPC Foundation and such extension may be renewed thereafter in writing as agreed to by the parties. The election of each party to extend this Agreement shall be in its sole discretion, and there shall be no presumption to extend the term of this Agreement. Notwithstanding any termination by either party pursuant to this Section 6.2, Independent Certification Test Lab shall nevertheless continue to serve pursuant to the terms of this Agreement until the earlier of (i) such time as the OPC Foundation has retained another party to provide such similar services or (ii) the expiration of ninety (90) days from the date of the notice of termination.

**Section 6.3 Termination.** This Agreement may be terminated immediately upon written notice to the other party if any of the following events occur:

At the election of Independent Certification Test Lab in the event of the failure of the OPC Foundation to observe or perform any of its mutual obligations or duties herein provided, which failure shall continue uncured for a period of ninety (90) days (thirty [30] days with respect to payment of money by the OPC Foundation) after written notice to the OPC Foundation stating with particularity the provision of this Agreement which is alleged to have been breached; provided that the OPC Foundation’s time period to cure any non-monetary failure shall be extended for such time as may be necessary to cure such failure if the cure of such failure is not capable of performance within the aforementioned 90-day period, if the OPC Foundation shall have commenced actions to cure such failure within such 90-day period and shall thereafter diligently pursue the curing of such failure until fully remedied.

1. At the election of the OPC Foundation in the event of the failure by Independent Certification Test Lab to observe or perform any of its material obligations or duties herein provided, which failure shall continue uncured for a period of ninety (90) days after written notice to Independent Certification Test Lab stating with particularity the provision of this Agreement which is alleged to have been breached; provided that Independent Certification Test Lab’ time period to cure such failure if the cure of such failure is not capable of performance within the aforementioned 90-day period, if Independent Certification Test Lab shall have commenced actions to cure such failure within such 90-day period and shall thereafter diligently pursue the curing of such failure until fully remedied.
2. By either the OPC Foundation or Independent Certification Test Lab in the event a petition in bankruptcy is filed against the other and such action is not dismissed within thirty (30) days.
3. By either the OPC Foundation or Independent Certification Test Lab in the event a petition in bankruptcy is filed by the other, or in the event that the other shall make an assignment for the benefit of creditors or take advantage of any insolvency act, or in the event either party ceases the conduct of its business in the normal course.
4. By either the OPC Foundation or Independent Certification Test Lab in the event of a force majeure condition that remains uncured for more than ninety (90) days, as provided in Section 9.13 below.

**Section 6.4 Effect of Termination.** Upon termination of this Agreement for any reason, Independent Certification Test Lab shall (i) return to the OPC Foundation any and all Confidential Information in Independent Certification Test Lab’ possession; and (ii) any and all materials developed by or provided to Independent Certification Test Lab in the performance of the Services hereunder including, without limitation, all copyrightable material, trade secret and know-how information and Inventions developed by Independent Certification Test Lab hereunder and further described in Article 2.

**Section 6.5 Resignation Provision**. Nothing in this contract shall prevent any Independent Certification Test Lab employee involved with OPC Foundation who desires to pursue other employment from an orderly resignation, provided that a 30-day notice is provided to the OPC Foundation Board of Directors. The employee must honour all non-disclosure agreement that may have been signed by the Independent Certification Test Lab and Vendors that have attended the Test lab and the confidentiality agreement that is part of this agreement.

**ARTICLE 7. RELATIONSHIP**

**Section 7.1 Independent Contractors.** The relationship created hereunder between Independent Certification Test Lab and the OPC Foundation shall be solely that of an independent contractor entering into an agreement. No representations or assertions shall be made or actions taken by either party which could imply or establish any agency, joint venture, partnership, employment or trust relationship between the parties with respect to the subject matter of this Agreement.

**Section 7.2 Subcontractor Relationship.** All subcontractors performing any Services set forth on Exhibit A are subcontractors of Independent Certification Test Lab only, and Independent Certification Test Lab shall retain sole liability for all obligations, contractual and otherwise, to the subcontractors. Nothing in this Agreement shall be construed or interpreted to indicate that the OPC Foundation is in any way the employer, (whether jointly, severally or solely) of, or party contracting with, any subcontractors.

**ARTICLE 8. RESTRICTIONS ON INDEPENDENT CERTIFICATION TEST LAB**

**Section 8.1 Restrictions.** Independent Certification Test Lab acknowledges that the fundamental success of the OPC Foundation requires that the administration of the OPC Foundation’s programs and functions have both actual integrity and the reasonable appearance of integrity to all its members and to the public. Accordingly, during the term of this Agreement, Independent Certification Test Lab shall not, without the prior written approval of the OPC Foundation, engage in any other business or perform services of any kind to any partnership, corporation, foundation, association or individual if such other business or services would reasonably be expected to (A) interfere with the ability of Independent Certification Test Lab to render services to the OPC Foundation hereunder, or (B) otherwise interfere with the ability of Independent Certification Test Lab to implement the purposes of the OPC Foundation.

**Section 8.2 Good Name.** In performance of the Services, Independent Certification Test Lab shall at all times refrain from any conduct that would, in any manner, be contrary to the public morals or dilute, diminish or otherwise reflect unfavorably upon the good name, good will, reputation or image of the OPC Foundation or its members, as determined in the sole and reasonable judgment of the OPC Foundation.

**Section 8.3 Lawful Conduct.** Independent Certification Test Lab shall obey all applicable local, state, federal or foreign laws in the performance of the Services and shall obtain any necessary licenses, permits or other official approvals as may be required to perform the Services in a lawful manner, either for itself or on behalf of the OPC Foundation, as may be reasonably required under the circumstances.

**ARTICLE 9. MISCELLANEOUS PROVISONS**

**Section 9.1 Additional Actions and Documents.** Each of the parties hereto agrees to take or cause to be taken such further actions, to execute, acknowledge, deliver and file or cause to be executed, acknowledged, delivered and filed such further documents and instruments, and to use all reasonable efforts to obtain such consents, as may be necessary or as may be reasonably requested in order to fully effectuate the purposes, terms and conditions of this Agreement.

**Section 9.2 Notices.** All notices, demands, requests or other communications which may be or are required to be given pursuant to this Agreement shall be in writing and shall be personally delivered, mailed by first-class, registered or certified mail, postage prepaid, or sent by electronic or facsimile transmission, addressed as follows:

1. If to the Foundation:

Thomas J. Burke

OPC Foundation

16101 N. 82nd Street, Suite 3B

Scottsdale, AZ 85260-1830

Ph: 480-483-6644

Fax: 480-483-7202

Thomas.Burke@opcfoundation.org

1. If to Independent Certification Test Lab:

XXXXX

Each party may designate by notice in writing a new address to which any notice, demand, request or communication may thereafter be so given, served or sent. Each notice, demand, request or communication shall be deemed sufficiently given, served, sent or received at such time as it is delivered to the addressee if delivered in person; three (3) days after deposit in the U.S. mail if mailed; or upon receipt if sent by facsimile.

**Section 9.3 Severability.** Whenever possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under applicable law, but if one or more of the provisions of this Agreement is subsequently declared invalid or unenforceable, such invalidity or unenforceability shall not be in an way affect the validity or enforceability of the remaining provisions of this Agreement (unless those provisions which are invalidated or unenforceable are clearly material and inseparable from such other provisions). In the event of such declaration of invalidity or unenforceability, this Agreement, as so modified, shall be applied and construed so as to reflect substantially the intent of the parties and achieve the same economic effect as originally intended by the term hereof. In the event that the scope of any provision of this Agreement is deemed unenforceable by a court of competent jurisdiction, the parties agree to the reduction of the scope of such provision as such court shall deem reasonably necessary to make such provision enforceable under the circumstances.

**Section 9.4 Waivers.** Neither the waiver by any party hereto of a breach of or a default under any of the provisions of this Agreement, nor the failure of any party hereto, on one or more occasions, to enforce any of the provisions of this Agreement or to exercise any right, remedy or privilege hereunder shall thereafter be construed as a waiver of any such provisions, rights, remedies or privileges hereunder. Any of the terms, covenants, representations, warranties, or conditions hereof may be waived only by a written instrument executed by the party waiving compliance.

**Section 9.5 Exercise of Rights.** No failure or delay on the part of any party hereto in exercising any right, power or privilege hereunder and no course of dealing between the parties hereto shall operate as a waiver thereof, nor shall any single or partial exercise of any right, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies herein expressly provided are cumulative and not exclusive of any other rights or remedies which any party hereto would otherwise have at law or in equity or otherwise.

**Section 9.6 Binding Effect.** Subject to any provisions hereof restricting assignment, this Agreement shall be binding upon and shall inure to the benefit of the parties and their respective successors and permitted assigns.

**Section 9.7 Entire Agreement; Amendment.** This Agreement contains the entire agreement between the parties hereto with respect to the matters contained herein, and supersedes all prior oral or written agreements, commitments or understanding with respect to the matters provided for herein. This Agreement may only be amended or modified by a subsequent written agreement by the parties hereto.

**Section 9.8 Pronouns.** All pronouns and any variation thereof shall be deemed to refer to the masculine, feminine, neuter, singular or plural, as the identity of the Person may be required.

**Section 9.9 Headings.** Section headings contained in this Agreement are inserted for convenience of reference only, shall not be deemed to be a part of this Agreement for any purpose, and shall not in any way define or affect the meaning, construction or scope of any of the provisions hereof.

**Section 9.10 Governing Law.** This Agreement, the rights and obligations of the parties hereto, and any claims or disputes relating thereto, shall be governed by and construed in accordance with the internal laws of the State of Arizona, without giving effect to the principles of conflicts of laws thereof.

**Section 9.11 Execution in Counterparts.** This Agreement may be executed in as many counterparts as may be required, and such counterparts shall collectively constitute a single agreement.

**Section 9.12 Assignment.** Neither party to this Agreement shall have the right to assign or otherwise transfer its rights or obligations under this Agreement except with the prior written consent of the other party, except that the Foundation may assign this Agreement in its entirety to any successor non-profit organization.

**Section 9.13 Force Majeure.** Neither party shall be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to acts of God, public enemy, war, strikes or labor disputes, or any other cause beyond the parties’ reasonable control, it being understood that the lack of financial resources is not to be deemed a cause beyond a party’s control. Each party shall notify the other party promptly of the occurrence of any such cause and carry out this Agreement as promptly as practicable after such cause is terminated; provided, however, that if such force majeure condition shall continue for more than ninety (90) consecutive days, either party may terminate this Agreement.

**Section 9.14 Time.** Time is to be considered of the essence for the purposes of this Agreement.

IN WITNESS WHEREOF, the parties hereto executed this Agreement effective as of the date first set forth above.

**OPC FOUNDATION**

By:

Thomas J. Burke, President OPC Foundation

**INDEPENDENT CERTIFICATION TEST LAB SERVICES, LLC**

By:

**EXHIBIT A**

**Compliance Services**

Independent Certification Test Lab shall act as an independent contractor to the OPV Foundation for the compliance and certification as required by the OPC Foundation. Subject to the direction of the OPC Foundation’s Board of Directors, Technical Steering or Marketing Committee Chairpersons, and officers, Independent Certification Test Lab agrees to perform, and the OPC Foundation hereby authorizes and empowers Independent Certification Test Lab to perform the Services outlined in this exhibit.

Independent Certification Test Lab shall perform the Independent Certification testing function for the OPC Foundation.

**Quarterly Status Report**: If required, the Quarterly status report will be sent to the OPC Foundation officers by the 5th of the month starting the new quarter for the previous quarter. A monthly version of this report may also be requested by the OPC Foundation.

* Identify the significant accomplishments / deliverables in that quarter
* Identify significant activities in progress
* Plans for the next quarter
* Identify outstanding issues
* Maintain & provide monthly updates of all administrative action items
* Items included in the quarterly status report may be added / deleted according to direction from the OPC Foundation President or the OPC Foundation Director of Compliance.

**Quarterly meeting or Telecon**: The Independent Certification Test Lab Director shall hold regular quarterly meetings or Telecon with OPC Foundation officers.

* Administrative management to schedule & coordinate meetings
* The meetings will be in person and the location will typically be the Independent Certification Test Lab, but may be held in conjunction with another OPC sponsored event. Telecons may be arranged instead of a meeting by the OPC Foundation.
* The scope of the meetings will be a general review of Independent Certification Test Lab Activities. Detailed agenda will be issued prior to any meeting or telecom by the OPC Foundation with input from the Independent Certification Test Lab.

**Website**

**Event Calendar**: The OPC Foundation shall be responsible for the maintenance of a website hosted Event Calendar to record scheduled Independent Certification Test Lab activities

**Certification Application**: The OPC Foundation shall be responsible for the maintenance of a website hosted certification application that is used during the testing process, but the individual Independent Certification Test Labs are required to maintain the content of the test case database

**Security**: The Administrator shall be responsible for the maintenance of all security aspects of the website to ensure only authorized users have access to content consistent with their access/membership rights.

**Product Information**: The Administrator shall maintain OPC member product information in a format suitable for web access and for output to a product CD. The Administrator shall allow OPC members to submit product information for posting to the website and may alternatively provide the ability for OPC members to maintain their product information online.

**Certification Process Support**: The Independent Certification Test Lab shall support the submittal, maintenance and distribution of Information regarding certified OPC Foundation member products. The Chairperson of the Compliance subcommittee shall be responsible for the technical aspects of the certification submittals, and have approval authority for all aspects of the submittal, maintenance and distribution mechanisms.

**Technical Deliverables**

* The OPC Foundation develops specifications, and associated technical deliverables which are maintained on the OPC Foundation website and are available for download as a membership benefit. Some deliverables are also made available to non members. The responsibility for creating these deliverables is that of the OPC Foundation. The Independent Certification Test Lab will deliver deliverables that the OPC Foundation requires for the OPC foundation deliverables as required to deliver OPC Foundation compliance services.

**EXHIBIT B**

**FEES AND EXPENES**

**FEES**

Setup Fee YYYYYY

Testing Fee YYYYYY

Training YYYYYY

Independent Certification Test Lab agrees that any services requested by the OPC Foundation that are not included in the description of Services set forth in Exhibit A (and thus not included in the above pricing on this Exhibit B) shall be provided to the OPC Foundation at the Independent Certification Test Lab' actual cost for rendering such services plus a reasonable and agreed to profit margin.

**EXHIBIT C**

The definition of an OPC Foundation Independent Certification Test Lab is contained in these 5 documents:

[Compliance Part 1] OPC Test Lab Specification: Part 1 – Concepts

Part 1 of the OPC Test Lab multi-part specification presents the general concepts for OPC Test Lab Certification.

[Compliance Part 2] OPC Test Lab Specification: Part 2 – Abstract Test Suite

Part 2 of the OPC Test Lab multi-part defines an abstract test suite for OPC Client and OPC Server certification in a Test Lab.

[Compliance Part 3] OPC Test Lab Specification: Part 3 – Test Lab Realization

Part 3 of the OPC Test Lab multi-part specification defines how to become and to run an accredited OPC test laboratory.

[Compliance Part 4] OPC Test Lab Specification: Part 4 – Certification Process

Part 4 of the OPC Test Lab multi-part specification defines the process to certify a product in an OPC Test Lab.

[Compliance Part 5] OPC Test Lab Specification: Part 5 – Quality Management Manual

Part 5 of the OPC Test Lab multi-part specification provides the Quality Management Manual for an OPC Test Lab to ensure the same test quality in all OPC Test Labs.

The general description of the various tests that an Independent Certification Test Lab will have to support are described in the following specifications:

[Compliance Part 6] OPC UA Specification: Part 6 – COM DA Server Test

Part 6 of the OPC Test Lab multi-part specification specifies the test instructions for an OPC COM Data Access Server.

[Compliance Part 7] OPC Test Lab Specification: Part 7 – COM DA Client Test

Part 7 of the OPC Test Lab multi-part specification specifies the test instructions for an OPC COM Data Access Client.

[Compliance Part 8] OPC Test Lab Specification: Part 8 – UA Server Test

Part 8 of the OPC Test Lab multi-part specification specifies the test instructions for an OPC Unified Architecture Server.

[Compliance Part 9] OPC Test Lab Specification: Part 9 – UA Client Test

Part 9 of the OPC Test Lab multi-part specification specifies the test instructions for an OPC Unified Architecture Client.

[Compliance Part 10] OPC Test Lab Specification: Part 10 – UA Abstract Test

Part 10 of the OPC Test Lab multi-part specification specifies the test instructions for the OPC Unified Architecture Abstract Information Model.

[Compliance Part 11] OPC Test Lab Specification: Part 11 – COM A&E Server

Part 11 of the OPC Test Lab multi-part specification specifies the test instructions for the OPC Alarm and Event Server.

[Compliance Part 12] OPC Test Lab Specification: Part 12 – COM A&E Client

Part 12 of the OPC Test Lab multi-part specification specifies the test instructions for the OPC Alarm and Event client.

[Compliance Part 13] OPC Test Lab Specification: Part 13 – COM HDA Server

Part 13 of the OPC Test Lab multi-part specification specifies the test instructions for the OPC Historical Data Access Server.

[Compliance Part 14] OPC Test Lab Specification: Part 14 – COM HDA Client

Part 14 of the OPC Test Lab multi-part specification specifies the test instructions for the OPC Historical Data Access Client.