



UPDATE No.1 OF THE

STATEMENT OF WORK

CONSTRUCTION WORKS

OF A GREENHOUSE BUILDING

AT THE

IAEA LABORATORIES IN SEIBERSDORF

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1 SCOPE

1.1. Introduction

The International Atomic Energy Agency (IAEA) requires the planning and construction of a Greenhouse building at the IAEA Laboratory Facility in Seibersdorf, Austria (hereinafter referred to as the “Site”). The Greenhouse building is hereinafter referred to as the “Project”.

This Statement of Work (SOW) describes the IAEA’s requirements for a Greenhouse Construction company (Contractor) to provide either a “turn-key solution” for the Works related to the Project that shall include, but not limited to, construction Works, electrical engineering Works and installations as specified in this SOW, or a solution excluding technical infrastructure Works (i.e.: Electrical installations, HVAC, BMS, Fire alarm systems and access controls). The Contractor shall provide all manpower, equipment, machinery and materials necessary to accomplish the tasks as specified in this SOW (hereinafter referred to as the “Works”).

Not part of this Statement of Work are all works which are included in the scope of the construction works projects “FML2” and “Basic Green” ordered under separate contracts, like infrastructural works, basic construction works and respective installation works listed as follows:

- Infrastructure
 - Streets and squares
 - Eaves paving
 - Lawn areas
 - Media Connections
- Construction
 - Foundations and slabs
 - Base walls
 - Oven room walls and ceiling
 - Drainage gutters
 - Epoxy coating
- HVAC
 - Infrastructural Heating and Freshwater Supply
- Electrical
 - Infrastructural Power Supply Net A+B

The Contractor is responsible for the coordination of all works related to the Greenhouse building. This includes the obligation to contact the separate contractor that performs the works related to Basic Green, whose contact details shall be provided by the IAEA to the Contractor, to coordinate the provision of the Greenhouse’s planning documentation (dimensions, loads, connection details etc.) that is necessary for the finalization of “Basic Green” to ensure compatibility of the infrastructure with the Greenhouse.

1.2. Scope of Work

The Work shall cover all planning, construction, installation and commissioning works and training in accordance with the SoW, including the necessary services for execution drawings and related documents.

The Works shall not include the infrastructural supply of the facilities, such as heating, water supply, hydrants, electrical supply and disposal facilities as well as construction site equipment, landscaping, earthwork, streets, paved areas, shafts and drainage systems.

The IAEA shall provide the Contractor with Project Documents that are on the level of permission drawings, scale 1:100. Based on this, the Contractor shall provide the further execution and workshop drawings including details and necessary calculations.

1.3. Execution

The Contractor shall:

- a. present in writing to the IAEA Site Supervisor any concerns or questions about a proposed executional method, construction document/model or material including the reasons for such concerns no later than 14 days before the start of execution of the Works in question or immediately upon occurrence, to allow the concerns to be investigated without delaying the Project.
- b. be responsible for controlling all necessary measurements on Site before starting work.
- c. present free of charge samples of all constructional elements, materials, finishes, the quality, form, finish and colour of all building parts, all equipment, fittings, ironmongery and visible fixings etc., for approval by the IAEA prior to ordering.

1.4. Waste disposal

The Contractor shall:

- a. Remove all the waste it produces in line with the Waste Management Law and the various related regulations (building waste regulations, waste separation regulations, packaging regulations).
- b. be responsible for the erection of containers for each of the categories of waste as set out in the waste separation regulations.
- c. consider the proper separation of building waste, recycling, and the responsibility to make proper recordings of waste procedures in a way that keeps the IAEA free from damage and potential legal action.
- d. provide the confirmation of the statutory disposal and volume of this waste with the final invoice after completion of the project.

2 APPLICABLE DOCUMENTS, STANDARDS, DEFINITIONS, ACRONYMS AND ABBREVIATIONS

The Works and Services shall comply with all applicable standards and regulations in their latest version.

The following definitions, acronyms and abbreviations shall apply throughout this SOW unless defined otherwise hereinafter:

Consultants	Project advisors and principal experts
Contractor	Company contracted to provide the defined scope of work
IAEA Site Supervisor	Hrabal Architektur, the IAEA contracted Consulting company to provide Project Management Services and supervise the Construction Company under this Contract
IAEA	International Atomic Energy Agency
SOW	Statement of Work
RFP	Request for Proposal
BoQ	Bill of Quantities
OIB RL	Technical Regulations for Construction Guideline (<i>Richtlinie</i>)
ON / ÖNorm EN DIN	Austrian Standards European Standards German Standards (<i>Deutsche Industrie Norm</i>)
BauKG	Austrian Construction Coordination Law
TRVB	Technical Regulations for fire preventive construction
IPCL	Insect Pest Control Laboratory
NML	Nuclear Material Laboratory
YAL	Yukiya Amano Laboratory
AIT	Austrian Institute of Technology
ÖBV	Austrian Federation for Construction Technology (<i>Österreichische Bautechnik Vereinigung</i>)
EVN	Federal Energy Supplier (<i>Energieversorgung Niederösterreich</i>)
VSG	Tempered Security Glass (<i>Verbund-Sicherheitsglas</i>)
RAL	Standardized Colour Code
ISO	International Standard Organization
ACR	Air Change Rate
UPS	Uninterruptible Power Supply
FML2	Flexible Modular Laboratory Building 2
NSIL	Nuclear Science and Instrumentation Laboratory
PBGL	Plant Breeding and Genetics Laboratory
TEL	Terrestrial Environment Laboratory
FEPL	Food an Environmental Protection Laboratory
SWMCNL	Soil and Water Management & Crop Nutrition Laboratory
Basic Green	Greenhouse building Infrastructure, basic construction and installation works (as specified in Appendix G3, Chapter 1)
Greenhouse building	An edifice consisting of “Basic Green” and a prefabricated steel/aluminium/glas/ Greenhouse structure



3 FIRM REQUISITES (CONTRACTOR REQUIREMENTS)

3.1. Building Permission

The IAEA shall adhere to the building codes and regulations of Lower Austria and has therefore applied for a building permission ("*Baubewilligung*"), which shall be an integral part of the SOW and Contract.

3.2. Notification of Final Completion ("*Fertigstellungsanzeige*")

The Contractor shall:

- a. prepare and submit all documents required for the notification of final completion ("*Fertigstellungsanzeige*").
- b. forward the completed and signed documents to the Seibersdorf Municipality upon final completion of the Project; and
- c. provide to the IAEA, upon completion of the Project, a confirmation of receipt as proof by the Seibersdorf Municipality that all necessary documents have been delivered, received and approved.

3.3. Access to the Construction Site

The Contractor shall gain access to the Site for its personnel (personnel and subcontractors) and deliveries through the access-controlled main gate of the IAEA Facility. In this regard, the Contractor shall:

- a. provide a list of all its personnel working under this project to the IAEA for security checks at least one week prior to the start of the Project.
- b. have its personnel security checked in/out on Site on a daily basis.
- c. provide details of any additional/replacement personnel to the IAEA at least two working days prior to their arrival on Site.
- d. inform the IAEA of expected deliveries of materials at least forty-eight (48) hours in advance.

3.4. Coordination of disturbing Construction Work with the IAEA

The Contractor shall coordinate with and obtain prior approval by the IAEA for any Works, which could potentially disturb the IAEA work in the adjacent buildings, such as noise, dust or vibration at least two weeks in advance during the regular site meetings.

3.5. Functional, Safety and Security requirements

The Contractor shall:

- a) be responsible for providing a fully functioning building and related systems with an access/egress system based upon approved drawings and supporting technical documentation in compliance with this SOW.
- b) perform the construction work without compromising site safety and security; therefore, the Contractor shall arrange for alternate safety and security measures whenever there is a safety and security breach created directly by the Contractor's actions.

The IAEA shall:



- a) provide tie-in points for water, sewage line and power to the Contractor.
- b) cover the costs for consumption; the Contractor shall take care of distribution.

3.6. Field Measurements / Surveyor Services:

The Contractor shall be responsible for taking any actual field measurements and surveys at the construction site that may be required for the performance of the Works.

3.7. Structural Engineering / Calculation / Drawings:

The Contractor shall cover all services in regards of structural engineering, structural calculation and shop drawings in accordance with the agreed Project Plan.

3.8. Health and Safety Planning and Control Services:

The Contractor shall cover all services in regards of health and safety, such as planning (health and safety plan) and controlling of measures and actions regarding sanitation (e.g., COVID-19 regulations), according to the Health & Safety regulations ("*Bauarbeitenkoordinationsgesetz*").

3.9. Contractor's On-Site Facilities:

There are no on-site facilities available for Contractor's personnel and material storage therefore the Contractor shall:

- a) provide appropriate restrooms and break rooms for its personnel, as well as adequate material storage facilities shall be available on the construction site.
- b) establish any necessary power supply.

3.10. Protection of Existing Facilities and Buildings

The Contractor shall:

- a) ensure that the neighbouring buildings, transformer stations, roads and facilities are protected from damages caused by employees or subcontractors of the Contractor during the construction period.
- b) be responsible for repairing all damages on existing buildings, retaining walls and streets or to newly constructed facilities caused by the Contractor during the construction period.

3.11. Key Personnel

The Contractor shall list all key personnel in the proposal to work on the construction site including their general and specific experience.

3.12. Time Schedule

The Contractor shall provide a detailed construction schedule in Gantt-chart-format before the construction Works, based on the time schedule/Project milestones (see Appendix G7). This construction schedule needs to be maintained by the Contractor, providing monthly updates.



3.13. Construction Planning

The Contractor shall submit construction plans in accordance with the agreed project plan to the IAEA Site Supervisor for approval prior to execution of the Works.

3.14. Coordination planning

The Contractor shall be responsible to coordinate and liaise with relevant authorities and utility supply providers including processing of all required forms and documents.

The Contractor shall inform the IAEA Site Supervisor in writing the outcome of these meetings so that, if required, the IAEA can take action accordingly.

3.15. Working and Mounting Equipment

The Contractor shall be responsible for all necessary tools, materials, climbing aids like ladders, scaffolding, etc. (regardless of height), as well as cranes or any other lifting devices or other necessary machinery required for the performance of the Work.

3.16. Difficulties due to Winter or Bad Weather

The Contractor shall assume the responsibility and risk for any difficulties or delays caused by winter or bad weather.

3.17. Clearing of the Site

The Contractor shall be responsible for clearing of the site from materials and waste caused daily.



4 QUALITY ASSURANCE

4.1 General

- a) All work shall be performed according to the generally accepted codes of practice and shall in particular be in accordance with current European Standards and regulations as well as technical instructions of trade associations, to the extent possible.
- b) Construction materials and parts shall be appropriate for the respective tasks and shall be in compliance with the technical minimum technical requirements.
- c) It is the Contractor's responsibility and obligation to ensure that the design is in line with the respective codes and standards, the requirements and standards of local authorities, institutions and the requirements of the fire brigade / civil defense.

4.2 CE Approval for Products and Materials

- a) All products offered and installed by the Contractor shall have a CE label.
- b) The Contractor shall provide samples for all materials and products before ordering or installing them. In the course of the sampling process, the Contractor shall hand over a product datasheet for each material to be installed.

4.3 Deliverables Data Items

The Contractor shall deliver the following data items:

- a) Prior to commencing the work on site, the Contractor shall provide two hard copies and one soft copy of the Project Schedule, including critical path and long lead items in English to the IAEA for approval.
- b) Throughout the work period and following completion, the Contractor shall supply:
 - i. Work schedule;
 - ii. Progress reports on a weekly base;
 - iii. Entry of measured quantities including drawing, showing exact dimensions;
 - iv. Monthly Status Report.
- c) The Contractor shall submit a final report no later than one month after the completion of the construction Works. This report shall summarize work tasks that were executed and reflect in detail, the general construction performance and other related work activities that were not covered in the Monthly Report.
- d) The final report shall contain 3 (three) sets of hard and soft copies of all recommendations, designs, and specifications, and final drawings including the Auto CAD DWG files. The Final Report shall contain the following (at minimum):
 - i. As-built drawings;
 - ii. Compliance Certificates;
 - iii. Completion Certificates;
 - iv. Expert's reports;
 - v. Warranties.
 - vi. All required protocols (including all Meeting Minutes of construction meetings);
 - vii. Photographs, with descriptive captions (photographical documentation), of all major construction elements, especially for all pipelines and installations;



- viii. A summary of the technical information that would be used in the certification of the security fence, such as the lighting system and the electrical diagram and other fence equipment;
- ix. Summary of work, including a description of the completion of all sub- tasks including the list of items and used construction materials and certificates (also CE Certificates);
- x. Material and Product specifications and manuals (product data sheets);
- xi. Drawings of all customized constructions such as fittings and equipment enclosures;
- xii. Required maintenance / repair procedures for major infrastructure items and suggestions for preventative maintenance actions / schedules for all constructions.
- xiii. An itemized inventory list of installed equipment, stating the value and year of acquisition for each item. This list shall be verified during the facility inspection.

4.4 Expert's Approval

The Contractor shall provide written approval by an independent expert for Greenhouses

- a) Workshop drawings (remote)
- b) Final Acceptance of the work done (on site)

The regarding consultant's costs and expenses shall be included.



5 CONSTRUCTION DOCUMENTATION

5.1 Plans and technical specifications provided by the IAEA

The IAEA shall provide:

- a) Building permission plans, visualizations and architectural layouts: see Appendix G1-2.
- b) Functional Building Services (MEP) Package: see Appendix G2.

All drawings are available in dwg-format (2D).

5.2 Documents to be provided by the Contractor

The Contractor shall provide:

- a) The Construction and Shop Drawings and documents shall be submitted according to the IAEA CAD Standards.
- b) The drawings shall be numbered in the following order by using the following abbreviations.

Trade / Gewerk:

A (Architecture)
E (Electrical Services)
H (HVAC)
B (Building Physics)
S (Structural)
F (Fire Safety)
T (Telecommunications)

Phase / Phase:

A (*Ausführung* / Construction Planning/Shop Drawings)
B (*Bestand* / As Built)

Level / Geschoss:

GF (*EG*/Ground floor)
01 (*OGI*/First floor)

- c) The detailed design package shall include, but not be limited to:

Number / Plannummer:

Site plans / <i>Lagepläne</i>	001-019
Floor plans / <i>Grundrisse</i>	020-199
Sections / <i>Schnitte</i>	200-249
Elevations / <i>Ansichten</i>	250-299
Interior / <i>Innenraum</i>	350-399
Shell Construction / <i>Rohbau</i>	400-599
Details Facade / <i>Detailpläne Fassade</i>	600-799
Interior Details / <i>Detailpläne Innenraum</i>	800-899
Miscellaneous / <i>Verschiedenes</i>	900-949
Schematics / <i>Schemata</i>	950-999

All details and/or additional info shall be cross-referenced on all drawings.



6 FIRE PROTECTION

6.1 Fire Protection Concept

The Fire Protection Concept shall comply with the details outlined in Appendix G1 to the SOW.

6.1.1 Technical Fire Protection (For Turnkey solution)

Fire Alarm System:

- a) The Contractor shall adapt the fire alarm system (full scope of protection of TRVB S 123) with automatic detectors and manual pushbuttons.
- b) The fire alarm system shall be connected to the IAEA Main Gate. The fire alarm system shall control all relevant technical systems in case of emergency.

Emergency Lighting:

The Contractor shall adapt the emergency lighting in accordance with TRVB E 102.

6.1.2 Constructive Fire Protection

The Contractor shall provide Constructive Fire Protection as stated below:

a) Load Bearing Structure:

The supporting structure of the building shall be rated fire-resistant R0.

b) Fire Compartments:

Fire sections shall be completed in accordance with the fire protection plan to be executed in lightweight construction, for example, of GKF plasterboard (fire protection boards).

c) Fire Protection:

- i. Wall and floor penetrations shall be closed with the appropriate measures in the same quality as the adjacent component.
- ii. All switchboards shall be provided on all floors according to the fire protection planning.
- iii. Doors in the operating areas shall be equipped according to the fire protection planning.



7 INFRASTRUCTURE AND SITE

The Contractor shall ensure following requirements are met on the infrastructure and site:

7.1 Site Equipment / Site Fence

The Contractor shall:

- a) submit a Construction and Equipment Site Plan for the main construction phases (based on the attached site logistics plan, see Appendix G5 to the SOW).
- b) provide equipment, tools and other resources that are required for the performance of the construction Works and that shall be transported to the site, maintained and installed ready for operation including all necessary measures.
- c) provide Site offices, accommodations, storage sheds, etc., if necessary, that shall be delivered, installed and maintained during the construction period.
- d) provide electricity, water, telephone connection and disposal facilities for the site that shall be installed by the Contractor wherever required.
- e) clear the construction site after completion of Works and all used working platforms and storage areas shall be cleaned and restored to their original condition.
- f) provide the construction site equipment including all necessary equipment and annexes to meet the required performances (e.g. Construction roads, storage areas, sanitary facilities, break areas, office of the construction manager, etc.)
- g) follow the below special instructions for construction site installation: the Contractor shall
 - i. demarcate and secure the construction site by installing a construction fence along the surrounding premises.
 - ii. provide the construction fences and construction signs during the construction site installation.
 - iii. remove contamination of the construction roads or construction site including the access areas.
 - iv. specify utility connections for the construction site.
 - v. sort and haul construction debris off site (rubbish, synthetics, wood, metal, mixed debris, etc.).
 - vi. provide all equipment for Operational Safety and Health Protection on the construction site.
 - vii. provide all necessary utility connections for the construction site.
 - viii. build all site facilities according to the local requirements and change their location if required.

7.2 Infrastructure

Part of “Basic Green”.



8 BUILDING CONSTRUCTION

8.1 Greenhouse Structure

The Contractor shall deliver a Greenhouse, including all connections to the adjacent FML2 Building and the Construction elements provided under “Basic Green”, as specified in Appendix G3, Chapter 1.

8.2 Shading Installations

The Contractor shall deliver Shading Installations as specified in Appendix G3, Chapter 2.

8.3 Table System

The Contractor shall deliver a Table System as specified in Appendix G3, Chapter 5.

9 HVAC INSTALLATIONS (FOR TURNKEY SOLUTION)

9.1 Heating Installations

The Contractor shall deliver Heating Installations as specified in Appendix G3, Chapter 3.

9.2 Cooling Installations

The Contractor shall deliver Cooling Installations as specified in Appendix G3, Chapter 4.

9.3 Water Installations

The Contractor shall deliver Water Installations as specified in Appendix G3, Chapter 6.

9.4 Building Management System

The Contractor shall connect all components with the Building Management System on the campus (Siemens).

10 ELECTRICAL INSTALLATIONS (FOR TURNKEY SOLUTION)

10.1 Electrical Installations

The Contractor shall deliver Electrical Installations as specified in Appendix G3, Chapter 7.

10.2 Climate Computer

The Contractor shall deliver a Climate Computer System as specified in Appendix G3, Chapter 8.



11 APPENDICES

11.1 Appendix G1 Building Permission Drawings

11.2 Appendix G2 Building Layouts

11.3 Appendix G3 Technical Specifications

11.4 Appendix G4 Site Logistics Plan

11.5 Appendix G5 Site Photos

11.6 Appendix G6 Room List

11.7 Appendix G7 Time Schedule

11.8 Appendix G8 Structure for Bill of Quantities

11.9 Appendix G9 Roombooks

11.10 Appendix G10 Compliance Matrix