## STATUTES OF THE EUROPEAN SPALLATION SOURCE ERIC

## Annex to

Commission Implementing Decision (EU) 2015/1478 of 19 August 2015 on setting up the European Spallation Source as a European Research Infrastructure Consortium (European Spallation Source ERIC)

## **Consolidated Version**

## **Amendments**

	Act	Essential elements of the Statutes	Effective date	Article/Annex
M1	Membership, the United Kingdom of Great Britain and Northern Ireland (Council Resolution of 9 June 2016)	no	10 June 2016	Annex 6, 7
M2	Membership, the Kingdom of Spain (Council Resolution of 25 April 2018)	no	26 April 2018	Annex 6,7
M3	Representing entities of the United Kingdom of Great Britain and Norther Ireland (Council Resolution of 5 June 2018)	no	19 June 2018	Annex 7
M4	Corrections concerning Czech construction contribution, Swiss pre- construction contribution, and rounding errors	no	17 March 2021	Art. 6 and Annex 4



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## **PREAMBLE**

Czech Republic

The Kingdom of Denmark

The Federal Republic of Germany

The Republic of Estonia

The French Republic

The Italian Republic

Hungary

The Kingdom of Norway

The Republic of Poland

The Kingdom of Sweden

The Swiss Confederation

Hereinafter referred to as "the Founding Members",

and:

The Kingdom of Belgium

The Kingdom of the Netherlands

The Kingdom of Spain

The United Kingdom of Great Britain and Northern Ireland

Hereinafter referred to as "the Founding Observers".

DESIRING to further strengthen Europe's and the Founding Member countries' position in research in the world, and to intensify scientific cooperation across disciplinary and national boundaries;

CONSIDERING a conclusion made in 2003 by the European Strategy Forum for Research Infrastructure (ESFRI), set up by the EU Council of Research Ministers, that a 5 MW long pulse, single target station layout with 22 instruments is the optimum technical design that will meet the needs of the European science community in the first half of the present century;

BUILDING on the current European Spallation Source ESS AB, the Memorandum of Understanding signed on 3 February 2011 (extended 2012 and 2014) on participation in the Design Update Phase and the intention to participate in the Construction and Operation of the European Spallation Source (ESS);

RECOGNISING that the construction of the ESS is a key element in European efforts to further develop world-leading research infrastructures and that ESS is a multi-disciplinary science facility, serving life sciences, material sciences, energy, and climate sciences and underpins the vision behind the recommendations of the Organisation for Economic Cooperation and Development (OECD) for large scale neutron facilities worldwide;

EXPECTING other countries to participate in the activities undertaken together under the following Statutes;

#### CHAPTER 1

## GENERAL PROVISIONS

## Article 1

## Name, seat and working language

- 1. There shall be a European Research Infrastructure called the European Spallation Source (ESS).
- 2. The European Spallation Source (ESS) shall have the legal form of a European Research Infrastructure Consortium (ERIC) incorporated under the provision of Regulation (EC) No 723/2009 and be named European Spallation Source ERIC ('the Organisation').
- 3. The Organisation shall have its statutory seat in Lund, Sweden.
- 4. The working language of the Organisation shall be English.

## Article 2

## Tasks and activities

- 1. The task of the Organisation is to construct a high intensity slow neutron source as described in the ESS Technical Design Report, an executive summary based on the ESS Technical Design Report dated 22 April 2013 which is attached as Annex 1, to a cost not exceeding, EUR 1 843 million in January 2013 prices and to further operate, develop and decommission the facility. The construction costs are laid down in a cost book dated 13 March 2013 at 2013 prices that covers the overall expenditure. This cost book is the reference document for the members' contributions in cash and in kind.
- 2. To this end the Organisation shall undertake and coordinate a variety of activities, including but not limited to:
- a) contribute to top-level research, technological development, innovation and societal challenges thus representing an added value for the development of the European Research Area (ERA) and beyond;
- b) ensure a full scientific exploitation of the ESS and its suite of instruments;
- c) grant effective access to users in accordance with the access policy set out in Article 17;
- d) contribute to the dissemination of scientific results;
- e) make optimum use of resources and know-how;
- and any other related action necessary to achieve its task.
- 3. The Organisation shall construct and operate ESS on a non-economic basis. In order to further promote innovation as well as transfer of knowledge and technology, limited economic activities may be carried out as long as they do not jeopardize the main activities. Income from these activities shall be used in accordance with the Organisation's task.
- 4. The Organisation shall undertake activities for peaceful ends only.

#### CHAPTER 2

## **MEMBERSHIP**

#### Article 3

## Membership and representing entity

- 1. The following entities may become members of the Organisation or they may become observers without voting rights:
- (a) Member States of the Union;
- (b) associated countries;
- (c) third countries other than associated countries;
- (d) intergovernmental organisations.

Conditions for admission of members and observers are specified in Article 4.

- 2. The Organisation shall have one Member State and at least two other Member States or associated countries as members.
- 3. Member States or associated countries shall hold jointly the majority of the voting rights in the Council.
- 4. Any member or observer may be represented by one or more public entities, including private entities with a public service mission, of its own choosing and appointed according to its own rules and procedures.
- 5. The members and observers of the Organisation and their representing entities are listed in Annex 7. Annex 7 shall be kept up to date by the Chairperson of the Council.

## Article 4

## Admission of members and observers

- 1. The terms for admission of new members are the following:
- (a) the admission of new members shall require the approval of the Council;
- (b) applicants shall submit a written application to the Chairperson of the Council;
- (c) the application shall describe how the applicant will contribute to the task and activities of the Organisation described in Article 2 and how it will fulfil the obligations referred to in Article 6;
- (d) new members adhering to these Statutes within a period of 12 months after their entry into force may do so under the same conditions as the Founding Members;
- (e) the conditions for accession of new members shall be the subject of an agreement between the Organisation and the acceding member and approved by the Council;
- (f) new members which become members of the Organisation after one year of the entry into force of these Statutes shall be required to make a special contribution towards the capital expenditure of the Organisation already incurred in addition to their ordinary contribution to future capital investment, current operating costs and decommissioning costs.
- 2. Entities referred to in Article 3(1) who are willing to contribute to the Organisation, but are not yet in a position to join as members, may apply to the Council for observer status. The terms for admission of observers are the following:

- (a) normally observers shall be admitted for a three year period; in exceptional cases the Council may extend the period of observer status;
- (b) applicants shall submit a written application to the Council.

The application shall describe how the applicant will contribute to the Organisation and its activities described in Article 2.

## Article 5

## Withdrawal of a member or an observer/Termination of membership or observer status

- 1. A member may withdraw from the Organisation at the end of a financial year, following a request to be given to the Council 3 years prior to the withdrawal. Withdrawal can only take effect at the earliest on 31 December 2026.
- 2. Observers may withdraw at any time, following a request to the Council six months prior to the withdrawal.
- 3. The conditions and effects of withdrawal from the Organisation by a member, in particular its share in the costs of construction, operation and decommissioning of ESS and compensation for losses, shall be decided by the Council before the withdrawal of a member takes effect. That decision shall specify the member's share in the costs of decommissioning.
- 4. The Council shall have the power to terminate the membership of a member or the observer status of an observer if the following conditions are met:
- (a) the member or observer is in serious breach of one or more of its obligations under these Statutes;
- (b) the member or observer has failed to rectify such breach within a period of six months after it has received notice of the breach in writing.

Before the Council makes a decision of termination of a member or an observer the member or observer shall be given the opportunity to contest such decision and present its defense to the Council.

## CHAPTER 3

## RIGHTS AND OBLIGATIONS OF THE MEMBERS AND OBSERVERS

## Article 6

#### Members

- 1. Rights of members shall include:
- (a) access to ESS for its scientific community under the conditions specified in Article 17;
- (b) the right to attend and vote in meetings of the Council. However, a member shall have no vote in a matter regarding that member's termination of its membership.
- 2. The Founding Members commit to making the following contributions, cash or in-kind, towards the construction costs including the contributions for the pre-construction phase listed in Annex 4 and cash contributions for the pre-construction phase and construction phase listed in Annex 5:

Czech Republic	36,86 M€
The Kingdom of Denmark	230 M€
The Federal Republic of Germany	202,5 M€
The Republic of Estonia	4,61 M€
The French Republic	147 M€
The Italian Republic	110,6 M€
Hungary	17,6 M€
The Kingdom of Norway	46,07 M€
The Republic of Poland	33,2 M€
The Kingdom of Sweden	645 M€
The Swiss Confederation	64,5 M€

All amounts refer to January 2013 prices.

The contribution of other members but Founding Members shall be in accordance with the membership contribution table that is laid down in Annex 6.

The pre-construction and construction costs include the total expenditures (personnel, costs, recurrent expenditure and capital expenditure) for the construction of ESS as specified in Annex 2. A list of approved in-kind contributions for the pre-construction phase is attached as Annex 4. A figure showing the estimated annual incidence of expenditure for construction, operation and decommissioning is included in Annex 2.

The basic rules and principles of in-kind contributions are laid down in Annex 3.

- 3. Each member shall:
- (a) pay its contribution towards the construction costs apportioned (planned amounts and schedule of payments) in the Annual budget decided in accordance with Article 9 (10)(d);
- (b) contribute to the operating costs as provided for in Article 18 and to the decommissioning costs as provided for in Article 19;
- (c) if applicable, appoint one or more representing entities as mentioned in Article 3(4); and empower its representing entity with the full authority to vote on all issues raised during the Council meeting and included in the agenda.
- 4. Any resources of the Organisation, whether cash contributions or in-kind contributions shall be solely used to promote the task of the Organisation in accordance with Article 2.

## Article 7

## **Observers**

- 1. Rights of observers shall include:
- (a) the right to attend the Council without a vote;
- (b) the right to encourage its research community to participate in ESS events, such as summer schools, workshops, conferences, training courses at preferential rates, space permitting.

2. Each observer shall, if applicable, appoint one or more representing entities in accordance with Article 3(4).

## **CHAPTER 4**

## **GOVERNANCE**

## Article 8

## **Organs of the Organisation**

The organs of the Organisation shall be the Council and the Director General.

## Article 9

#### Council

- 1. The Council shall be the governing body of the Organisation and shall be composed of up to two delegates from each member of the Organisation. The delegates may be assisted by experts.
- 2. Delegates to the Council shall be appointed and have their appointments terminated according to principles decided by each member. Each member shall inform the Chairperson of the Council in writing of any appointment or termination of appointment of its delegates to the Council without undue delay.
- 3. The Council shall meet at least twice a year, and shall be responsible in accordance with the provisions of these Statutes for the overall direction and supervision of the Organisation with respect to scientific, technical and administrative matters. The Council may issue instructions to the Director General.
- 4. The meetings of the Council shall be convened by the Chairperson. A meeting of the Council shall also be convened at the request of at least two members.
- 5. The Council shall elect a Chairperson and a Vice-Chairperson from the delegations of the members. The Vice-Chairperson shall substitute the Chair in his/her absence and in case of conflict of interest. With their election, the Chairperson and the Vice-Chairperson become *supra-partes* and leave their delegations. The Chair and the Vice-Chairperson shall be elected for a period of office not exceeding two years. Re-election shall be permitted once for a second term not exceeding two years.
- 6. The Council shall decide on its Rules of Procedure subject to the provisions in these Statutes.
- 7. The Council may set up such auxiliary committees as may be necessary to accomplish the task of the Organisation. The Council shall define the mandate of such committees.
- 8. Senior management staff, as defined by the Council, shall be appointed and may be dismissed by the Council.
- 9. The following matters shall require approval of the Council by unanimous vote:
- (a) increasing the construction costs as set out in Article 2(1);
- (b) changes of contributions to construction, operation and decommissioning costs;
- (c) proposal for amendment of these Statutes and amendment of its Annexes;

(d) admission and termination of a membership or observer status.

Any amendment of the Statutes shall be subject to the provisions laid down in Article 9 (3) and Article 11 of Regulation (EC) No 723/2009 as amended by the Council on 2 December 2013 (Council Regulation (EU) No 1261/2013).

- 10. Decisions concerning the following shall require a qualified majority of the votes:
- (a) appointment of the Director General as well as the suspension or dismissal of his/her appointment in accordance with Article 11;
- (b) election of Chairperson and Vice-Chairperson;
- (c) medium-term (five years) scientific program;
- (d) annual budgets, five-year budget plans and medium-term (five years) financial estimates;
- (e) adoption of the annual financial statement;
- (f) policy for the allocation of and access to beam time;
- (g) the Financial Rules of the Organisation;
- (h) winding up of the Organisation;
- (i) significant changes to the ESS Technical Design Report and the cost book referred to in Article 2 (1) without prejudice to paragraph 9 (a) and (b);
- (j) appointment and dismissal of senior management staff;
- (k) approval of the terms of reference and operation of the Science Advisory Committee (SAC) and the Technical Advisory Committee (TAC).
- 11. All other decisions of the Council shall require a simple majority.

## Article 10

## **Voting procedure**

- 1. Each member shall, until the operation phase starts, be entitled to a number of votes corresponding to its contribution to the cost of pre-construction and construction stated in Article 6(2). Once the operation phase starts this apportionment of votes shall, in review of the contributions, be revisited by the Council. Further revisions should take place at leastevery five years.
- 2. A "simple majority" means a majority of more than 50 % of the votes of the members represented at the meeting and not more than half of the members voting against.
- 3. A "qualified majority" means a majority of at least 67 % of the votes of the members represented at the meeting and not more than half of the members voting against.
- 4. A "unanimous vote" means at least 90% of the votes of the members represented at the meeting and no unfavorable vote.
- 5. Any Council meeting shall only be quorate if delegates of 67 % of all members are represented.

#### Article 11

## **Director General**

- 1. The Council shall in accordance with Article 9(10) (a) appoint the Director General of the Organisation according to a procedure adopted by the Council. The Director General shall be the legal representative of the Organisation. The Director General shall carry out the day-to-day management of the Organisation with due diligence and in accordance with these Statutes, the instructions and resolutions of the Council and applicable legal requirements.
- 2. The Director General shall prepare and submit strategic, technical, scientific, legal, budgetary and administrative decisions to the Council. The Director General shall present an annual activity report to the Council, and shall once a year present an audited financial statement to the Council.
- 3. In the event of the Director General's post falling vacant the Council may designate a person whose powers and responsibilities it shall determine to take the place of the Director General.
- 4. The term for the Director General shall not normally exceed five years. Amendment or extension of contracts of employment or assignment shall be subject to approval by Council.

## Article 12

# Administrative and Finance Committee (AFC), Scientific Advisory Committee (SAC) and Technical Advisory Committee (TAC)

- 1. The Council shall set up an Administrative and Finance Committee (AFC) composed of up to two delegates nominated from each member. The Chair of the AFC shall be appointed by the Council and will be supra-partes. The Committee shall advise the Council on all mattersof administrative and legal issues and of financial management. The terms of reference of this Committee and its rules of procedure shall be adopted by the Council and incorporated into the Financial Rules.
- 2. The Council shall set up a Scientific Advisory Committee (SAC) and a Technical Advisory Committee (TAC). These Committees shall consist of outstanding scientists not employed by or otherwise immediately connected with the Organisation and shall advise the Council in scientific (SAC) and technical (TAC) matters and other matters of importance for the Organisation.

The members of SAC and TAC together with their respective Chairs shall be appointed by the Council in accordance with the Rules of Procedure. The terms of reference and operation of the SAC and the TAC shall be adopted by the Council.

## CHAPTER 5

## REPORTING TO THE COMMISSION

## Article 13

## **Reporting to the Commission**

1. The Organisation shall produce an annual activity report, containing in particular the scientific, operational and financial aspects of its activities. The report shall be approved by the Council and transmitted to the Commission and relevant public authorities within six

months from the end of the corresponding financial year. This report shall be made publicly available.

2. The Organisation shall inform the Commission of any circumstances which threaten to seriously jeopardize the achievement of the tasks of the Organisation or hinder the Organisation from fulfilling requirements laid down in Regulation (EC) No 723/2009.

## **CHAPTER 6**

## **POLICIES**

Article 14

## Agreement with third parties

In cases where the Organisation deems it beneficial, it may enter into agreement with any physical or legal person. Such agreement shall specify all rights and obligations of the parties.

#### Article 15

## Procurement policy and tax exemption

- 1. The Council shall establish detailed rules on procurement procedures and criteria which the Organisation shall be obliged to follow. This procurement policy shall respect the principles of transparency, proportionality, mutual recognition, equal treatment and non-discrimination.
- 2. VAT exemptions based on Articles 143(1)(g) and 151(1)(b) of Council Directive 2006/112/EC<sup>1</sup> and in accordance with Articles 50 and 51 of Council Implementing Regulation (EU) No 282/2011<sup>2</sup>, shall be limited to purchases by the Organisation and by Members of the Organisation which are for the official and exclusive use by the Organisation provided that such purchase is made solely for the non-economic activities of the Organisation in line with its activities. VAT exemptions shall be limited to purchases exceeding the value of EUR 300. Excise Duty exemptions based on Article 12 of Council Directive 2008/118/EC<sup>3</sup>, shall be limited to purchases by the Organisation which are for the official and exclusive use by the Organisation provided that such purchase is made solely for the non-economic activities of the Organisation in line with its activities and that the purchase exceeds the value of EUR 300.

## Article 16

## Liability

- 1. The Organisation shall be liable for its debts.
- 2. The members' financial liability for the debts of the Organisation shall be limited to the value of each individual member's respective annual contribution agreed upon in the annual budget.

OJ L 347, 11.12.2006, p. 1

<sup>&</sup>lt;sup>2</sup> OJ L 77, 23.3.2011, p. 1

<sup>&</sup>lt;sup>3</sup> OJ L 9, 14.1.2009, p. 12

3. The Organisation shall take appropriate insurance to cover the risks specific to the construction and operation of the ESS.

## Article 17

## **Scientific Evaluation and Access Policy**

- 1. The Organisation shall provide effective access for European and international researchers as well as other relevant users. Access to the ESS shall be based on peer-review evaluation with scientific excellence and feasibility as criteria and granted on the basis of an access policy adopted by the Council. The access policy shall reflect the undertakings in Article 2(2) (a).
- 2. The ESS shall be open for access to others than members. Such access shall be open to European as well as international users and be available on the basis of the access policy adopted by Council.

## Article 18

## **Operation**

- 1. The members shall contribute to the operating costs of the Organisation proportionally to their use of the ESS. The general principles for the use of the facility and the apportionment of members' contributions to the operating costs shall be documented in a stand-alone policy agreed by the Council.
- 2. The Council shall create the prerequisites to avoid a lasting and significant imbalance between the use of the ESS facility by the scientific community of a member and the contribution of that member to the Organisation.

## Article 19

## **Decommissioning**

The members undertake to arrange the dismantling of all the Organisation's plant and buildings as specified in Annex 1. The members shall share the relevant decommissioning costs. This cost shall not exceed an amount equivalent to three annual operation budgets, based on the average of the last five years of cost of operation. Costs beyond this shall be the responsibility of the host state of the Organisation.

The Council shall develop and adopt a Decommissioning Policy containing a coherent and comprehensive description of the decommissioning procedure.

## Article 20

## **Dissemination Policy**

- 1. The Organisation shall be a facilitator of research and shall as a general rule encourage as free access as possible to research data. Irrespective of this principle the Organisation shall promote high quality research and shall support a culture of 'best practice' through training activities.
- 2. The Organisation shall generally encourage researchers to make their research results publicly available and shall request researchers of member countries to make results available in the name of the Organisation.

3. The dissemination policy shall describe the various target groups, and the Organisation may use several channels to reach the target audiences, such as web portal, newsletters, workshops, presence in conferences, articles in journals and magazines and daily newspapers.

#### Article 21

## **Intellectual Property Rights Policy and Data Policy**

- 1. The term "Intellectual Property" shall be understood according to Article 2 of the Convention Establishing the World Intellectual Property Organisation signed on 14 July 1967.
- 2. The Organisation shall be the owner of all Intellectual Property emanating from setting up and running the ESS including, but not limited to, Intellectual Property produced by staff employed by the Organisation, except where covered by separate contractual agreements or where mandatory legislation or these Statutes state otherwise.
- 3. In general Open Access shall be favored for data collected as a result of the use of the ESS facility and, to the extent possible in case of software and computer programs created by the Organisation, Open Source principles shall be considered.
- 4. The Organisation shall adopt its own Data and Intellectual Property Rights Policy

## Article 22

## **Inventions**

The Organisation shall be subject to applicable legislation and regulations on inventions and adopt its own Inventions Policy.

## **CHAPTER 7**

## FINANCIAL MATTERS

## Article 23

## Financial year

The financial year of the Organisation shall begin on 1 January and shall end on 31 December of each year.

The first year of business shall be a short financial year beginning from the date of the entry into force of the Commission Implementing Decision establishing the Organisation and ending on 31 December of that year.

## Article 24

## **Auditing and Financial Rules**

- 1. The Director General shall submit to the Administrative and Finance Committee (AFC) the budget documents as detailed in the Financial Rules which shall be revised and subsequently be submitted to the Council with the AFC's comments and recommendations.
- 2. The Council shall appoint external auditors who shall serve for a period of four years and may be re-appointed. The auditors shall perform such functions as are laid down in the Financial Rules.

- 3. The Director General shall provide the auditors with such information and assistance as they may require in order to perform their duties.
- 4. The accounts of the Organisation shall be accompanied by a report on budgetary and financial management of the financial year.
- 5. The Financial Rules shall lay down all other arrangements relating to the Organisation's budget, accounting standards and finances including rules regarding preparation, filing, auditing and publication of accounts.

## **CHAPTER 8**

## **DURATION, WINDING UP, DISPUTES, SET UP PROVISIONS**

Article 25

## **Duration**

The Organisation is established for an indefinite term.

#### Article 26

## Winding up

- 1. The winding up of the Organisation shall be decided by the Council in accordance with Article 9(10) (h).
- 2. Without undue delay and in any event within 10 days after adoption of the decision to wind up the Organisation, the Organisation shall notify the Commission about the decision.
- 3. Assets remaining after payment of the debts of the Organisation shall be apportioned among the members in proportion to their accumulated annual contribution to the Organisation. In accordance with Article 16(2) liabilities remaining after including the Organisation assets shall be apportioned among the members in proportion to their annual contribution to the Organisation and be limited to the value of each individual member's respective annual contribution agreed upon in the annual budget.
- 4. Without undue delay and in any event within 10 days of the closure of the winding up procedure, the Organisation shall notify the Commission thereof.
- 5. The Organisation shall cease to exist on the day on which the Commission publishes the appropriate notice in the *Official Journal of the European Union*.

#### Article 27

## Applicable law

The setting-up and internal functioning of the Organisation shall be governed by:

- (a) Union law and in particular the Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC);
- (b) the law of the State where the Organisation has its statutory seat in the case of matters not, or only partly, regulated by acts referred to in point (a);
- (c) these Statutes and their implementing rules.

#### Article 28

## **Employment**

- 1. The Organisation shall be an equal opportunity employer. A contract of employment shall be governed by the law of the country in which the employee habitually carries out his work in performance of the contract.
- 2. Subject to the requirements of national legislation, each member shall within its jurisdiction facilitate the movement and residence of nationals of the members' countries involved in the tasks of the Organisation and of the family members of such nationals.

#### Article 29

## **Disputes**

- 1. The Court of Justice of the European Union shall have jurisdiction over litigation among the members in relation to the Organisation, between the members and the Organisation and over any litigation to which the Union is a party.
- 2. Union legislation on jurisdiction shall apply to disputes between the Organisation and third parties. In cases not covered by Union legislation, the law of the State where the Organisation has its statutory seat shall determine the competent jurisdiction for the resolution of such disputes.

## Article 30

## **Availability of Statutes**

The Statutes shall be publicly available at the ESS website and at the statutory seat.

## Article 31

## **Setting-up provisions**

- 1. A constitutional meeting of the Council shall be called by the host State as soon as possible but no later than 45 calendar days after the Commission decision to set up the Organisation takes effect.
- 2. The host State shall notify the Founding Members of any specific urgent legal action that needs to be taken on behalf of the Organisation before the constitutional meeting is held. Unless a Founding Member objects within 5 working days after being notified, the legal action shall be carried out by a person duly authorized by the host State.

## **CHAPTER 9**

## **Annexes and Languages**

Article 32

## **Annexes**

To these Statutes the following Annexes are attached:

1. ESS Technical and Scientific Scope

- 2. Estimated Cost and Schedule
- 3. Basic rules and principles for in-kind contributions
- 4. List of approved in-kind contributions for the Pre-construction phase
- 5. List of cash contributions already received for the pre-construction and the construction phase
- 6. Contribution Table
- 7. Members, Observers and Representing Entities

## Article 33

## Languages

All versions of these Statutes in the official languages of the European Union shall be deemed authentic. No linguistic version shall prevail.

## Annex 1: ESS Technical and Scientific Scope

## 1. PURPOSE AND SCOPE OF THIS ANNEX

The purpose of this Annex to the Statutes for the European Spallation Source ERIC is to set a frame in terms of scientific and technical scope for the ESS facility. It is based on the Technical Design Report (TDR) presented to the ESS Steering Committee at its meeting in February 2013. The TDR is a deliverable of the Memorandum of Understanding for the Pre- construction Phase of the ESS and is the result of collaborative work involving research organisations all over Europe and beyond. The Annex also gives the background to the projectand describes the international context of the facility. A summary of the associated estimated cost and schedule are described in Annex 2.

## 2. BACKGROUND

ESS is a new international scientific infrastructure to be built in Lund, with the data management activities in Copenhagen. It will be a multi-disciplinary science facility, serving life sciences, physics, chemistry, and materials science, as well as energy and climate sciences. It underpins the vision behind the recommendations of the OECD Megascience Forum in 1999 for large-scale neutron facilities worldwide.

The construction of the ESS neutron source for materials science is a key element in European efforts to further develop its world-leading large-scale research infrastructures suite. A pan-European effort in 2002 produced a Technical Report presenting a conceptual design and an associated Scientific Case. In 2003, the European Strategy Forum for Research Infrastructures (ESFRI), set up by the Research Ministries of the Member States and associated countries, concluded that a 5MW long-pulse, single target station layout for ESS with nominally 22 "public" instruments was the optimum technical reference design that would meet the needs of the European science community in the second quarter of the century.

By building ESS, a facility with unprecedented source performance utilizing the novel long pulse technology, and operating it according to the practice of scientific excellence and as a part of the European network of sources, Europe will retain the world lead in researchactivities encompassing the broad areas of science requiring neutron scattering methods.

## 3. BASIC OBJECTIVES

The basic objectives for the ESS facility are to provide world leading neutron scattering research opportunities for European science, striving for scientific excellence and highest performance in terms of scientific output. The facility is in all its parts designed to meet these objectives and to satisfy European demand for unique, cutting edge capability and enhanced research capacity. In meeting these objectives, the ESS will provide new knowledge unattainable with other facilities or methods, will strengthen the societal impact of science, and underpin innovation in Europe.

## 4. SCIENTIFIC SCOPE

ESS will have a unique ability to study a broad range of structures and time scales due to its long, high-intensity neutron pulses. ESS will offer neutron beams of unparalleled brightness, delivering higher beam intensity to the samples than any existing spallation source. The high brightness will enable many investigations to be pursued that are out of range today, by allowing for measurements of smaller samples in more constrained sample environments, the increased use of polarized neutrons, detection of weaker signals and fast kinematic measurements in real time. The bright neutron beams will be delivered in a unique time structure, with long neutron pulses at low frequency. This time structure enables the efficient use of long-wavelength neutrons. Advanced neutron technologies will exploit this structure to allow ESS instruments to achieve wider dynamic range, in particular by the use bi-spectral beams, and resolutions tunable in a very large range as needed, all of which will significantly expand scientific possibilities. State of the art methods for data management and analysis will further enhance capability and capacity.

The spallation source will deliver neutron beams to a suite of research instruments. Building on the Science Case established in 2002 and identifying science drivers for the ESS a reference instrument suite is presented in the TDR.

## 5. TECHNICAL SCOPE

Figure 1 below presents a baseline layout of the site to the north east of the city of Lund, Sweden. The main components of the ESS facility are the accelerator, the target station, the instrument suite and the associated buildings and infrastructure.

In the accelerator, protons are accelerated to an appropriate energy for efficiently driving a spallation reaction. The ESS accelerator is designed for high power and high reliability and uses mainly superconducting cavities.

The target station will convert the proton beam from the accelerator, through the spallation process into a number of intense beams of slow neutrons delivered to the instruments where the research is carried out. The technology chosen for the target is that of a wheel rotating in the proton beam. A moderator-reflector assembly surrounding the target transforms the fast neutrons produced in the spallation process into slow neutrons. These slow neutrons are guided to the instruments.

In the instruments, the neutrons are used to probe the properties of materials in all their diversity and complexity. The long pulse technique allows the neutron beams to be tailored for each specific instrument and experiment.

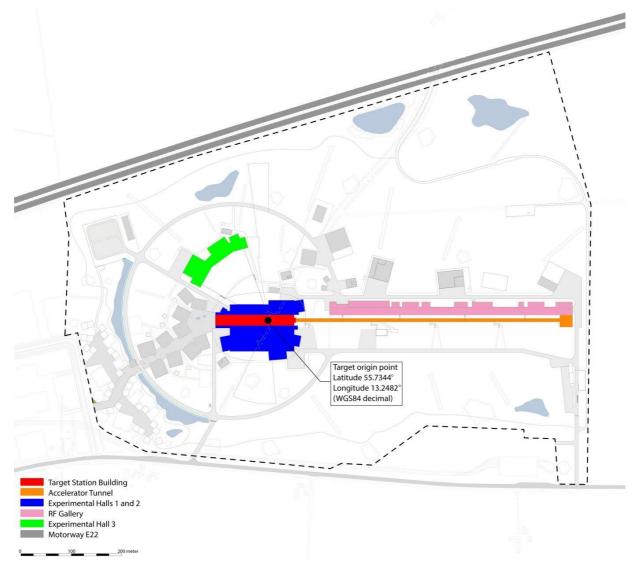


Fig 1. Baseline layout of the ESS facility

The baseline layout for the ESS facility comprised of the accelerator tunnel (orange), the RF gallery (pink), the target station building (red), the Experimental halls 1 & 2 (blue) and 3 (green). Also shown are the perimeter of the site (dotted line), the E22 motorway (dark grey) and a possible layout of roads and service buildings (light grey). The origin of the spallation target is at Latitude 55.7344° Longitude 13.2482° (WGS84).

The Data Management and Software Centre in Copenhagen (DMSC) provides support and services for the management and scientific analysis of the data. The DMSC is also responsible for data curation generated by the ESS suite of instruments as well as providing services to acquire, handle and analyse data and support the simulation of experiments. The DMSC is a fully integrated part of the ESS organisation. DMSC will be a world class user facility supporting and collaborating with a broad range of scientific and technological users from universities, institutes and industry.

ESS Data Managemen	t and Software Center (E	SS DMSC)		
Instrument control Software	Data Curation	Monte Carlo simulation code support	Data analysis and visualization	User-Portal
Instrument Control Software  Remote access to Experiments  Real time display of preprocessed data to the user during the experiment  On-site (ESS-Lund) operation Support	Transport raw data to main servers for storage  Preprocessing of raw data to a format suitable for further use  Web and mobile devices portal providing access to user data following EU rules.	Develop and support Monte Carlo modeling software of neutron instruments  Provide support for Modeling of instrument-sample-specific features for data analysis  On-site (ESS-Lund) operation Support	Develop and support data analysis and visualization software.  Provide bridging solutions to aid modeling of neutron data with state-of-the-art physical modeling and theory software  Provide access to High-Performance computing  On-site (ESS-Lund) operation Support	Provide and support a web-based user portal for the submission and review of user proposals.  Provide and support web-based tools that aids users to access their data.  On-site (ESS-Lund) operation Support

Figure 2 ESS DMSC functionalities

In addition to these components there is an infrastructure of services, supporting laboratories and workshops, offices and amenities for users and staff.

## 6. PERFORMANCE AND DESIGN GOALS

The ESS facility will have unique, world-leading scientific capabilities as a neutron source when fully operational. By delivering neutrons in long pulses of several milliseconds (nominally 2.86ms) with low frequency (nominally 14Hz) to its instrument suite, it will enable efficient use of high intensity thermal and cold neutron beams.

The objective is that ESS will have 22 instruments in Steady State Operations.

The proton beam power will nominally be 5 MW and the performance will be optimized in accordance with the basic scientific objectives. Compared to ILL (in 2013), ESS neutron scattering instruments will achieve up to 100 times the sensitivity for detecting low signals. Compared to SNS and J-PARC (in 2013), ESS will offer up to a factor of 30 times superior beam intensities in experiments with the same resolution for thermal and cold neutrons.

The ESS facility will be designed to be highly reliable with a design goal of 95% availability during its annual operational periods of more than 4000 hours when fully commissioned.

To maintain its world leading capabilities, reasonable technical headroom in the design will be maintained in order not to preclude future improvements and upgrades.

The ESS facility will have a state-of-the-art scientific and computing infrastructures designed to fully exploit the neutron source, providing a coherent scientific service that makes neutron techniques more accessible, more powerful and more efficient for a wide range of scientific disciplines.

For planning and full lifetime costing purposes, ESS is nominally scheduled to be decommissioned in 2065 and the land restored for other uses in line with the surroundings.

The ESS facility will be designed to protect individuals, the general public and the environment from harm during construction, operation and decommissioning. It will be designed to facilitate the use of renewable energy, to minimize its energy consumption and to recycle a significant amount of its waste heat.

## Annex 2: Estimated Cost and Schedule

## 1. Introduction

The purpose of this document, Annex 2 to the Statutes, is to describe the overall costestimates, the budget and the planned schedule for the ESS project. It is a high level summary of the performance baseline established in spring 2014, based on the TDR and associated documents presented to the ESS Steering Committee in 2012 and in line with the technical and scientific scope summarised in Annex 1. All cost figures in this document are on the pricebasis of January 2013.

## 2. COST OF THE PROJECT

The costing and planning for ESS has been made with a lifecycle approach, and as such includes all the different phases of the facility's lifetime. The phases included in the costing and planning are the Pre-construction, Construction, Operations (comprising the Initial Operations and the Steady-State Operations) and Decommissioning phases. The total lifecyclecost is shown in Figure 1 below.

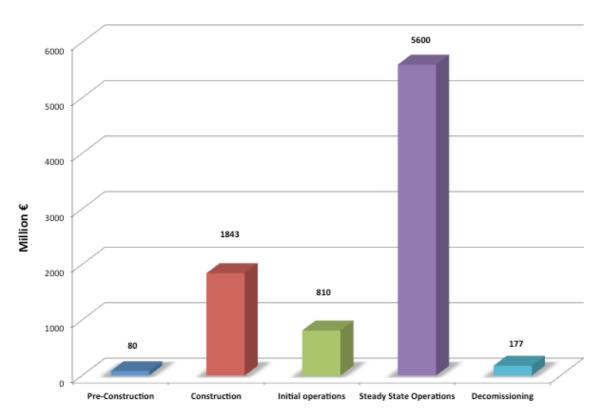


Figure 1 ESS life cycle costs in Million €

The cost for Pre-construction includes the Design Update phase of the facility. The pre-construction costs are summed up to 80 M€ and includes both cash and in-kind contributions.

The Construction budget is 1843 M€, and it includes capital costs from the Construction Phase start, 1<sup>a</sup> January 2013, to the start of the steady state operations in 2026. The construction budget includes the capital investment for 16 instruments.

During the period 2019-2025 there will be an Initial Operations Phase in parallel to the Construction Phase. Initial Operations amounts to 810 M€ and includes the budgets to operate the entire facility and to meet the TDR goal of a 22 instrument suite. The breakdown of the budget on construction project level is shown in Figure 2. It includes both cash and in-kind contributions.

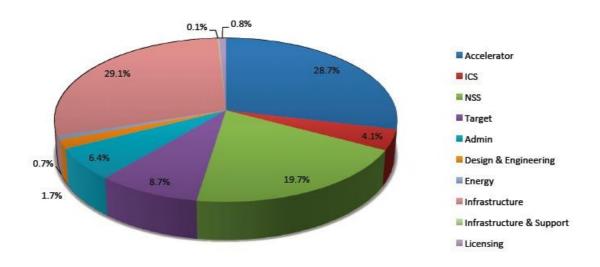


Figure 2 Breakdown of the Construction phase budget. The budget for the DMSC, 32 M $\in$ , is included in the Neutron Scattering Systems (NSS) budget.

The Initial Operations phase begins with the production, delivery and detection of the first neutrons. The budget includes costs for startup of machine operations, ramping up of beam power, the start of the user programme, the first spares and the main contribution to the construction of the 6 remaining instruments to complete the baseline suite of 22 instruments. The Initial Operations budget is planned to end in 2025, providing a smooth transition to the budget for the Steady State Operations.

The budget for Steady State Operations will start in 2026 and continue until 2065 and includes all foreseen costs for sustainable operations in accordance with Annex 1. It includes a small contribution for completing the instrument suite in the first years and for keeping it competitive during Steady State Operations. The Steady State Operations budget in Steady State is 140 M€/year.

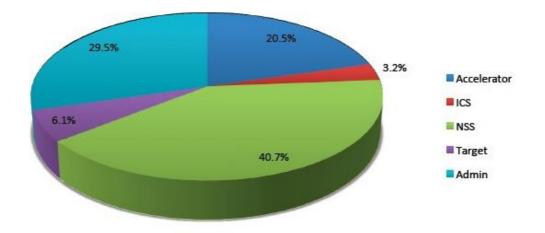


Figure 3 Breakdown of the Operations phase budget. The budget for management of the facility is included in the Administration (Admin) budget.

According to the lifecycle approach, it is planned for that after the Operations phase, ESS will be decommissioned and the site restored for other use. The associated costs are included in the Decommissioning budget, summing up to 177 M€.

## 3. PROJECT SCHEDULE

The high level schedule for Pre-construction, Construction, Initial Operations and Steady State Operations is shown in Figure 4 below. The schedule is technically constrained in the sense that resources (manpower and funding) are assumed not to be delayed.

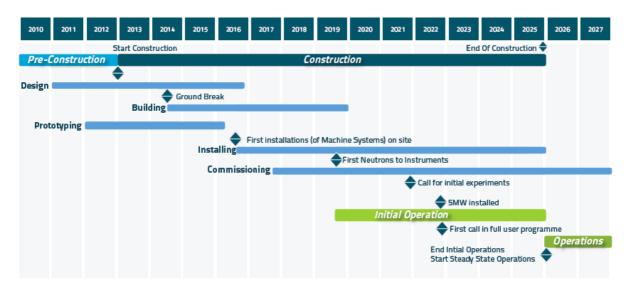


Figure 4 ESS High level milestones in the Construction and Initial Operations phases.

## 4. BUDGET PROFILE.

The budget profile for the Construction phase (2013-2025), the Initial Operations (2019-2025) together with the first year of Steady State Operations (2026 -) is shown in Figure 5 below. It includes both cash and in-kind contributions. The planned spending profile is based on best estimates assuming a technically constrained schedule.

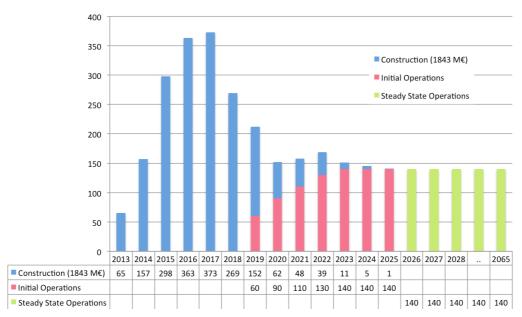
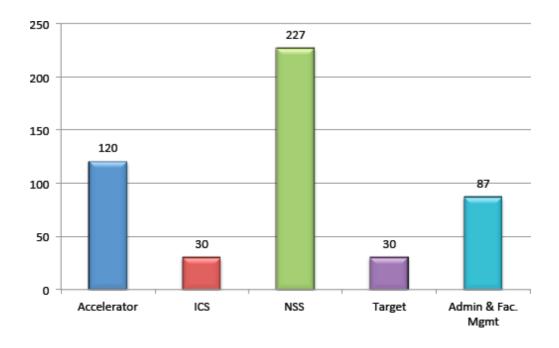


Figure 5 Budget profile for Construction, Initial Operations and Steady State Operations.

## 5. STAFFING PROFILE

The total number of staff during Steady State Operations is 494. The planned staffing profile for the Steady State Operations, stated in Full-Time Equivalents (FTE's), is shown in Figure 6 below.



## Figure 6 Planned Staff profile in Steady State Operations.

Figure 6 above includes the staff for DMSC with a planned staff level in Steady State Operations of 60-65 FTE. The staffing of the ESS DMSC will be gradually ramped up.

## Annex 3: Basic rules and principles for In-kind contributions

- 1. An In-kind contribution is a non-cash contribution provided by a Member to the Organisation and may cover:
  - Technical components for the ESS facility as well as personnel needed to perform the testing, installation and/or integration of any such components;
  - R&D work as well as personnel needed to perform the R&D work;
  - Personnel made available for specific tasks during the Construction Phase; or,
  - Other products or services relevant for the completion of the ESS facility.
- 2. Suitable in-kind contributions and their value are identified and specified by the Organisation with reference to the ESS project descriptions included in the Programme Plan, which will be made accessible to all Members. The identification of suitable in-kind contributions should be subject to review and recommendation by the Science Advisory Committee or the Technical Advisory Committee to the Council.
- 3. Each in-kind contribution will be subject to a written contract between the Organisation and the delivering body performing the in-kind contribution. The in-kind contribution contract should cover, at a minimum and when applicable, the following issues:
  - A technical description and specification including interface and integration requirements,
  - A project plan, including time schedules, deliverables and milestones;
  - The total attributed value
  - Terms of delivery and transportation,
  - Quality control and performance testing prior to acceptance and commissioning,
  - Documentation; operating manual, parts list, maintenance manual including spare parts list;
  - Training of operating staff
  - Technical and financial control systems,
  - Appointment of responsible personnel,
  - Roles and responsibilities of the Organisation, and the delivering body
  - Insurances,
  - Ownership of background and foreground
  - Use and dissemination of foreground
  - Licenses and rights
  - Access rights
  - Transfer of ownership
  - Procedures for reporting
  - The scope and content of the formal evaluation carried out at delivery of the in-kind contribution
  - Risk assessment and risk management

- 4. An in-kind Review Committee (IKRC) shall be set up by the Council, with the purpose of evaluating the in-kind contribution proposals. The Council shall approve all in-kind contracts based on the recommendation from the IKRC. After such approval, the Member shall be accredited the in-kind contribution value as a part of its total contribution to the ESS.
- 5. The internal provisions on In-kind contributions shall be regulated by the Council.
- 6. The Organisation's Cost Book value defines the total value of an in-kind contribution. The values in the Organisation's Cost Book are expressed, until otherwise agreed, at the price level stated in the Statutes and Annexes. The delivering body is wholly responsible for the contribution including the cost. The EUR shall be the standard currency unit for all in-kind contributions. Any currency exposure shall be borne by the delivering body.

Annex 4: List of approved in-kind contributions for the Pre-construction phase

Country	Number of IKC agreements	Total Value (kEUR)
Czech Republic	2	1,948
Denmark	15	5,243
Germany	33	20,514
Italy	5	6,186
Netherlands	4	727
Norway	1	1,786
Spain	13	5,020
Switzerland	10	3,422
Total	83	44,844

No.	ESS Project	ESS WU Name	Contract Partner	Country	TOTAL (kEUR)
1	Accelerator	B1 Superconducting Linac is for DESY	DESY	DE	971,4
2	Accelerator	Backup Study for ESS Proton Source	ESS-Bilbao	ES	477,08
3	Accelerator	Normal conducting linac	INFN	IT	3725
4	DMSC	SD014DE - HDRI Communication Platform	HZG	DE	470,2
5	DMSC	Design update for the ESS Data Management and Software Centre (DMSC)	UCPH	DK	402,4
6	DMSC	Cluster Interim DMSC	UCPH	DK	1 205,9
7	DMSC	MANTID cooperation	UCPH	DK	123,9
8	Instrument	CAMEA	DTU	DK	480,5
9	Instrument	SD017DC/b DK Horizontal Focusing Reflectometer	DTU	DK	79,5

10	Instrument	Compact SANS	DTU	DK	82,1
11	Neutron	Neutron Optics	DTU	DK	80,2
	Technologies				
12	Instrument	Hybrid Diffractometer	DTU	DK	168,9
13	Instrument	SD001DE/b Bispectral Chopper Spectroscopy	Forschungs zentrum Jülich GmbH	DE	393,7
14	Instrument	SD001DE/a Cold Chopper Spectroscopy	TUM	DE	258,7
15	Instrument	SD002DE/a High Resolution NSE	Forschungs zentrum Jülich GmbH	DE	318,8
16	Instrument	SD0002DE/b Wide Angle NSE	Forschungs zentrum Jülich GmbH	DE	67,6
17	Instrument	SD003DE/a Reflectometer for Liquid Surfaces and Soft Matter	HZB	DE	533,6
18	Instrument	SD004DE/ab Conventional SANS	Forschungs zentrum Jülich GmbH	DE	112,1
19	Instrument	SD004DE/C Small Sample SANS	HZG	DE	617,9
20	Instrument	SD005DE/a Bi-spectral Powder Diffractometer	Forschungs zentrum Jülich GmbH	DE	272,7
21	Instrument	SD005DE/b Engineering Diffraction	HZG	DE	903,7
22	Instrument	SD006DE Multi Purpose High Resolution Imaging	HZB	DE	758,0
23	Instrument	SD007DE/b Alternative NSE and Add-ons	TUM	DE	635,9

		1	1	1	ı
24	Instrument	SD007DE/c Focusing Optics for Spectroscopy	TUM	DE	137,1
25	Instrument	SD007DE/a Phase Space Transformers	HZB	DE	65,1
26	Instrument	SD008DE Multi Purpose Extreme Environment Diffraction	HZB	DE	389,3
27	Neutron Technologies	SD009DE - Choppers	Forschungs zentrum Jülich GmbH	DE	828,5
28	Neutron Technologies	SD010DE - Detectors	TUM	DE	4 785,8
29	Neutron Technologies	SD011DE - Polarizers (3HE)	Forschungs zentrum Jülich GmbH	DE	417,4
30	Neutron Technologies	SD012DE ESS Specific Sample Environment	HZG	DE	179,0
31	Instrument	SD013DE Test Beam Line	HZB	DE	1 456,4
32	Instrument	SD003DE/b Reflectometer for Magnetic Layers	Forschungs zentrum Jülich GmbH	DE	309,0
33	Instrument	SD033CZ Complex Environment Engineering Diffractometer	Institute of Physics ASCR	CZ	1 759,0
34	Instrument	Simulation of Neutron Instruments	KU	DK	938,8
35	Neutron Technologies	Detector Testing Facility	IFE	NO	1 785,6
36	Neutron Technologies	Detectors	CNR	IT	510,2
37	Target	Waste Disposal, Emissions, Dismantling and Decommissioning	KIT	DE	19,2

38	Target	Target Performance Modelling and Optimization	KIT	DE	95,9
39	Target	Material Properties	KIT	DE	9,6
40	Target	Rotating Tungsten Helium Cooled Target Concept – Replaceable System	KIT	DE	322,8
41	Target	Rotating Tungsten Helium Cooled Target Concept – Permanent System	KIT	DE	76,7
42	Target	Liquid Metal Target	KIT	DE	1 152,8
43	Target	Premoderator, Moderator and Reflector Engineering Design	Forschungs zentrum Jülich GmbH	DE	1 512,5
44	Target	Shielded Target Monolith System and Beam Extraction	Forschungs zentrum Jülich GmbH	DE	845,6
45	Target	Liquid Metal Target	Forschungs zentrum Jülich GmbH	DE	163,9
46	Target	Liquid Metal Target	Paul Scherrer Institute	СН	221,5
47	Target	Rotating Tungsten Helium Cooled Target Concept – Permanent System	Forschungs zentrum Jülich GmbH	DE	959,9
48	Instrument	SD015DE - Simulation Code Development, Help Desk	HZB	DE	472,9
49	Instrument	SD054NL ULTRA SANS USING NEUTRON SPIN-ECHO MODULATION	Delft University of Technology	NL	208,54
50	Instrument	SD055NL OPTIMISING THE BENEFITS OF SPIN-ECHO LABELLING	Delft University of Technology	NL	135,21

51	Instrument	SD056NL SPIN-ECHO MODULATION IMAGING ADD-ON	Delft University of Technology	NL	247,58
52	Instrument	SD057NL LARMOR LABELLING IN DIFFRACTION	Delft University of Technology	NL	135,21
53	Target	THE ESS WATER TASK FORCE	ESS-Bilbao	ES	189,2
54	Instrument	SD016DC_DK CAMEA	DTU	DK	43,5
55	Instrument	SD018DC_DK COMPACT SANS	DTU	DK	51,2
56	Neutron Technologies	SD020DC_DK NEUTRON OPTICS	DTU	DK	54,0
57	Target	THE ESS TARGET STATION CONCEPT SELECTION (TSCS)	ESS-Bilbao	ES	264,9
58	Target	TARGET TEST STAND	ESS-Bilbao	ES	1390,75
59	Accelerator	Backup Study for ESS Low Energy Beam Transport	ESS-Bilbao	ES	445,5
60	Accelerator	Backup Study for ESS Radio Frequency Quadrupole	ESS-Bilbao	ES	829,6
61	Accelerator	Backup Study for ESS Drift Tube Linac	ESS-Bilbao	ES	386,77
62	Accelerator	Backup Study for ESS Spoke Superconducting Linac	ESS-Bilbao	ES	296,1
63	Accelerator	Advance Welding Facility	ESS-Bilbao	ES	185,11
64	Instrument	SD067IT - Vibrational Spectroscopy Instrument	Elettra- Sincrotrone Trieste	IT	399,5
65	Instrument	SD067IT - Time Focussing Crystal-Chopper Spectrometer (Tempus Fugit)	Elettra- Sincrotrone Trieste	IT	528,0
66	Accelerator	HEBT, NC Magnets and Power Supplies	DTU	DK	1201,9

67	Accelerator	Normal conducting linac MEBT	ESS-Bilbao	ES	138,5
68	Accelerator	Normal conducting linac	INFN	IT	1023,1
69	DMSC	SD029CH ESS Data Aquisition & Software	Paul Scherrer Institute	СН	48,0
70	Instrument	SD016DC_CH TOF-TAS CAMEA	Paul Scherrer Institute	СН	481,0
71	Instrument	SD017DC_CH_a Vertical Focusing Reflectometer	Paul Scherrer Institute	СН	462,0
72	Instrument	SD018DC_CH Compact SANS	Paul Scherrer Institute	СН	287,0
73	Instrument	SD019DC_CH Hybrid Diffractometer	Paul Scherrer Institute	СН	305,0
74	Instrument	SD029CH Multi Purpose High Resolution Imaging	Paul Scherrer Institute	СН	238,5
75	Instrument	SD020DC_CH Neutron Optics	Paul Scherrer Institute	СН	582,5
76	Target	Hot Cell, Handling of Used Resources	Centrum výzkumu Řež s.r.o.	CZ	189,0
77	Target	Study of target radionuclide chemistry and target radio toxicity	DTU	DK	123,8
78	Target	Optimization of beam extraction	DTU	DK	206,4
79	Target	Hot Cell, Handling of Used Resources	ESS-Bilbao	ES	75,7
80	Target	Assessment of radioactive inventory after final shut-down	ESS-Bilbao	ES	47,3
81	Target	Target Performance Modelling and Optimization	ESS-Bilbao	ES	293,3
82	Target	Optimization of beam extraction	Paul Scherrer Institute	СН	547,5
83	Target	Material Properties	Paul Scherrer Institute	СН	249,5
					44 844,5

# Annex 5: List of cash contributions already received for the Preconstruction and the Construction Phase (up to and including June 2015)

The Czech Republic 2,7 M€

The Kingdom of Denmark 67,6 M€

The Kingdom of Sweden $^4$  192,8 M€

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<sup>&</sup>lt;sup>4</sup> The amount calculated from 1st January 2013.

## Annex 6: Contribution Table

The following countries have committed to making the following contributions, cash or in-kind, towards the construction costs (including pre-construction costs) of the ESS (all amounts refer to January 2013 prices):

The United Kingdom of Great Britain and Northern Ireland 184,3 M€

The Kingdom of Spain 55,29 M€

## Annex 7: Members, Observers and Representing Entities

## Members

Country or Intergovernmental organisation	Representing entity (i.e. ministry, research council)
Czech Republic	Ministry of Education, Youth and Sports (MEYS)
The Kingdom of Denmark	
The Federal Republic of Germany	
The Republic of Estonia	
The French Republic	Centre National de la Recherche Scientifique
	(CNRS) and Commissariat à l'Energie Atomique et aux Energies Alternatives (CEA)
The Italian Republic	Istituto Nazionale di Fisica Nucleare (INFN)
Hungary	
The Kingdom of Norway	Research Council of Norway
The Republic of Poland	Ministry of Science and Higher Education
The Kingdom of Spain	ESS-Bilbao
The Kingdom of Sweden	
The Swiss Confederation	
The United Kingdom of Great Britain and Northern Ireland	Department for Business, Energy and Industrial Strategy (BEIS) and United Kingdom Research
	and Innovation (UKRI)

## Observers

Country or Intergovernmental organisation	Representing entity (i.e. ministry, research council)
The Kingdom of Belgium	Studiecentrum voor Kernenergie (SCK)
The Kingdom of the Netherlands	