

Glossary

A2T	Accelerator to Target
ACS	Advanced Cyclone System
ADC	Analog to Digital Converter
ADR	Accord Dangereux Routier
ADS	Accelerator Driven Reactor System
ADU	Accelerator Design Update project
ALARA	As Low As Reasonably Achievable
AMA	Allmän Material och Arbetsbeskrivning
ANL	Argonne National Laboratory, Argonne, USA
ANS	American Nuclear Society
ANSI	American National Standards Institute
ANT	Advanced Neutron Technologies
apm	Atomic Parts Per Million
ASIC	Application Specific Integrated Circuit
ASME	American Society of Mechanical Engineers
BAG	Swiss Federal Office of Public Health
Bas-P	Byggarbetsmiljösamordnare Planering
Bas-U	Byggarbetsmiljösamordnare Utförande
BDBA	Beyond Design Basis Accident
BEW	Beam Entrance Window
BC	Bandwidth Control
BCM	Beam Current Monitor
BCT	Beam Current Transformer
BDBA	Beyond Design Basis Accidents
BH90	Swedish recommendations for design and construction documentation
BHM	Beam Halo Monitor
BIM	Building information model/modelling
BLED	Beam Line Element Databases
BLM	Beam Loss Monitor
BLESS	Building Lifecycle at ESS
BMS	Building Management System
BNL	Brookhaven National Laboratory, Upton, USA
Brazil test	Laboratory test for tensile strength in rock according to ISRM 2007
BPM	Beam Position Monitor
BPS	Beam Permit System
BSAB96	Swedish classification system for building and Civil Engineering Works
BSM	Bunch Shape Monitor
BW	Bernstein Waves

CA	Channel Access
CAD	Computer Aided Design
CAMEA	Continuous Angle Multiple Energy Analyser
CAU	Consolidated Anisotropic Un-drained tri-axial test
CCB	Change Control Board
CCTV	Closed Circuit Television (Surveillance)
CDR	Conceptual Design Report
CE	The CE marking or formerly EC mark
CEA	Commissariat à l'Énergie Atomique
CEA-IFRU	CEA - Institut de Recherche sur les lois Fondamentales de l'Univers, Saclay, France
CEBAF	Continuous Electron Beam Accelerator Facility (See JLab)
CEED	Complex Environment Engineering Diffractometer
CERN	European Organisation for Nuclear Research
CF	Conventional Facilities division
CFD	Computational Fluid Dynamics
CGS	Cover Gas System
CHES	Collaboration Home of ESS
CIEMAT	Centro de Investigaciones Energéticas Medioambientales y Tecnológicas
CIFT	Contactless Inductive Flow Tomography
CKM	Cabibbo-Kobayashi-Maskawa
CM	Configuration Management
CONCERT	ESS-CEA study on a multipurpose HPPA accelerator
COTS	Commercial Off The Shelf (equipment)
CPT	Cone Penetration Test according to ISO/DIS 22476-1
CPU	Computational Processing Unit
CRL	Compact Refractive Lenses
CRS	Constant Rate of Strain test, according to BS 1377
CS	Control System
CTL	Cryogenic Transfer Line
CTS	Cold Tuning System
CUB	Central Utility Building
CVD	Chemical Vapour Deposition
CW	Continuous Wave
DAC	Digital to Analog Converter
DB	DataBase
DBA	Design Basis Accident
DBTT	Ductile to Brittle Transition Temperature
DCF	Dose Conversion Factor
DESY	Deutsches Elektronen-Synkrotron, Hamburg, Germany
DFT	Density Functional Theory
DH	District Heating system
DI	Deionised (water)
DMSC	Data Management and Software Centre, Copenhagen, Denmark
DOE	U.S. Department of Energy
dpa	Displacements Per Atom
Drainage company	A community association having a jointly-owned facility to drain mainly arable land
DTL	Drift Tube Linac
DTU	Technical University of Denmark
DU	Design Update

E-BOM	Engineering Bill of Materials
ECR	Electron Cyclotron Resonance
ECR	Engineering Change Request
EERC	E.ON ENERGY RESEARCH CENTRE
EIA	Environmental Impact Assessment
ELV	Extra Low Voltage (< 50 V AC)
EM	Electromagnetic
EMC	Electromagnetic Compatibility
ENSA	European Neutron Scattering Association
EPICS	Experimental Physics and Industrial Controls
EPL	ESS Plant Layout
ERDA	Electron Recoil Detection Analysis
ESFRI	European Strategy Forum for Research Infrastructures
ESRF	European Synchrotron Radiation Facility, Grenoble, France
EUC	Equipment Under Control
EURISOL	EUROpean ISOL
eV	Electron Volt
FAT	Factory Acceptance Test
FBA	Fast Beam Abort
FC	Faraday Cup
FEA	Finite Element Analysis
FEL	Free Electron Laser
FEM	Finite Element Method
FES	Front End Systems
FMECA	Failure Modes, Effects, and Criticality Analysis
FPD	Full Power Day
FPGA	Field Programmable Gate Array
FPY	Full Power Year
FREIA	Facility for Research instrumentation and Accelerator Development, Uppsala University, Sweden
FRIB	Facility for Rare Isotope Beams, East Lansing, USA
FSAR	Final Safety Analysis Report
FWHM	Full Width at Half Maximum
FZJ	Forschungs Zentrum Jülich, Jülich, Germany
GANIL	Grand Accélérateur National d'Ions Lourds
GDR	Geo-technical Design Report
GEANT	Monte Carlo computer code for high energy particles transport simulation
GEDEON	GEstion DEchets par des Option Nouvelles
GEM	GEneral Materials diffractometer
GEMs	Gas Electron Multipliers
GISANS	Grazing Incidence Small Angle Neutron Scattering
GIR	Ground Investigation Report
GRID	Wire Grid
GSI	Gesellschaft für SchwerIonenforschung, Darmstadt, Germany
GSO	General Safety Objectives
HEBT	High Energy Beam Transport
HEDP	High Energy Differential Pumping
HEPA	High Efficiency Particulate Air
HfA	Dynamic probing according to SS-EN ISO 22476-2
HMI	Human Machine Interface
HOM	Higher Order Mode
HRS	Heat Removal System

HSE	Health, Safety and Environment
HTO	Hydrogen Tritium Oxide
HV	High Voltage (> 1 kV AC)
HVAC	Heating, Ventilation, and Air Conditioning
HZB	Helmholtz-Zentrum Berlin, Berlin, Germany
HZG	Helmholtz-Zentrum Geesthacht
HZDR	Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
IAEA	International Atomic Energy Agency
IAS	Integration, Acceptance and Support activities
IC	Ionisation Chamber
ICC	Integrated Control Centre
ICND	International Collaboration for the development of Neutron Detectors
ICS	Integrated Control System
ID	Immediate Dismantlement
IE	Initiating Event
IEC	International Electrotechnical Commission
IFMIF	International Fusion Materials Irradiation Facility
IGES	Initial Graphics Exchange Specification
IGBT	Insulated Gate Bipolar Transistor
IGCT	Integrated gate Commutated Thyristors
ILL	Institut Laue-Langevin
INFN	Istituto Nazionale di Fisica Nucleare
INFN - LNS	INFN -Laboratori Nazionale del Sud, Catania, Italy
INS	Inelastic Neutron Scattering
INSAG	International Nuclear Safety Advisory Group
I/O	Input-Output
IOC	Input-Output Controller
IPF	Instrumented Protective Function
IPHI	Injecteur de Proton de Haute Intensité
IPM	Ionisation Profile Monitor
IPNO	l'Institut de Physique Nucléaire d'Orsay, Orsay, France
IPUL	Institute of Physics, University of Latvia, Latvia
ISD	Imaging System Device
ISIS	ISIS Pulsed Spallation Neutron Source, Didcot, United Kingdom
ISO	International Organisation for Standardisation
ITER	International Thermonuclear Experimental Reactor, Cadarache, France
Jb3, Jb-total	Swedish soil- and rock sampling according to SGF Report 2:99 and 1:2006
J-PARC	Japan Proton Accelerator Research Complex, Tokai, Japan
J-SNS	Japanese Spallation Neutron Source
JAERI	Japan Atomic Energy Research Institute, Tokai, Japan
JLab	Thomas Jefferson National Accelerator Facility
Kb	Core drilling of soil and rock for core samples, according to SS-EN ISO 22475-1
KEK	High Energy Accelerator Research Organisation, Tsukuba, Japan
KEKB	KEK B factory project
KIT	Karlsruher Institut für Technologie, Karlsruhe, Germany
KU	Copenhagen University, Copenhagen, Denmark
LAN	Local Area Network
LANL	Los Alamos National Laboratory, Los Alamos, USA
LANSCE	Los Alamos Neutron Science Center, Los Alamos, USA
LBE	Lead-Bismuth Eutectic
LBNL	Lawrence Berkeley National Laboratory, Berkeley, USA
LCC	Life Cycle Costing

LDF	Location Data Files
LDV	Laser Doppler Vibrometer
LEBT	Low-Energy Beam Transport
LEDP	Low Energy Differential Pumping
LEKAB	Lunds Energikoncernen AB
LHC	Large Hadron Collider
LH ₂	Liquid Hydrogen
LHe	Liquid Helium
Linac	Linear Accelerator
LINXS	Lund Institute for Neutron and X-Ray Science
LLW	Low-Level Liquid Waste
LLRF	Low Level RF
LO	Local Oscillator
LOCA	Loss-of-Coolant Accident
LOFA	Loss-of-Flow Accident
LOHS	Loss-of-Heat Sink
LPM	Luminescence Profile Monitor
LTCF	Lost Time due to Component Failure
LV	Low Voltage (< 1 kV AC)
LWU	Linac Warm Units
MASW	Multichannel Analysis of Surface Waves
MAWP	Maximum Allowable Working Pressure
MAX IV	The MAX IV Laboratory comprising MAX-lab and the MAX IV project, Lund, Sweden
MCNPX	Monte Carlo N-Particle eXtended
MCS	Machine Coordinate System
MDIS	Microwave Discharge Ion Source
MEA	Membrane-Electrode Assembly
MEBT	Medium Energy Beam Transport
MEGAPIE	Megawatt Pilot Experiment, PSI
MEP	Mechanical Electrical Plumbing
META:LIC	MEgawatt TArget: Lead bIsmuth Cooled
MID	MPS Input Device
MIS	Machine Interlock System
MOD	MPS Output Device
MOF	Metal-Organic Framework
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPS	Machine Protection System
MR	Moderator-Reflector
MSGCS	Micro-Strip Gas Counters
MTBF	Mean Time Between Failures
MTTR	Mean Time to Repair
MYRRHA	A multipurpose neutron source for R&D applications based on ADS
MV	Medium Voltage (50 kV – 1 kV AC)
NBGI	Neutron Beam Guide Inserts
NC	Normally Closed
NMI3	Integrated Infrastructure Initiative for Neutron Scattering and Muon Spectroscopy
NMR	Nuclear Magnetic Resonance
NPI	Next Pulse Inhibit
NPM	Non-invasive Profile Monitor
NSE	Neutron Spin Echo
NSWG	Norms and Standards Working Group
nToF	Neutron Time of Flight
NuPECC	Nuclear Physics European Collaboration Committee

ODH	Oxygen Deficiency Hazards
OLED	Organic Light Emitting Diodes
ORNL	Oak Ridge National Laboratory, Oak Ridge, USA
P&ID	Process and Instrumentation Diagram
PBS	Particle Beam Scanner
PBS	Product Breakdown Structure
PBW	Proton Beam Window
PCS	Pressure Control System
PCV	Pressure Control Valve
PE	Protective Earth
PED	Pressure Equipment Directive
PFD	Probability of Failure on Demand
PFH	Probability of Failure per Hour
PGS	Power generation and storage systems
PID	Piping and Instrument Diagram
PLC	Programmable Logic Controller
PLM	Product Lifecycle Management
PMQ	Permanent Magnet Quadrupole
PMR	Pre-moderator/Moderator/Reflector
PMS	Post Mortem System
PMT	Photo-Multiplier Tube
PPS	Personnel Protection System
PRA	Probabilistic Risk Assessment
PRDS	Phase Reference Distribution System
PSAR	Preliminary Safety Analysis Report
PSB	Partnership for Structural Biology
PSD	Particle Size Distribution
PS-ESS	Proton Source ESS
PSI	Paul Scherrer Institut, Villigen, Switzerland
PV	Process Variable
QA	Quality Assurance
QENS	Quasi-Elastic Neutron Spectroscopy
RAKEL	RAdioKommunikation för Effektiv Ledning
RF	Radio Frequency
RFA	Release Factors for Aerosols
RFQ	Radio Frequency Quadrupole
RFV	Release Factor for Volatiles
RGEC	Radioactive Gases and Effluents Confinement
ROM	Rough Order of Magnitude
ROTHETA	Rotating Helium gas cooled Tungsten (ESS target)
RPM	RPM Package Manager, recursively referring to a package management system
RRM	Repetition-Rate Multiplication
RTC	Real Time Clock
RTD	Resistance Temperature Detector
RWTH Aachen	Aachen University, Aachen, Germany
SANS	Small Angle Neutron Scattering
SAR	Safety Analysis Report
SAT	Site Acceptance Test
SB	Safety barrier
SB11	Swedish recommendations for CAD: Svensk Byggtjänst - Rekommendationer 11
SC	Superconducting

SCADA	Supervisory Control And Data Acquisition
SCC	Space Charge Compensation
SCL	Superconducting Linac
SCRF	Superconducting Radio Frequency
SCS	Site-wide Coordinate System
SEM	Scanning Electron Microscope
SEM	Secondary Emission Monitor
SEOP	Spin Exchange Optical Pumping
SFK-waste	Heat-generating radioactive waste
SFL	Framtida slutförvar för långlivat låg-och medelaktivt avfall, a site for long-lived radioactive waste
SFL-waste	Long-lived low-and intermediate level waste
SFR	Slutförvaret för kortlivat radioaktivt avfall, a final repository for short-lived radioactive waste
SFR-waste	Short-lived low- and intermediate level waste
SI	System Internationale
SIL	Safety Integrity Level
SILHI	High Intensity Light Ion Source
SINQ	Continous Spallation Neutron Source
SKB	Svensk Kärnbränslehantering AB
Skr	Auger sampling according to SS-EN ISO 22475-1
Slake durability	Test on clay stone according to ISRM 2006 part 2
SLLW	Solid Low-Level Waste
SMA	Serviceability, Maintainability and Accessibility
SNG	Standards, Norms and Guidelines
SNS	Spallation Neutron Source, Oak Ridge, USA
SPIRAL2	Système de Production d'Ions Radioactifs en Ligne 2
SRF	See SCRF
SS	Swedish Standard
SSC	Superconducting SuperCollider
SSM	Strålsäkerhetsmyndigheten; The Swedish Radiation Safety Authority
STEP	Standard for the Exchange of Product model data
STF	SäkerhetsTekniska Föreskrifter
SysML	System Modelling Language
TE	Total Elongation
T&E	Test and Evaluation
TDR	Technical Design Report
TLA	Three Letter Acronym
TMP	TurboMolecular Pump
TMR	Target/Moderator/Reflector
TOF	Time of Flight
TRIP	Transformation Induced Plasticity
TS	Target Station
TS	Timing System
TSS	Target Safety System
TTF	Tesla Testbed Facility
TÜV	Technischer Überwachungsverein
UCS	Laboratory test for compressive strength in rock
UDV	Ultrasound Doppler-Velocimetry
UHV	Ultra High Vacuum
UPR	Upper Hybrid Resonance
UPS	Uninterruptable Power System
UTS	Ultimate Tensile Stress

V&V	Verification and Validation
Vb	Field vane test according to ISO/DIS 22476-9
VIS	Versatile Ion Source
VLP	Very Low Pressure (helium)
WBS	Work Breakdown Structure
WFM	Wavelength-Frame Multiplication
WLAN	Wireless Local Area Network
WS	Wire Scanner
WSF	Wavelength-Shifting Fibres
XFEL	X-Ray Free Electron Laser
YS	Yield Stress