

ACRONYMS AND ABBREVIATIONS



A/E	architect/engineer
ACWP	actual cost of work performed
AE/CM	architect engineer/construction manager
AGS	Alternating Grading Synchrotron
AHJ	authority having jurisdiction
AHU	air handling unit
ALARA	as low as reasonably achievable
ALD	associate laboratory director
ANL	Argonne National Laboratory
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
AP	accelerator physics
APPS	Accelerator Personnel Protection System
APS	Advanced Photon Source
AR	accumulator ring
ARR	Accelerator Readiness Review
ASAC	Accelerator Systems Advisory Committee
ASD	Accelerator Systems Division
ASE	accelerator safety envelope
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASQ	American Society for Quality
ASTM	American Society for Testing and Materials
AWS	American Welding Society
BA	budget authority
BAC	budget at completion
BAFO	best and final offer
BCM	beam current monitor
BCP	baseline change proposal
BCWP	budgeted cost of work performed
BCWS	budgeted cost of work scheduled
BESAC	Basic Energy Sciences Advisory Committee
BLM	beam loss monitor
BNL	Brookhaven National Laboratory
BO	budget outlay
BOA	basic ordering agreement
BOD	beneficial occupancy date
BPM	beam position monitor
BV	Bethel Valley Road
CAD	computer-assisted design
CAE	computer-assisted engineering
CAM	computer-assisted manufacturing
CCD	charge-coupled device
CCDTL	coupled-cavity drift tube linac
CCL	coupled-cavity linac
CCR	central control room
CCTV	closed-circuit television

ACRONYMS AND ABBREVIATIONS



CD-4	critical decision-4
CDR	conceptual design report
CEBAF	Continuous Electron Beam Accelerator Facility (see JLab)
CEDB	Cost Estimate Database
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERN	European Organization for Nuclear Research
CF	Conventional Facilities
CFC	certified for construction
CFCC	Conventional Facilities Control Center
CFD	computational fluid dynamics
CFR	<i>Code of Federal Regulations</i>
CHL	central helium liquefier
CLO	Central Laboratory Office (Building)
CM	construction manager
CMP	configuration management plan
CN	construction
CNMS	Center for Nanophase Materials Sciences
COTS	commercial off-the-shelf
CPDS	construction project data sheet
CPI	cost performance index
CPR	cost performance report
Cu	cubic
CUB	Central Utilities Building
CV	cost variance
CW	1. continuous wave 2. condenser water (tower)
D&D	decontamination and decommissioning
DARHT	Dual-Axis Radiographic Hydrodynamic Test Facility
DB	database
DCC	Document Control Center
DCD	design criteria document
DCN	document change notice
DE	design
DESY	Deutsches Elektronen Synchrotron
DI	deionized
DIMP	design integration management plan
DOE	U.S. Department of Energy
DTL	drift-tube linac
DVTS	design validation test stand
EAC	estimate at completion
EDI	engineering, design, and inspection
EDIA	engineering, design, inspection, and administration
EF	experimental facilities
EFAC	Experimental Facilities Advisory Committee
EIS	environmental impact statement
EMI/RFI	electromagnetic interference/radio-frequency interference
EMQ	electromagnetic quadrupole

ACRONYMS AND ABBREVIATIONS



EO	executive order
e-p	electron-proton
EPICS	Experimental Physics and Industrial Control System
EPR	ethylene propylene rubber
EPS	Equipment Protection System
ES&H	environment, safety, and health
ESS	European Spallation Source
ETC	1. estimate to complete 2. estimated total cost
EV	earned value
FDDI	fiber-distributed data interface
FDR	final design review
FE	front end
FEB	Front-End Building
FEIS	final environmental impact statement
FELK	front end, linac, klystron
FES	Front-End System
FFA	federal facility agreement
FIFO	first in, first out
FNAL	Fermi National Accelerator Laboratory
FODO	focus/defocus
FRP	fiber-reinforced polymer
FSAD	final safety assessment document
FSAR	final safety analysis report
FTE	full-time equivalent
FY	fiscal year
g/s	gallons per second
GeV	giga-electron volts
gpm	gallons per minute
GSI	Gesellschaft für Schwerionenforschung
H ⁻	hydrogen ion with a negative charge
H ⁺	hydrogen ion with a positive charge (proton)
H ⁰	neutral hydrogen
HB	high beta
HEBT	high-energy beam transport
HEPA	high-efficiency particulate air (filter)
HFIR	High Flux Isotope Reactor
Hg	mercury
HMIS	Hazardous Materials Inventory System
HOM	higher order mode
HPRF	high-power radio frequency
HPTS	High-Power Target Station
HQ	(DOE) Headquarters
HV	high voltage
HVAC	heating, ventilating, and air conditioning
HVPS	high-voltage power supply
Hz	hertz

ACRONYMS AND ABBREVIATIONS



I&C	instrumentation and controls
I/O	1. in/out 2. input/output
IAT	Instrument Advisory Team
ICD	interface control document
ICS	Integrated Control System
ICWG	Integrated Controls Working Group
IDD	interface design document
IDT	Instrument Development Team
IEEE	Institute of Electrical and Electronics Engineers
IGBT	integrated gated bipolar transistor
ILL	Institut Laue-Langevin
iMAN	Information Manager (software)
INEEL	Idaho National Engineering and Environmental Laboratory
INFN/CEA	Istituto Nazionale di Fisica Nucleare
IOC	1. Instrument Oversight Committee 2. input-output controller
IPNS	Intense Pulsed Neutron Source
IPS	1. integrated project schedule 2. interruptible power supply
IS	Instrument Systems
ISA	Instrument Society of America
ISN	integrated subproject network
ISO	International Organization for Standardization
IT	information technology
JAERI	Japan Atomic Energy Research Institute
JINS	Joint Institute for Neutron Sciences
JLAB	Thomas Jefferson National Accelerator Facility
K	kelvin
KCY	thousand cubic yards
KEK	National Laboratory for High Energy Physics (Japan)
KeV	kiloelectron volts
K/J	Knight/Jacobs
kPa	kilopascal
kV	kilovolt
kW	kilowatt
L/s	liters per second
LAMPF	Los Alamos Meson Production Facility
LAN	local-area network
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center
LBNL (LBL)	Lawrence Berkeley National Laboratory
LCC	life cycle cost
LEBT	Low-Energy Beam Transport System
LEDA	Low Energy Demonstration Accelerator
LHC	large hadron collider

ACRONYMS AND ABBREVIATIONS



LHe	liquid helium
LI	1. line item 2. linac
LLLW	liquid low-level waste
LLNL	Lawrence Livermore National Laboratory
LLRF	low-level radio frequency
LOE	level of effort
LOI	letter of intent
LWC	lost workday cases
LWTS	Long Wavelength Target Station
M&S	materials and services
mA	milliamper
MBH	million BTU per hour
MCM	thousands circular mill (cable diameter)
MCY	million cubic yards
MEBT	medium-energy beam transport
MeV	million electron volts
MHz	megahertz
MOA	memorandum of agreement
MOU	memorandum of understanding
MPM	microgram program manager
MPS	Machine Protection System
MS	millisecond
MSDS	material safety data sheet
MSSR	milestone schedule and status report
MTBF	mean time between failures
MTHL	mercury thermal hydraulic loop
MTTR	mean time to repair/mean time to restore
MV/m	megavolts per millimeter
MVA	megavolt amps
MW	megawatt
N ₂	nitrogen
nA/m	nanoamps per meter
Nb	niobium
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NIST	National Institute for Standards and Technology
NOAA	National Oceanic & Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
ns	nanosecond
NSF	National Science Foundation
NTRC	National Transportation Regulatory Commission
OD	outside/outer diameter
ODH	oxygen deficiency hazard
OPS	operations
OR	Oak Ridge

ACRONYMS AND ABBREVIATIONS



ORELA	Oak Ridge Electron Linear Accelerator
ORLAND	Oak Ridge Laboratory for Neutrino Detectors
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Operations
ORR	operational readiness review
OSHA	Occupational Safety and Health Administration/Act
P&E	plant and equipment
PAC	1. Program Advisory Committee 2. Particle Accelerator Conference
PCB	polychlorinated biphenyl
PCR	project change request
PDR	preliminary design review
PEP	project execution plan
PES	Programmable Electronic System
PFD	probability of failure on demand
PFN	pulse forming network
PLC	programmable logic controller
PMB	performance measurement baseline
PPPL	Princeton Plasma Physics Laboratory
PPS	1. Personnel Protection System 2. pulses per second
PS	1. power supply 2. project support
PSAD	preliminary safety assessment document
PSAR	preliminary safety analysis report
PSI	Paul Scherrer Institute
PSR	proton storage ring
QA	quality assurance
QAL	quality assessment letter
R&D	research and development
RAM	reliability, availability, and maintainability
RATS	Receiving, Acceptance, Testing, and Storage (Building)
RCRA	Resource Conservation and Recovery Act of 1976
rf/RF	radio frequency
RFE	ready for equipment
RFP	request for proposal
rfq/RFQ	radio-frequency quadrupole
RHIC	Relativistic Heavy-Ion Collider
RH-LLW	remote-handled low-level waste
RI	1. recordable injury 2. ring
rms	root mean square
ROD	record of decision

ACRONYMS AND ABBREVIATIONS



RSB	ring service building
RTBT	ring-to-target beam transport
RTDL	real-time data link
RWP	radiation work permit
SAC	Scientific Advisory Committee
SAD	safety assessment document
SANS	small-angle neutron scattering
SAR	safety analysis report
SC	1. safety class 2. superconducting
SCD	single-crystal diffraction
SCFM	standard cubic foot per minute
SCL	superconducting linac
SF	square feet
SHUG	Spallation Neutron Source/High Flux Isotope Reactor User Group
SIL	safety integrity level
SINQ	spallation neutron source at the Paul Scherrer Institute
SIS	Safety-Instrumented System
SLAC	Stanford Linear Accelerator Center
SNS	Spallation Neutron Source
SPI	schedule performance index
SOD	Site Operations Division
SOW	statement of work
SRD	systems requirement document
SRF	superconducting radio frequency
SS	stainless steel
STL	senior team leader
SV	schedule variance
SvT	Sverdrup Technology
T	ton
TBD	to be determined
TCP/IP	transfer control protocol/internet protocol
TDEC	Tennessee Department of Environmental Conservation
TDOT	Tennessee Department of Transportation
TEC	total estimated cost
TFTR	Tokamak/Toroidal Fusion Test Reactor
TH	1. thermal hydraulic 2. technical hardware
TIAC	Target Instrument Advisory Committee
TiN	titanium nitride
TJNAF	Thomas Jefferson National Accelerator Facility (note: preferred acronym is JLab)
TOF	time of flight
TPC	total project cost
TPS	Target Protection System

ACRONYMS AND ABBREVIATIONS



TS	Target System
TSCA	Toxic Substances Control Act
TSR	technical safety requirement
TTF	Target Test Facility
TVA	Tennessee Valley Authority
TW	tower water
UPS	uninterruptible power supply
URL	uniform resource locator
VAR	variance analysis report
VME	versa module European (type of bus)
WBS	work breakdown structure
WNR	weapons neutron research
WP	work package
WTHL	water thermal hydraulic loop
XFD	Experimental Facilities Division