

Appendix A

Glossary

ACNET	Fermilab accelerator controls network
ADC	Analog to digital converter
ASIC	Application specific integrated circuit
bookend	End support for MINOS steel plane assembly
CC	Charged current neutrino interaction
CDMS	Cryogenic Dark Matter Experiment (coming to Soudan in 1999)
CKM	Cabibbo-Kobayashi-Maskawa mixing matrix which describes transitions among quark states
CL	Confidence level
CNA	Charles Nelson Associates, mining engineer consultants
cookie	Plastic fixture for positioning fibers accurately on photodetector pixels
CSP	Cost and schedule plan (both printed document and Microsoft Project and Excel files)
CVS	Concurrent Versions System software management program
DAQ	Data acquisition system
DEP	Delft Electronics Products (manufactures HPD photodetectors)
DIS	Deep inelastic scattering
DNR	Department of Natural Resources (State of Minnesota)
ears	Steel plane side extensions which support MINOS octagons
ECC	Emulsion Cloud Chamber (hybrid emulsion detector)
EDIA	Engineering, design, inspection, acceptance
EM	Electromagnetic, or electromagnetic shower
FESH	Fermilab environmental, safety and health department
FPGA	Field programmable gate array
FTE	Full-time equivalent (unit of effort)
G&A	General and administrative (indirect overhead charges)
GMINOS	GEANT-based MINOS Monte Carlo simulation program
GNuMI	Monte Carlo simulation of NuMI neutrino beam
GPS	Global Positioning Satellite (absolute time standard)

hair	Fiber optics and cabling around edges of MINOS detector planes
HPD	Hybrid photodiode (photodetector made by DEP)
HV	High voltage
HVAC	Heating, ventilation and air conditioning
K2K	KEK-to-Kamiokande Japanese long baseline neutrino experiment
kt	kiloton (1000 metric tons)
L/E	Ratio of flight path length to neutrino energy which characterizes neutrino oscillations
LCW	Low conductivity water (for magnet cooling)
LED	Light emitting diode (light source for calibration system)
LOI	Letter of intent
M&S	Materials and services
M16	Hamamatsu R5900-00-M16 16-channel multianode photomultiplier
MC	Monte Carlo
MINOS	Main Injector Neutrino Oscillation Search
MIP	Minimum ionizing particle
MIPS	Million instructions per second
multiplexing	“Optical summing” of scintillation light from several optical fibers onto a single photodetector pixel (in addition to its usual meaning)
MUX box	Multiplexing box
NBB	Narrow band beam
NC	Neutral current neutrino interaction
NEUGEN	Monte Carlo neutrino event generator software
NuMI	Neutrinos at the Main Injector (neutrino beam or Project)
OO	Object oriented program
PC	Personal computer (IBM clone)
pcb	Printed circuit board
PCI	Peripheral component interconnect (PC bus protocol)
pe	Photoelectron
PLC	Programmable logic controller
PMC	PCI mezzanine card
PMP	Project management plan
PMT	Photomultiplier tube
PSAD	Preliminary safety assessment document
QC	Quality control
QE	Quasi-elastic interaction, or quantum efficiency
Rock muon	Muon from a neutrino interaction in the rock around MINOS
RTV	Room temperature vulcanization adhesive
SAD	Fermilab safety assessment document
SAW	Submerged arc welding, used for steel plane plug welds
SuperK	SuperKamiokande water Cerenkov detector
SWF	Salary, wage and fringe benefit (effort) costs
T	Tesla (1 T = 10 kG)

task WBS element used for categorizing costs. Tasks referred to in this document include:

- Magnet steel and coils, WBS 2.1
- Scintillator detector fabrication, WBS 2.2
- Electronics and DAQ, WBS 2.3
- Far detector installation, WBS 2.4
- Near detector installation, WBS 2.5
- MINOS R&D program, WBS 3.1
- Soudan cavern construction and outfitting, WBS 3.3
- NuMI technical components, WBS 1.1
- NuMI civil construction, WBS 1.2

TDR Technical Design Report

ton Metric ton (1000 kg)

TPC Time projection chamber, total project cost

TRD Technical Requirements Document

WBB Wide band beam

WBS Work breakdown structure

WLS Wavelength shifting fiber