



CM-P00043037

M E M O R A N D U M

To: J. Lefrançois, SPSC Chairman
 From: WA1 Collaboration
 Subject: ν , $\bar{\nu}$ NBB experiment

During periods 2a, 2b and 3a in 1982 we have collected effectively $1.6 \cdot 10^{18}$ protons (400 GeV) on target as follows:

	<u>Obtained</u>	<u>Requested¹⁾</u>
100 GeV ν	$0.22 \cdot 10^{18}$	$0.20 \cdot 10^{18}$
100 GeV $\bar{\nu}$	$0.48 \cdot 10^{18}$	$0.80 \cdot 10^{18}$
200 GeV ν	$0.50 \cdot 10^{18}$	$0.40 \cdot 10^{18}$
200 GeV $\bar{\nu}$	$0.41 \cdot 10^{18}$	$1.10 \cdot 10^{18}$
300 GeV ν	-	$0.60 \cdot 10^{18}$
	<u>$1.61 \cdot 10^{18}$</u>	<u>$3.10 \cdot 10^{18}$</u>

As can be seen, we have finished our 100, 200 GeV ν programme and done 60% and 40% respectively of our 100 and 200 GeV $\bar{\nu}$ programme. Closed collimator data have been taken at 100 GeV ν and 200 GeV ν and $\bar{\nu}$. To finish the programme we proposed originally²⁾ that we would like to request (assuming 450 GeV protons):

100 GeV $\bar{\nu}$	$0.2 \cdot 10^{18}$
200 GeV $\bar{\nu}$	$0.3 \cdot 10^{18}$
300 GeV ν	$0.3 \cdot 10^{18}$
	<u>$0.8 \cdot 10^{18}$</u>

Including 15% closed collimator running, this brings us to $0.9 \cdot 10^{18}$ protons.

To calibrate the flux in low intensity, slow spill beams we expect to need up to three days.

21 September, 1982

We also request a few short calibration runs during which low intensity (a few times 10^{11} maximum) proton beams of 100, 200 and 300 GeV are extracted from the SPS and transported through the NBB channel to the end of the decay tunnel.

This will allow us to

- calibrate the absolute NBB momentum;
- inter-calibrate the proton and parent BCT's;
- measure the background, in the muon flux detectors, of muons produced in the dump at the end of the decay tunnel.

We request in particular that any necessary SPS machine development be done.

At present no plan exists to improve the shielding so as to reduce the background of muons in the CDHS detector. In the coming months we will study the feasibility of improvement of the shielding. We feel, however, that in any case it is unlikely that we will be able to run in a short spill mode and request therefore long ("Fast-Slow") extraction mode.

References

- 1) Our memorandum to the SPSC chairman dated 27.4.82.
- 2) Our memorandum to the SPSC chairman dated 29.4.82.