



# FY11 Budget Plans

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# Current Understanding



- **MAP will have its own B&R code starting this year**
  - **KA150203**
- **A mixed blessing**
  - **harder to siphon off our funding into other endeavors 😊**
  - **but, harder to avail ourselves of general funds to augment program 😞**
- **Fermilab “core” effort and M&S will likely provide the primary requirements for the FY11 MAP plan**
  - **this is reflected in the draft budget presented here**
    - **but not yet guaranteed**
- **In particular, anticipate request for Fermilab Technical Division manpower for MICE magnets will be absorbed in muon core funding**



# Budget Approach



- Started from assumption of flat-flat budget
  - “core” fund guidance for all three main Labs was about the same as last year
  - assumed M&S would also be flat-flat
    - results in M&S budget for MAP (my estimate) of \$2450K
      - using this for planning purposes for now
- Trying to confirm with DOE whether this figure is what they plan
  - could go up or down from assumed value
    - error bar probably not more than  $\pm 10\%$ 
      - and not obviously “symmetric”
- Took guidance from last week’s TB discussions
  - requests were generally reasonable and appropriate
    - but cannot honor everything



# Draft FY11 Budget



DRAFT-TB-R1a

MAP  
FY11 M-S Budget

	Total (\$K)	BNL	FNAL [1]	LBNL	ANL	ORNL	Jlab	Princeton	UCB	UCLA	U-Miss	IT	UC-R
<b>Cooling</b>	<b>305</b>												
MTA operation	110		110										
201- and 805-MHz cavity R&D	150		150										
Engineering	48			48									
Coupling coil preparations	0												
MTA beam line	0												
LH absorber test	0												
Instrumentation	0												
<b>Targetry</b>	<b>360</b>												
MERT analysis	0												
Target development	50	50											
MERT decommissioning	0												
Facility design (IDS-NF)	160	80				100		10					
Targetry simulations	150	150											
<b>Magnets</b>	<b>400</b>												
High-Field Solenoid	100		100										
Helical Cooling Channel	70		70										
Collider	0												
Rapid Cycling Synchrotron	230										230		
Target and Capture	0												
10-15 T solenoids	0												
Cost models	0												
<b>Diagnostics</b>	<b>190</b>												
Norm	190				190								
Hardware	0												
<b>Beam Simulations</b>	<b>258</b>												
Cooling/Theory [1]	258	115	40						3			100	
<b>Acceleration</b>	<b>25</b>												
RLA/FAG/RCS studies	25						10				15		
<b>Collider</b>	<b>70</b>												
SRF R&D	0												
MDI	0												
Longitudinal cooling	70									70			
<b>MICE</b>	<b>913</b>												
Common fund	80			80									
Data-taking and analysis	0												
Absorber windows	0												
RFCC module [2]	718		264	444							10		
Spectrometer solenoids	115		50	62									
<b>Total Expended (\$K)</b>	<b>2521</b>	<b>365</b>	<b>767</b>	<b>631</b>	<b>190</b>	<b>100</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>70</b>	<b>258</b>	<b>100</b>	<b>0</b>
<b>Total Expended - FNAL (\$K)</b>	<b>1734</b>												
<b>Opening (\$K)</b>	<b>2019</b>	<b>365</b>	<b>767</b>	<b>125</b>	<b>190</b>	<b>100</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>70</b>	<b>258</b>	<b>100</b>	<b>0</b>
<b>Equipment (\$K)</b>	<b>506</b>			<b>506</b>									
<b>GPP (\$K)</b>	<b>0</b>												
<b>Previously Allocated Funds (\$K)</b>	<b>0</b>												
<b>Remaining Planned Expenditures (\$K)</b>	<b>0</b>												
<b>Management Reserve [4]</b>	<b>716</b>												
<b>TOTAL BUDGET (\$K)</b>	<b>2450</b>												

NOTES:  
 [1] FNAL portion for Tom Roberts.  
 [2] Includes FNAL portion for Dan Kaplan buyout.  
 [3] Assumes availability of \$511K carryover at LBNL.  
 [4] Presently uncommitted.  
 [5] Shaded amounts covered from FNAL core funds.

Total (\$K)	BNL	FNAL [5]	LBNL	ANL	ORNL	Jlab	Princeton	UCB	UCLA	U-Miss	IIT	UC-R
<b>Cooling</b>	<b>305</b>											
MTA operation	110		110									
201- and 805-MHz cavity R&D	150		150									
Engineering	45			45								
Coupling coil preparations	0											
MTA beam line	0											
LiH absorber test	0											
Instrumentation	0											
<b>Targetry</b>	<b>360</b>											
MERIT analysis	0											
Target development	50	50										
MERIT decommissioning	0											
Facility design (IDS-NF)	160	50			100		10					
Targetry simulations	150	150										
<b>Magnets</b>	<b>400</b>											
High-Field Solenoid	100		100									
Helical Cooling Channel	70		70									
Collider	0											
Rapid Cycling Synchrotron	230									230		
Target and Capture	0											
10-15 T solenoids	0											
Cost models	0											
<b>Diagnostics</b>	<b>190</b>											
Norem	190				190							
Hardware	0											
<b>Beam Simulations</b>	<b>258</b>											
Cooling/Theory [1]	258	115	40					3			100	
<b>Acceleration</b>	<b>25</b>											
RLA/FFAG/RCS studies	25					10				15		
<b>Collider</b>	<b>70</b>											
SRF R&D	0											
MDI	0											
Longitudinal cooling	70								70			
<b>MICE</b>	<b>913</b>											
Common fund	80			80								
Data-taking and analysis	0											
Absorber windows	0											
RFCC module [2]	718		264	444						10		
Spectrometer solenoids	115		53	62								
<b>Total Expended (\$K)</b>	<b>2521</b>	365	787	631	190	100	10	3	70	255	100	0
<b>Total Expended - FNAL (\$K)</b>	<b>1734</b>											
Operating (\$K)	2015	365	787	125	190	100	10	3	70	255	100	0
Equipment (\$K)	506			506								
GPP (\$K)	0											
Previously Allocated Funds (\$K)	0											
Remaining Planned Expenditures (\$K)	0											
Management Reserve [4]	716											
<b>TOTAL BUDGET (\$K)</b>	<b>2450</b>											

NOTES:

- [1] FNAL portion for Tom Roberts.
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- [5] Shaded amounts covered from FNAL core funds



# Budget Comments

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- Fermilab M&S contributions assumed to be covered from core funds
  - removed from total expenditure
- Present management reserve is substantial
  - cannot commit all of this until Fermilab situation is confirmed
- Some funds reserved as contingency for Spectrometer Solenoid overruns
  - a likely eventuality based on past history
- Much of the remainder we hope to use for
  - additional RF cavity fabrication
  - post-docs at various institutions



# Desired Today

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- We'd like approval for that part of the budget defined for non-Fermilab institutions
  - totals \$1734K on the spreadsheet (slide 4)
- We will meet again when
  - the Fermilab plan is finalized
  - the RF needs are defined
  - the overall budget available is confirmed
  - we are ready to assign the remaining reserve funds