WBS 4.4
ISOL Systems

Labor Cost ($/hr)	**$75**					
WBS	**Description**	**Total M$**	**Item K$**	**kHours**	**K$ Purchasing**	**Basis**
1	**Gas Cell TGT Area Transport**	**$4.6**				
1.1	dipoles (1)		$1.7	15.0	$0.6	scaled A1900 X ~2
1.2	quad doublet (1)		$0.5	4.0	$0.2	scaled S800 quad X 2
1.3	quad triplets (1)		$2.5	22.0	$0.8	scaled A1900 X 3
			$4.6	**$3.0**	**$1.6**	
2	**Gas Cell fragment Seperator**	**$7.1**				
2.1	dipoles (2)		$1,200.6	10.4	$417.6	
2.2	quads (6)		$4,287.7	37.7	$1,460.2	
2.3	corr magnets (4V 4H)		$158.8	1.6	$41.8	
2.4	power supplies		$774.6	3.6	$504.4	
2.5	vacuum &controls		$540.4	4.0	$240.2	
2.6	boxes, det, etc		$122.2	0.4	$94.0	
			$6,999.4	**$4,241.3**	**$2,758.1**	
3	**Gas Cell System**	**$0.58**				
3.1	Gas Cell		$180.0			
3.2	Roots Blower		$80.0			
3.3	RF Cooler		$20.0			
3.4	Vacuum Pumps		$30.0			
3.5	Gas Recirculation		$50.0			
3.6	High Voltage Platform		$150.0			
3.7	Mechanical Support		$30.0			
3.8	Electronics		$40.0			

Low Energy RIB System

• Isobar Separator Systems	$2,000k
• Transport of unaccelerated RIBs	$5,900k
• RFQ High-Voltage Platform	$200k
• Buncher	$100k
• RFQ Tanks (3)	$1800k
• 8 Resonator Cryomodule (8)	$11,800k
• Rebuncher	$500k
• Helium gas strippers	$700k
• Diagnostics, Controls & Software	$800k
• Beam Transport	$1,311k
• Total (w/o cont.)	$25,111K

ATLAS equivalent RIB LINAC System

• Design	$3.8M
• Cryodistribution	$2.5M
• RF and cavities	$5.6M
• Cryostats	$2.6M
• Control system	$2.2M
• Beamlines	$0.9M
• Rebunchers	$0.4M
• Total (w/o cont.)	$18.0M