

### Estimated Beam Change Times for 15 A MeV Beams

<b>Final 15 A MeV Beam Configuration</b>	<sup>4</sup> He		45	55	55	55	55	55	55	55	70	70	70	60	60
	<sup>14</sup> N	40		40	40	40	40	40	40	40	50	50	50	50	50
	<sup>20</sup> Ne	50	40		25*	35	30	30	30	30	45	45	45	50	50
	<sup>40</sup> Ar	50	40	25*		35	30	30	30	30	45	45	45	50	50
	<sup>63</sup> Cu	50	40	35	35		35	35	35	35	45	45	45	50	50
	<sup>84</sup> Kr	50	40	30	30	35		25*	25	30	45	45	45	50	50
	<sup>109</sup> Ag	50	40	30	30*	35	15		15	30	45	45	45	50	50
	<sup>129</sup> Xe	50	40	30	30	35	25	25*		30	45	45	45	50	50
	<sup>141</sup> Pr	50	40	25	20*	35	25	25	25		45	45	45	50	50
	<sup>165</sup> Ho	60	50	45	45	45	45	45	45	45		30	30	65	65
	<sup>181</sup> Ta	60	50	45	45	45	45	45	45	45	30		20	65	65
	<sup>197</sup> Au	60	55	50	50	50	50	50	50	50	30	20		70	70
	He	N	Ne	Ar	Cu	Kr	Ag	Xe	Pr	Ho	Ta	Au	25 MeV	40 MeV	
	Initial 15 A MeV Beam Configuration											w/Energy Changes			

### Estimated Beam Change Times for 25 A MeV Beams

<b>Final Beam Config.</b>	<sup>4</sup> He**		50	40	40	40	20	60	60
	<sup>14</sup> N**	50		35	35	35	45	50	50
	<sup>22</sup> Ne	40	35		30	30	45	50	50
	<sup>40</sup> Ar	40	35	30		30	45	50	50
	<sup>84</sup> Kr	40	35	30	30		45	50	50
	<sup>129</sup> Xe	40	60	50	50	50		70	70
		He	N	Ne	Ar	Kr	Xe	15 MeV	40 MeV
	Initial Beam Config.						w/Energy Changes		

### Estimated Beam Change Times for 40 A MeV Beams

<b>Final Beam Config.</b>	<sup>14</sup> N		35	35	35	80	80
	<sup>20</sup> Ne	35		20	30	80	80
	<sup>40</sup> Ar	35	20		30	80	80
	<sup>78</sup> Kr	50	50	50		120	120
		N	Ne	Ar	Kr	15 MeV	25 MeV
	Initial Beam Config.				w/Energy Changes		

- R Extra tuning and conditioning times are usually required
- O Extra tuning and conditioning times are often required
- Y Extra tuning and conditioning times are sometimes required
- G Changes are typical, but some fine tuning is required
- B Changes are typical and usually go smoothly
- V Very few changes are made, rarely takes longer than specified.

#### Possible Delays

- several hours
- >30 minutes
- <30 minutes
- a few minutes
- a few minutes
- a few minutes

\*These changes can be very fast (<15 minutes) if you give your SEE Manager advanced notice

\*\* As of 04/22/09 these beams have not been certified by radiation safety. Expect delays for the first tune.