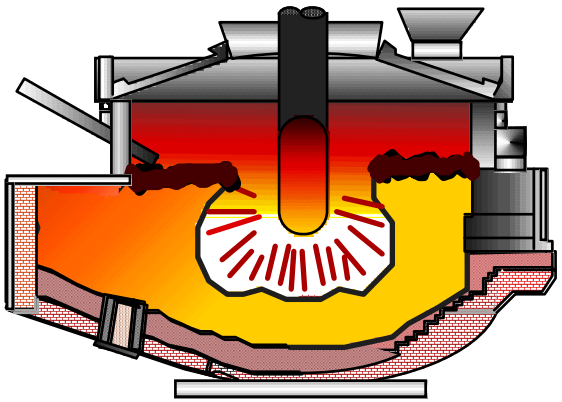
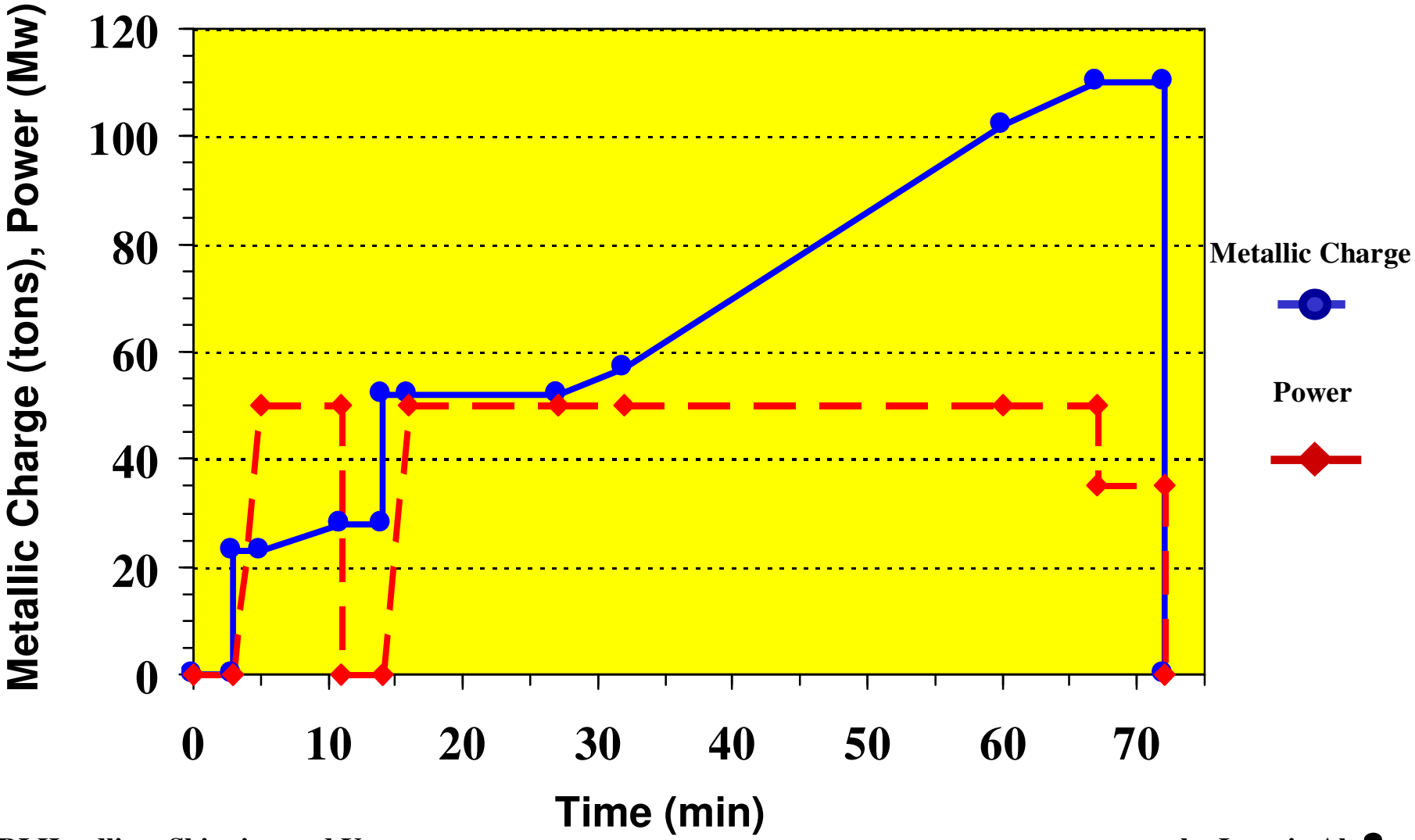
Continuous Feeding of DRI

EAF Characteristics

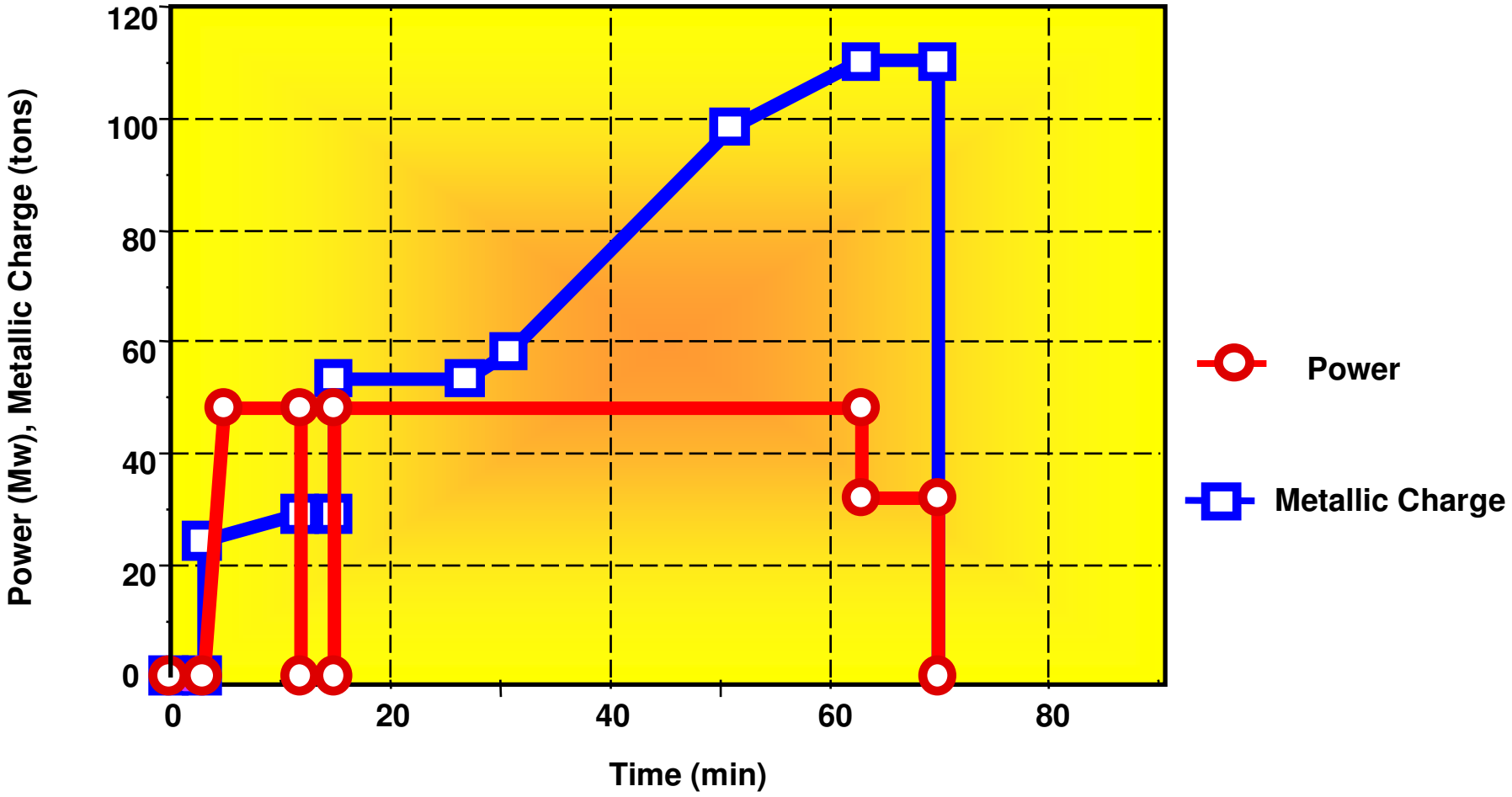
- Heat Size — 100 tls/heat
- Average Power — 50 Mw
- Specific Power — 500 kw/tls



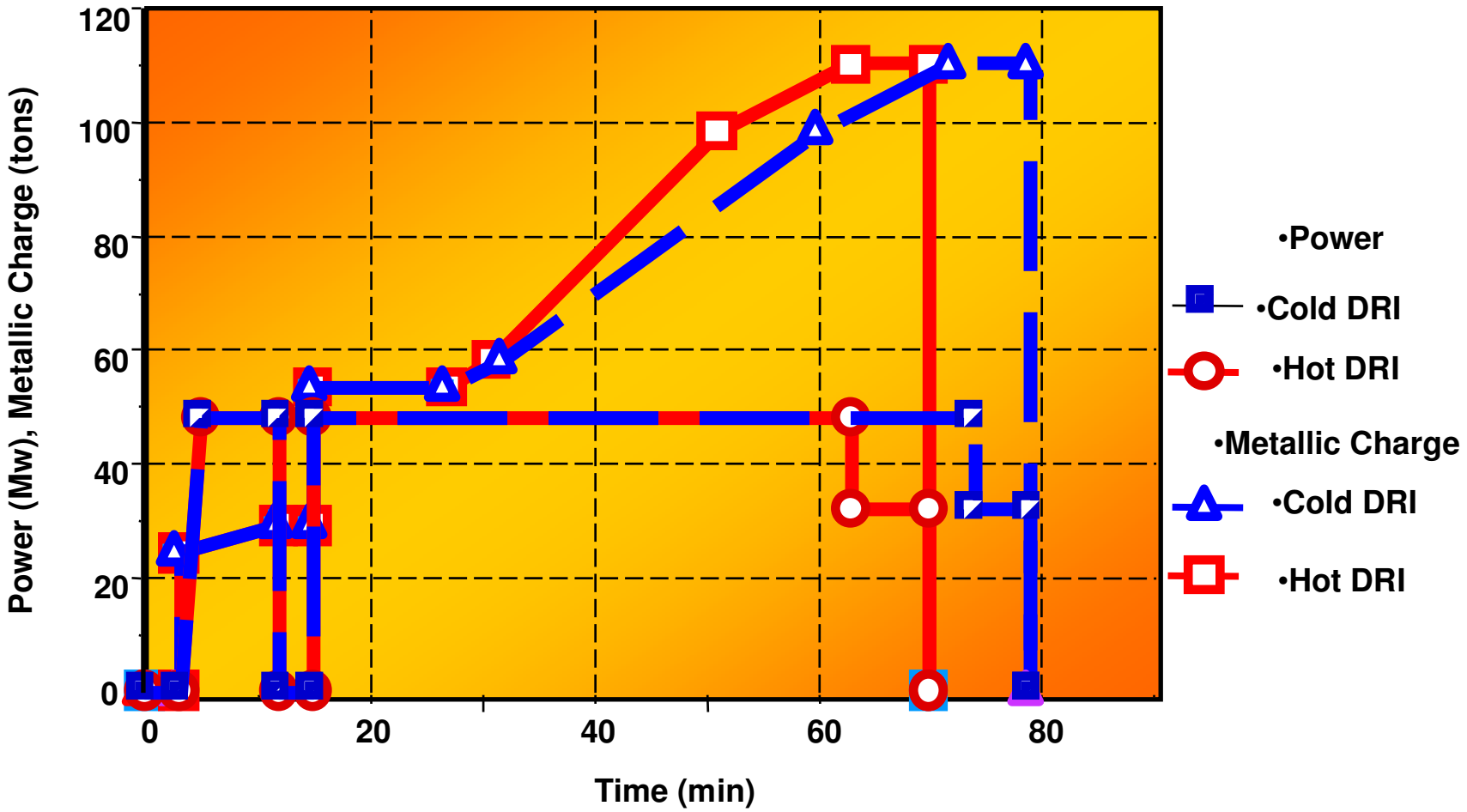
Melting and Refining Time for Cold DRI



Melting and Refining Time for Hot DRI



Melting and Refining Time for Cold and Hot DRI



Specific Feeding Rate for Cold DRI

$$\text{DRI Specific Feeding Rate (kg of DRI/MW-min)} = \frac{\text{Mass Flow Rate (kg of DRI/min)}}{\text{Total Power (Electrical \& Chemical) (MW)}}$$

$$\text{Energy (kWh/tls)} = \frac{16{,}667}{\text{DRI Specific Feeding Rate (kg of DRI/min-MW)}}$$

Specific Feeding Rate for Hot DRI

$$\text{Energy (T) (kWh/tls)} = \text{Energy } (T_a) \text{ (kWh/tls)} - \Delta$$

$$\frac{16{,}667}{\text{DRI Specific Feeding Rate (T) (kg of DRI/min-MW)}} = \frac{16{,}667}{\text{DRI Specific Feeding Rate } (T_a) \text{ (kg of DRI/min-MW)}} - \Delta$$

$$\text{DRI Specific Feeding Rate (T) (kg of DRI/min-MW)} = \frac{\text{DRI Specific Feeding Rate } (T_a) \text{ (kg of DRI/min-MW)}}{(1 - \Delta x \text{DRI Specific Feeding Rate } (T_a)/16{,}667)}$$