

Care & Maintenance

# Opportunity Charging



# Operating Notes

## Guidelines for Opportunity Charging

### Definition

Opportunity charging is an operational regime that allows a battery to extend its effective capacity over a working shift. However – a number of key considerations need to be taken into account when opportunity charging a battery:

Opportunity charging is intended to give an occasional increase in effective capacity and thereby increase the working shift of a battery. It should not be seen as a critical requirement of a battery's duty on a daily basis as it will significantly reduce the batteries performance and life.

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The battery will still require one full recharge every daily working cycle.

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If opportunity charging is required for every shift and a full recharge is not possible within a 24 hour period then additional battery capacity is required – either a larger battery or additional batteries.

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Persistent and frequent opportunity charging will lead to increased battery temperature and permanently damage the battery reducing the battery life.

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## 3 key factors affect the usefulness of opportunity charging

### The time spent on opportunity charging

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Longer periods of approximately 1 hour are preferred – short periods of 5 minutes deliver little benefit.

### The current battery capacity at the time of commencing the opportunity charge

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The benefit of opportunity charging is maximised if the battery is already over 25% discharged.

### The recharge time of the charger used

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8 hour chargers will return energy more quickly to the battery.

**The table below details the typical affect of 1 hour opportunity recharge in relation to the depth of discharge of the battery and the charger sizing**

Battery capacity at commencement of opportunity charge	Approximate percentage of battery capacity returned during 1 hour of opportunity charging	
	Typical 8 hour charger	Typical 12 hour charger
95%	6.5%	5.5%
85%	9.0%	7.5%
75%	13%	9.0%
65%	13%	9.0%
50%	13%	9.0%
25%	13%	9.0%

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