

# GMP Summary of Available Rates

## Glossary:

**kW:** stands for kilowatt, this is a unit of power, an amount of energy at a given instant like when the customer turns on a piece of equipment, a light, etc.

**kWh:** stands for kilowatt-hour, this is the unit of electricity used for billing purposes. It is the average power (kW) over the course of one hour. As an example, an average LCD television will consume 1 kWh over the course of an NFL game.

**Peak:** an event characterized by high electricity demand (kW). The term may be used to describe a customer's highest demand over a given period or the system-wide demand for all GMP customers.

**Customer charge:** a fixed amount that covers the fixed costs of serving a customer (data processing, billing, meter operation), and does not depend on consumption

**Usage charge:** a charge proportional to the amount of energy (measured in kWh) consumed

**Demand charge:** a charge paid by commercial customers based on the highest electrical demand (measured in kW) in given month. This is a proxy for the customer's share of GMP's peak system costs, which include payments made to the regional New England grid *and* the cost of equipment to support this maximum demand. While all customers pay their share of demand-related system costs, some rates break it out explicitly into a separate demand charge, while others roll it into the usage charge.

**Rider:** a discount (e.g. for demand response) or additional cost (e.g. for renewable energy) that rides on top of an existing rate

**Wholesale electricity:** GMP generates a lot of the electricity it delivers, or has long-term contracts to procure electricity for a fixed price over many years (for example, with Hydro Quebec for a chunk of their generated hydropower). However, sometimes the total demand exceeds this pre-procured energy and so GMP must buy electricity in the New England wholesale market. The price changes every 5 minutes and typically follows the law of supply and demand (where high electricity demand drives the price up) but may also be influenced by system disturbances like a large-scale power plant going off line unexpectedly.

**1-phase:** a type of power used to serve most household electrical loads.

**3-phase:** a type of power that is needed to operate large motors like industrial machines and compressors to cool buildings. 3-phase power is usually carried by a group of three lines separated by air, held up by poles that look like the letter "T."

**Renewable energy certificate (REC):** the environmental attribute associated with renewably generated electricity. RECs are helpful to track who can take credit for renewables because once the electricity is on the grid, it's impossible to determine its exact source.

**Time of Use rate:** a type of usage charge where the cost per kWh changes depending on when during the day it is consumed

## Residential Rates:

### Rate 1: Residential Service

**Overview:** Available to all single-family homes, individual apartments, and farms, with the same price for electricity at every hour of the day.

The numbers	
Customer charge	\$0.492/day
Usage	\$0.16859/kWh

**Why we have this rate:** straightforward and easy to understand

**Who is it good for:** customers looking for simplicity who don't want to think about the time-sensitivity of electricity use.

---

### Rate 3: Off-Peak Water Heating Service

**Overview:** Rate 3 service is separately metered to the customer's electric water heater. Note that this is in addition to regular service and so Rate 3 customers will end up having two meters. Customers pay a lower kWh rate in exchange for allowing GMP to cut power to the water heater for up to 5 hours between 4:30-10:30pm each day.

The numbers	
Customer charge	\$0.313/day
Usage	\$0.10094/kWh

**Why we have this rate:** water is really good at retaining heat when well-insulated. And because water tanks are often kept at a temperature much hotter than you would ever want to shower with, we can cut off power to the water heater for up to 5 hours without a significant drop in the temperature of the water you use in your house. In exchange for allowing GMP to do this when the cost of electricity is typically high, we are able to offer customers a discount compared to Rate 1.

**Who is it good for:** customers who are comfortable with GMP cutting off power to their water heaters in the late afternoon and evening (either because they don't typically use hot water between 4:30-10:30pm or because their water tanks are very well-insulated). As opposed to a time of use rate in which electricity *access* is unaffected but prices are higher during peak times, under Rate 3 power is cut off entirely. This is why the program requires a separate meter. During the shutoff hours electricity will be available as usual to all other loads in the

home. Both residential and small commercial customers are eligible for this rate. The water heater capacity must not exceed 60 watts per gallon.

---

### **Rate 9: Residential Critical Peak Pricing Service**

**Overview:** Similar to Rate 1, but customers will be asked to reduce their energy use for up to ten critical peak energy days throughout the year.

The numbers	
<b>Customer charge</b>	\$0.492/day
<b>Usage</b>	
<b>Peak</b>	\$0.68604/kWh
<b>Off-peak</b>	\$0.16192/kWh
<b>Peak hours</b>	Between noon and 8 pm on up to ten days between May 1st and September 30th

**Why we have this rate:** GMP pays fees to connect to the New England regional grid. The cost is proportional to GMP's load during the single hour of highest electricity demand each month, and over the entire year. Every kW saved during these "critical peak" hours (which often corresponds to extreme high and low temperatures) translates into savings for all customers. For customers able to reduce their consumption when we anticipate a peak, we reward them with a slightly lower off-peak rate. However, the cost during the peak events is over 4 times higher than regular Rate 1 to discourage consumption at those times.

**Who is it good for:** customers who have the flexibility to reduce afternoon/evening load on demand during the spring and summer months. This may be achieved by changing behavior or scheduling devices to turn off automatically. Customers are notified of these peak events via email, text, or call.

---

### **Rate 11: Residential Time of Use Service**

**Overview:** Available to single family homes, individual apartments, and farms. This is a time-of-use rate with periods of higher-priced peak kWh and lower-priced off-peak kWh.

The numbers	
<b>Customer charge</b>	\$0.651/day
<b>Usage</b>	
<b>Peak</b>	\$0.26771/kWh
<b>Off-peak</b>	\$0.11411/kWh
<b>Peak hours</b>	Monday-Friday 1:00pm – 9:00pm

**Why we have this rate:** the wholesale price of electricity in the New England market generally corresponds with demand. The price is therefore highest on weekdays in the afternoon and evening (“on-peak” hours), as people return home from work and turn on lights and appliances, causing electricity demand to increase. Rate 11 allows customers to pay less for electricity during “off-peak” hours, in exchange for paying a premium to use on-peak.

**Who is it good for:** customers who typically use significantly less electricity during the afternoon and evening compared to other times, or who have the flexibility to consistently shift load away from peak hours through direct action (e.g. choosing to run a laundry machine later in the evening) or by scheduling smart devices like thermostats and water heaters.

---

### Rate 13: Electric Load Management Services

**Overview:** a separately metered service to the customer's electric storage space heating equipment. Customers limit the hours that the space heater is able to charge to off-peak periods and pay a lower off-peak usage rate in return for controlling the charging of this equipment themselves.

The numbers	
Customer charge	\$0.951/day
Usage	
Peak	\$0.92965/kWh
Off-peak	\$0.08584/kWh
Peak hours	6:00am – 12:00pm

**Why we have this rate:** Rate 13 is designed for electric storage space heating units, which are not required to be running on a continuous basis. Instead, they can charge up at certain times and release that stored energy over the course of the day, usually through the use of high-density ceramic bricks. This provides the capability to charge up when wholesale electricity prices are cheap, which we incentivize through low off-peak and high on-peak usage charges. This aligns the customer’s goals with GMP’s, resulting in savings for all customers. Similar to Rate 3, Rate 13 takes advantage of thermal heat retention, but unlike that rate, customers are responsible for controlling the charging of the electric storage equipment themselves.

**Who is it good for:** customers with electric thermal storage units who have the capability to adjust the consumption of the unit at different times of day. The fully charged unit should be capable of serving the building’s heating load for up to 16 hours.

---

**Rate 14: Residential Time-of-Use & Critical Peak Pricing Service**

**Overview:** a combination of Rates 9 and 11, with both daily peak/off-peak periods and critical peaks called up to ten days during the spring and summer months.

The numbers	
<b>Customer charge</b>	\$0.651/day
<b>Usage</b>	
<b>Critical Peak</b>	\$0.68907/kWh
<b>Peak</b>	\$0.26067/kWh
<b>Off-peak</b>	\$0.11111/kWh
<b>Critical peak hours</b>	Select weekdays between noon and 8 pm on up to ten days between May 1st and September 30th.
<b>Peak hours</b>	Monday-Friday between 1:00 - 9:00 pm

**Why we have this rate:** the same reasons for Rates 9 and 11 apply here. Customers get a discount for off-peak in exchange for limiting their usage during both daily peak hours (when electricity prices are high) and critical peaks (which determine the fee GMP pays to connect to the regional grid).

**Who is it good for:** customers who can limit energy use year-round on weekdays in the afternoon/evening and have the flexibility to reduce load in response to critical peak events during the summer.

---

**Rate 22: Residential Seasonal Time-of-Use**

**Overview:** Similar to Rate 11 but incorporating seasonality into the peak/off-peak times, Rate 22 is available to single family homes, individual apartments and farms.

The numbers	
<b>Customer charge</b>	\$0.651/day
<b>Usage</b>	
<b>Peak</b>	\$0.26771/kWh
<b>Off-peak</b>	\$0.11411/kWh
<b>Peak hours</b>	
<b>5/1 – 10/31</b>	Mon – Fri 1:00pm to 9:00pm
<b>11/1 – 4/30</b>	Mon – Fri 7:30am – 11:30am AND 4:30pm – 8:30pm

**Why do we have this rate:** similar to Rate 11, Rate 22 rewards usage at times when the regional electricity price is typically low. During the winter months, price spikes are more likely to occur in mornings, which Rate 22 captures by breaking up the 8-hour peak period into two chunks (morning and late afternoon). This provides an alternative for customers interested in time-of-use whose load profile might not be a great fit for Rate 11.

**Who is it good for:** customers well-suited for Rate 11 who leave the state OR have the flexibility to shift load away from the morning and late afternoon/early evening during the winter months.

---

### Rate 72: Residential Off Peak Electric Vehicle Service

**Overview:** A special rate for charging an electric vehicle at home. GMP will manage the charger during peak events (5-10 times per month). Customers will be notified at least 8 hours prior to events and can opt out if they need to charge. Otherwise, no intervention is required by the customer to take advantage of the off-peak rate. EV charging-related usage will be subtracted from the home's consumption and assessed at this rate. An eligible Level 2 charger is required for enrollment; a list of chargers can be found [here](#). Rate 72 is only compatible with Rate 1.

The numbers	
Usage	
Peak Opt-out	\$0.68604/kWh
Off-peak	\$0.13343/kWh
Peak hours	Events typically start between 4:00pm and 6:00pm and last for 4 hours

**Why we have this rate:** For many EV owners, getting a full charge by morning is critical, but it doesn't matter if charging occurs between 6-8pm or 1-3am. By seamlessly shifting charging away from periods when electricity is expensive, we help reduce costs for all customers, while passing on savings to EV drivers. It's a win-win!

**Who is it good for:** customers who have an electric vehicle and compatible Level 2 charger

---

### Rate 74: Residential Time-of-Use Electric Vehicle Service

**Overview:** A special rate for charging an electric vehicle at home. Unlike Rate 72, customers will not receive notices for peak events. Customers can schedule charging sessions to take advantage of the off-peak rate. EV charging-related usage will be subtracted from the home's consumption and assessed at this rate. An eligible Level 2 charger is required for enrollment; a list of chargers can be found [here](#). Rate 74 is only compatible with Rate 1.

The numbers	
<b>Usage</b>	
<b>Peak</b>	\$0.16859/kWh
<b>Off-peak</b>	\$0.12831 /kWh
<b>Peak hours</b>	Monday-Friday between 1:00-9:00pm

**Why we have this rate:** this is an alternative to Rate 72 for customers who prefer to manage their vehicle charging on their own.

**Who is it good for:** customers who have an electric vehicle and compatible Level 2 charger

## Residential Riders:

### Electric Assistance Program Rider

A discounted rate available to low-to-moderate income residential customers on Rate 1 or 11 who meet all EAP requirements, including a household gross income at or below 150% of the federal poverty level. An EAP participant must reapply for the EAP rate once per year. EAP participants are eligible to have all past due balances set to zero.

The numbers	
<b>Rate 1</b>	
<b>Customer charge</b>	\$0.369/day
<b>Usage</b>	\$0.12644/kWh
<b>Rate 11</b>	
<b>Customer charge</b>	\$0.488/kWh
<b>Usage</b>	
<b>Peak</b>	\$0.20078/kWh
<b>Off-peak</b>	\$0.08558/kWh
<b>Peak Hours</b>	Monday-Friday 1:00pm – 9:00pm

### Voluntary Renewable Service Rider

Also known as “Cow Power,” this rider allows customers to elect to purchase renewable energy certificates from Vermont farmers who operate methane digesters that use agricultural byproducts and waste for fuel. This rider can be overlaid on top of the usage charge of any rate and costs **\$0.04/kWh**. Customers can choose to purchase an amount equivalent to 25%, 50%, or 100% of their energy consumption. Additionally, commercial and industrial customers on Rate 63/65 may purchase 10% of their consumption.

### Renewable Energy Rider

Similar to Cow Power, except instead of purchasing renewable energy certificates from methane digesters on Vermont farms, in this case the RECs come from wind, solar, and

hydropower and cost **\$0.03/kWh**. Residential customers can choose to purchase an amount equivalent to 25%, 50%, 75%, or 100% of their energy consumption, and the percentage must equal a multiple of 10% for commercial and industrial customers.

### Bring Your Own Device Program

Customers who install a residential battery storage system can earn an upfront incentive for sharing access with GMP to reduce system-wide peak demand. Customers choose the amount of energy to enroll, up to 10 kW. The incentive payment is \$850 per kilowatt for 3-hour systems and \$950 per kilowatt for 4-hour systems, with an extra \$100 per kilowatt if the system is located in a constrained area of the grid as shown on the [GMP solar map](#).

### Energy Storage System Program

Customers can lease two Tesla Powerwalls for \$55/month or a one-time upfront payment of \$5500. The batteries will remain charged up at their full capacity the majority of hours in order to provide clean backup power during grid outages, and GMP manages the equipment periodically in order to reduce system-wide peaks. The lease term lasts 10 years, with the option to extend an additional 5 years at no cost.

---

## Commercial and Industrial Rates:

### Rate 3: Off-Peak Water Heating Service

Identical to Rate 3 for residential customers. See above for details.

---

### Rate 6: General Service

**Overview:** Rate 6 is available to all customers. Customers are able to use electricity at any hour of the day at one uniform rate. Rate 6 rolls the demand charge into the usage charge. With a fixed usage charge, this does not offer customers the ability to save money by managing demand.

The numbers	
Customer charge	\$0.612/day
Usage	\$0.17141 /kWh

**Why do we have this rate:** think of this as the commercial equivalent of Rate 1. Like that rate, this is straightforward and easy to understand.



**Who is good for:** Rate 6 is usually best suited for small commercial customers who don't want to think about demand charges or time of electricity consumption. However, some larger residential customers may want to consider it, as the usage charge is slightly lower than Rate 1 (in exchange for a slightly higher customer charge). The breakeven point at which it becomes cheaper for a residential customer to go with Rate 6 is 1600 kWh per month. This rate is not available to customers with a maximum demand 200 kW or greater or whose average consumption over a four-month period exceeds 7600 kWh per month.

---

### Rate 8: General Service

**Overview:** Rate 8 is generally available to all customers. This rate class has a demand charge component (kW at any single point in time) and a usage charge component (the total kWh consumed). The demand charge component is determined by the customer's highest peak (measured kW in 15-minute intervals) during the current month, or 50% of the highest peak during the previous 11 months, whichever is higher.

The numbers	
<b>Customer charge</b>	
1-phase:	\$0.625/day
3-phase:	\$0.625/day
<b>Usage</b>	
First 500 kWh	\$0.18244/kWh
Next "A" kWh	\$0.18244/kWh
Additional kWh	\$0.11014/kWh
<b>Demand</b>	
First 5 kW	\$0.000/kW
All additional kW	\$17.887/kW

**Why do we have this rate:** Rate 8 gives customers an opportunity to lower their energy cost by managing their demand. We allow this because reducing demand on the system reduces GMP's cost to serve that customer, which in effect reduces costs for all customers. The "A" block of kWh is determined by the peak demand using the formula  $A = 3.0 * (\text{peak kW demand} - 5 \text{ kW}) * \text{number of days in the current billing period}$ . When peak demand is less than 5, "A" = 0. The kWh in the A block are charged a high rate, which incentivizes customers to limit their peak demand to as close to 5 kW as possible.

**Who is good for:** small commercial customers who can limit their peak demand to around 5 kW. The best way to understand this is to go through an example. Let's say customer XYZ consumes an average of 6000 kWh per month and has a maximum load of 10 kW. This energy profile is typical of small retail shops like corner grocery stores. The following table shows what XYZ would pay under Rates 6 and 8.

	<b>Rate 6</b>	<b>Rate 8</b>
Customer charge	30 days * \$0.612/day = <b>\$18.36</b>	30 days * \$0.625/day = <b>\$18.75</b>
Usage charge	6000 kWh * \$0.17141 = <b>\$1028.46</b>	<b>First 500 kWh:</b> 500 kWh * \$0.18244/kWh = <b>\$91.22</b> <b>Next "A" kWh:</b> A = 3 * (10 kW – 5 kW) * 30 days = 450 kWh A * \$0.18244kWh = <b>\$82.10</b> <b>Additional kWh:</b> (6000 kWh – 500 kWh – A kWh) * \$0.11014/kWh = <b>\$556.21</b>
Demand charge		(10 kW – 5 kW) * \$17.887 = <b>\$89.44</b>
<b>Total</b>	<b>\$989.73</b>	<b>\$837.72</b>

This customer comes out better under Rate 8 because of a small peak demand. In contrast, if the customer had a maximum demand of 20 kW, they would instead pay \$1017 under Rate 8, making Rate 6 a better choice.

Like Rate 6, this rate is not available to customers with a maximum demand 200 kW or greater or whose average consumption over a four-month period exceeds 7,600 kWh per month.

### *Rate 13: Electric Load Management Services*

Identical to Rate 13 for residential customers. See above for details.

### *Rate 63/65: Commercial and Industrial Time of Use Service*

**Overview:** Rate 63/65 is available to all non-residential and farm customers on an optional basis and required for customers consuming 7,600 kWh or more per month or with an average demand of more than 200 kW. Customers may save money by effectively managing their maximum demand. Like Rate 8, the demand charge component is determined by the

customer's highest peak (measured kW in 15-minute intervals) during the current month, or 50% of the highest peak during the previous 11 months, whichever is higher.

The numbers	
<b>Customer charge</b>	\$3.982/day
<b>Usage</b>	
<b>Peak kWh</b>	\$0.11055/kWh
<b>Off-peak kWh</b>	\$0.08401/kWh
<b>Demand</b>	
<b>Peak kW</b>	\$15.66/kW
<b>Off-peak kW</b>	\$4.511/kW
<b>Voltage discounts</b>	
<b>Sub-transmission</b>	21.65%
<b>Sub-transmission &gt; 20 MW</b>	23.04%
<b>Transformer ownership credit</b>	\$0.8417/kW demand
<b>Peak Hours</b>	Monday – Friday 6:00am – 11:00pm

**Why do we have this rate?** This is the standard rate for medium and large commercial and industrial customers. Customers whose demand exceeds 200 kW play too considerable a role in the system-wide peak demand to not pay directly for their demand contribution (as opposed to wrapped into a usage charge). The voltage discounts reflect a lower cost to serve customers who receive electricity at higher voltages (and therefore do not require GMP to own and service equipment to bring the voltage down to the distribution level). This rate also includes a transformer ownership credit to reimburse customers for owning their own equipment, which saves money for all GMP customers. Like many other rates, Rate 63/65 has peak and off-peak periods, which helps align customer incentives with GMPs.

**Who is this rate good for:** medium to large commercial and industrial customers, ideally with dedicated facility management systems to manage peak demand and modulate consumption to align with off-peak periods.

### Rate 70: Commercial and Industrial Transmission Service

**Overview:** Rate 70 is available to Commercial and Industrial accounts who take service directly from the high-voltage transmission grid and have peak demands in excess of 10 MW.

The numbers	
<b>Customer charge</b>	\$162.314/day
<b>Usage</b>	
<b>Peak kWh</b>	\$0.09067/kWh
<b>Off-peak kWh</b>	\$0.06973/kWh

<b>Investment Charge</b>	
<b>Peak demand</b>	\$4.387/month/kW
<b>Off peak demand</b>	\$2.952/month/kW
<b>Peak Hours</b>	Monday – Friday 6:00am – 11:00pm

**Why do we have this rate:** for certain large enough customers, it makes financial sense to own and operate their own distribution-level electrical infrastructure as opposed to paying GMP (through higher rates) to do it for them. In this case GMP still provides the electricity but serves the customer at the transmission-level voltage (a much higher voltage than electricity flowing to your house) and it is the customer’s responsibility to purchase and maintain the equipment to step it down to the desired voltage and distribute to all the required loads. GMP offers a lower rate to these customers in exchange for a lower cost to serve them. Because these customers still draw from the grid, they are responsible for paying their fair share of the system-wide peak-related costs, which is covered through the investment charge. Like many other rates, Rate 70 has a peak and off-peak component to reflect the dynamic price of wholesale electricity throughout the day.

**Who is this rate good for:** large manufacturing plants and campuses with a dedicated facilities staff to maintain electrical equipment and manage peak demand.

## Commercial and Industrial Riders

### Curtaillable Load Rider / Critical Peak Rider / Load Response Rider

These three riders are all similar, and follow the general model of customers voluntarily reducing their power at the request of GMP in expectation of a large system-wide peak. The load reduction creates cost savings for GMP, which is shared with the participants in the form of either a direct reimbursement or lower rates. Each rider has a different compensation mechanisms and requirements for participation, but in all cases GMP notifies the customer by 3pm one day before the peak period in which they will be asked to reduce load.

- **Curtaillable Load Rider (CLR):** typically used by ski areas who have considerable flexibility in operating their snowmaking equipment (and currently on Rate 63/65). There will be at least one event called every 30 days. The participant’s demand during the event sets the on-peak demand charge for the month. In other words, the on-peak window changes from 6am-11pm Monday-Friday to those hours falling within peak events. This better aligns customer costs with GMP’s. The off-peak demand charge is unaffected. In order to participate, the customer must be able to shed at least 25% of its peak load and respond to all events called throughout the year. In 2018, 29 such events were called, lasting between 4 and 8 hours each. If a participant misses an event, they may be removed from the rider but will not pay a higher charge than they otherwise would have under Rate 63/65.

- Critical Peak Rider: targeted at more typical C&I customers like schools and commercial buildings. This rider amounts to adding a high-cost critical peak pricing period to Rate 63/65, so that customers are incentivized to use less electricity during critical peak events. In exchange, participants have the opportunity to save money by paying lower usage and demand charges in regular peak and off-peak times. Events are called less frequently than the CLR rider, but there is a direct penalty for ignoring a critical peak event, reflected in the higher charges. The updated rates are as follows:

<b>The numbers</b>	
<b>Customer charge</b>	\$3.730/day
<b>Usage</b>	
<b>Critical peak kWh</b>	\$0.38384/kWh
<b>Peak kWh</b>	\$0.10389/kWh
<b>Off-peak kWh</b>	\$0.08003/kWh
<b>Demand</b>	
<b>Critical peak kW</b>	\$10.051/kW
<b>Peak kW</b>	\$10.808 /kW
<b>Off-peak kW</b>	\$4.104/kW
<b>Voltage discounts</b>	
<b>Primary</b>	2.50%
<b>Sub-transmission</b>	12.48%
<b>Sub-transmission &gt; 20 MW</b>	26.44%
<b>Transformer ownership credit</b>	\$0.8199/kW demand
<b>Critical peak hours</b>	Called at GMP's discretion, shall not exceed 8 hours in any day or 150 in a calendar year
<b>Peak Hours</b>	Monday – Friday 6:00am – 11:00pm

- Load Response Rider: in this case the customer is only rewarded if GMP saves money as a result of the load curtailment. The savings are proportional to the load reduction during the monthly or annual peak, with 70% of the savings shared with the participant. This is different from the previous two riders, in which case the customer can save money regardless of GMP's accuracy in predicting a peak. All customers on Rate 63/65 are eligible for the Load Response Rider, although this is best taken advantage of by large customers who have a considerable amount of flexible load to curtail without interrupting operations.

Participants in all riders should have a dedicated energy manager (or multiple) who can act on the event notices to reduce peak demand.

*Economic Development Incentive Program*

This rider contains temporary reduced rates for Rate 63/65 or Rate 70 customers expanding or starting new business in the GMP service territory. These customers will pay lower rates if they meet the program criteria, including committing to participating in energy conservation programs and certifying that reduced electricity rates played a significant role in deciding to expand or add operations in Vermont. The bill discounts are as follows:

Months 1-48: 20.00%

Months 49-60: 10.00%

*Voluntary Renewable Service Rider*

Same as for residential. See above for details.

*Renewable Energy Rider*

Same as for residential. See above for details.

*Bring Your Own Device Program*

Same as for residential. See above for details.

*Energy Storage System Program*

Same as for residential. See above for details.