The following noises are added to all the scenarios. Noise information:

$$N_1 = 10\sin(10t)$$

$$N_2 = 40\sin(t)$$

$$N_3 = 40\cos(2t+1)$$

$$N_4 = 45\cos(t+1)$$

$$N_5 = 50\sin(0.5t)$$

$$N_6 = 50\sin(1.2t+1)$$

$$N_7 = 40\sin(1.5t+1)$$

$$N_8 = 40\cos(1.3t+1)$$

where t denotes the time of minute.

Scenario 1

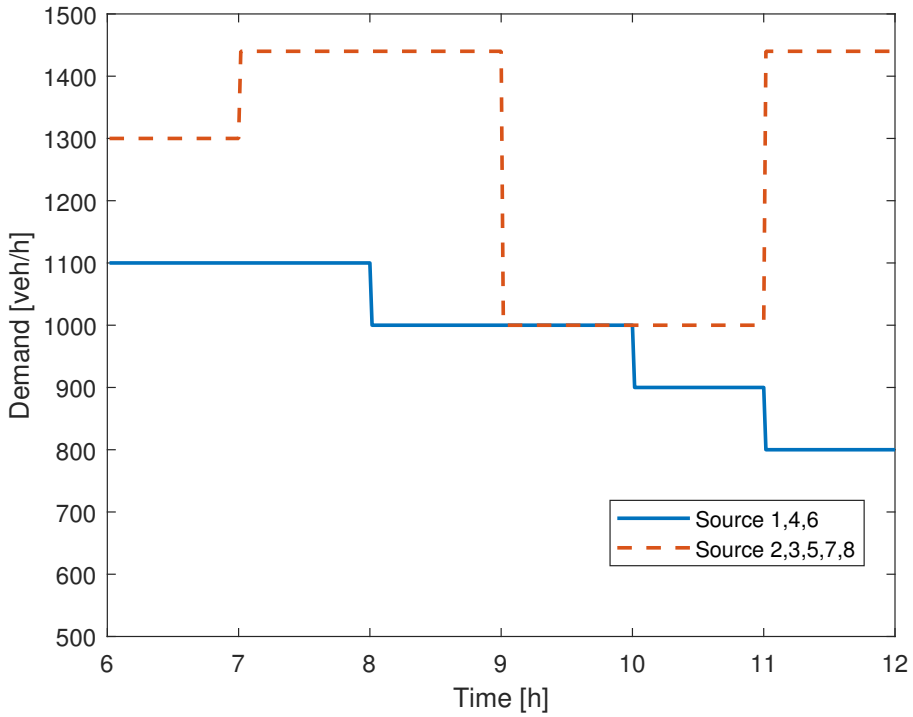

Figure 1: Scenario 1 without noise

The blue profile is generated by the following command:

```
1100.*(t>=361 & t<=420) + 1100.*(t>=421 & t<=480) + 1000.*(t>=481 & t<=540) + 1000.*(t>=541 & t<=600) + 900.*(t>=601 & t<=660) + 800.*(t>=661 & t<=720)
```

The red profile if generated by the following command:

```
1300.*(t>=361 & t<=420) + 1440.*(t>=421 & t<=480) + 1440.*(t>=481 & t<=540) + 1000.*(t>=541 & t<=600) + 1000.*(t>=601 & t<=660) + 1440.*(t>=661 & t<=720)
```

Scenario 2

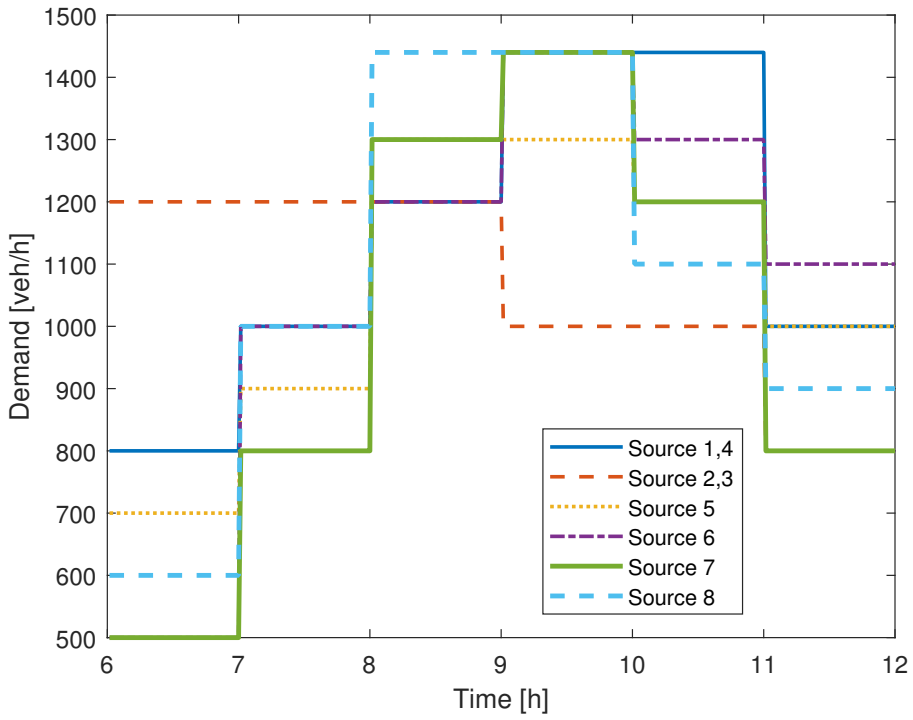

Figure 2: Scenario 2 without noise

Source 1,4:

```
800.*(t>=361 & t<=420) + 1000.*(t>=421 & t<=480) + 1200.*(t>=481 & t<=540) + 1440.*(t>=541
& t<=600) + 1440.*(t>=601 & t<=660) + 1000.*(t>=661 & t<=720)
```

Source 2,3:

```
1200.*(t>=361 & t<=420) + 1200.*(t>=421 & t<=480) + 1200.*(t>=481 & t<=540) + 1000.*(t>=541
& t<=600) + 1000.*(t>=601 & t<=660) + 800.*(t>=661 & t<=720)
```

Source 5:

```
700.*(t>=361 & t<=420) + 900.*(t>=421 & t<=480) + 1300.*(t>=481 & t<=540) + 1300.*(t>=541
& t<=600) + 1200.*(t>=601 & t<=660) + 1000.*(t>=661 & t<=720)
```

Source 6:

```
500.*(t>=361 & t<=420) + 1000.*(t>=421 & t<=480) + 1200.*(t>=481 & t<=540) + 1440.*(t>=541
& t<=600) + 1300.*(t>=601 & t<=660) + 1100.*(t>=661 & t<=720)
```

Source 7:

```
500.*(t>=361 & t<=420) + 800.*(t>=421 & t<=480) + 1300.*(t>=481 & t<=540) + 1440.*(t>=541
& t<=600) + 1200.*(t>=601 & t<=660) + 800.*(t>=661 & t<=720)
```

Source 8:

```
600.*(t>=361 & t<=420) + 1000.*(t>=421 & t<=480) + 1440.*(t>=481 & t<=540) + 1440.*(t>=541
& t<=600) + 1100.*(t>=601 & t<=660) + 900.*(t>=661 & t<=720)
```

Scenario 3

The demand profiles are generated by the same commands with scenario 1.

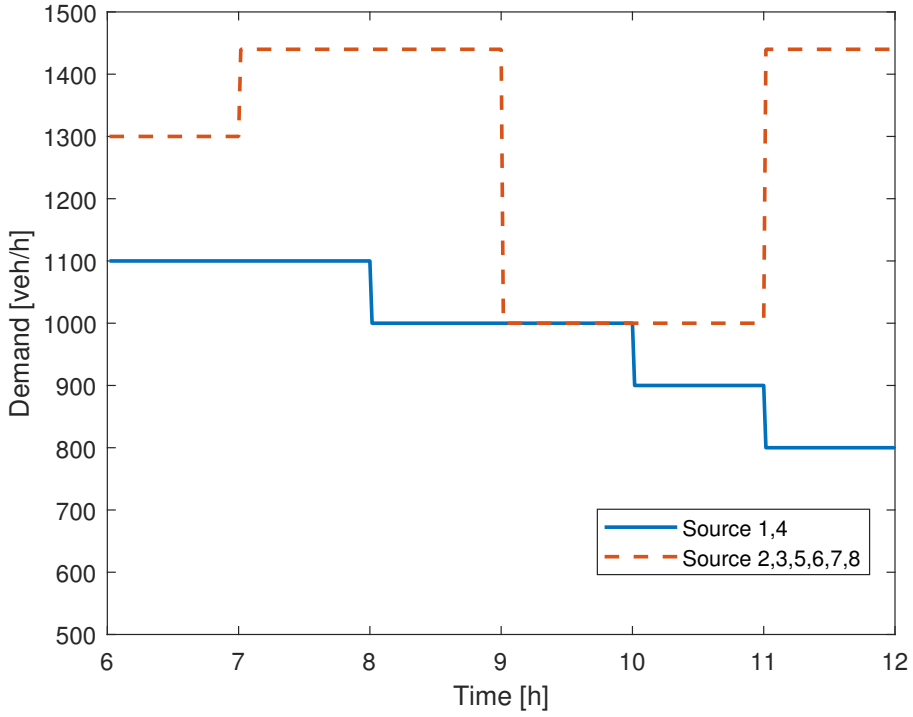

Figure 3: Scenario 3 without noise

Scenario 4

The demand profiles are generated by the same commands with scenario 1.

Scenario 5

The demand profiles are generated by the same commands with scenario 1.

Scenario 6

Source 1,4:

```
1100.*(t>=361 & t<=420) + 1100.*(t>=421 & t<=480) + 1000.*(t>=481 & t<=540) + 1000.*(t>=541
& t<=600) + 900.*(t>=601 & t<=660) + 800.*(t>=661 & t<=720)
```

Source 2,3,5,6,7,8:

```
1340.*(t>=361 & t<=420) + 1440.*(t>=421 & t<=480) + 1340.*(t>=481 & t<=540) + 1000.*(t>=541
& t<=600) + 1000.*(t>=601 & t<=660) + 940.*(t>=661 & t<=720)
```

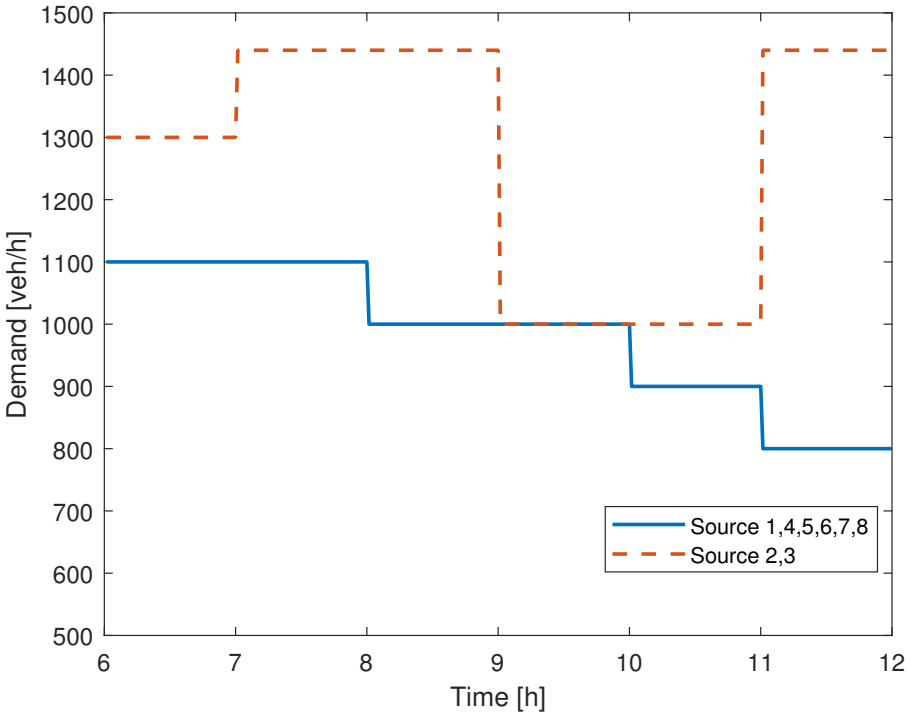

Figure 4: Scenario 4 without noise

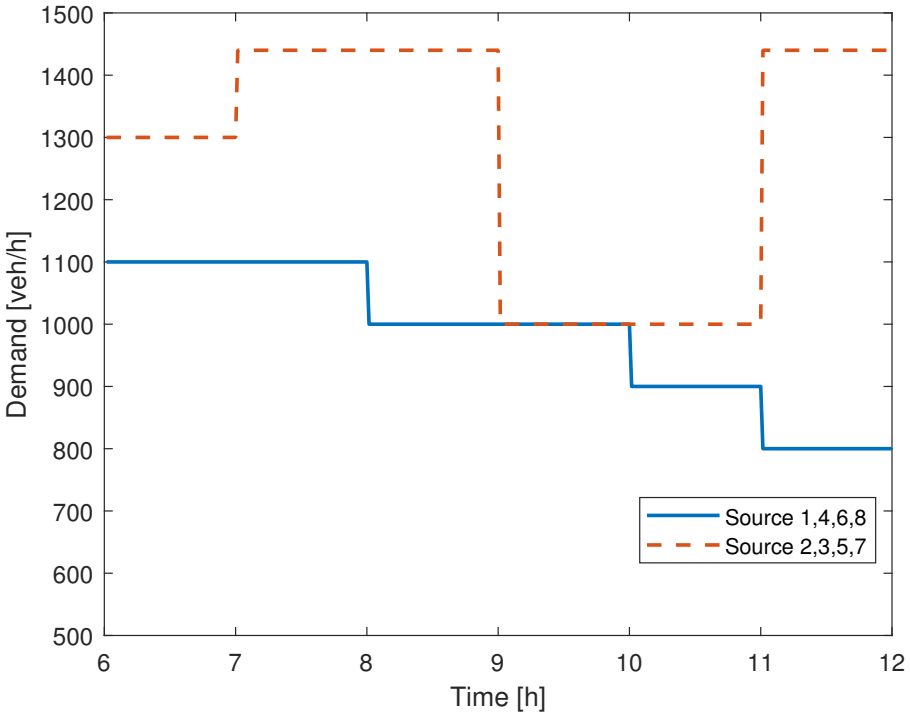

Figure 5: Scenario 5 without noise

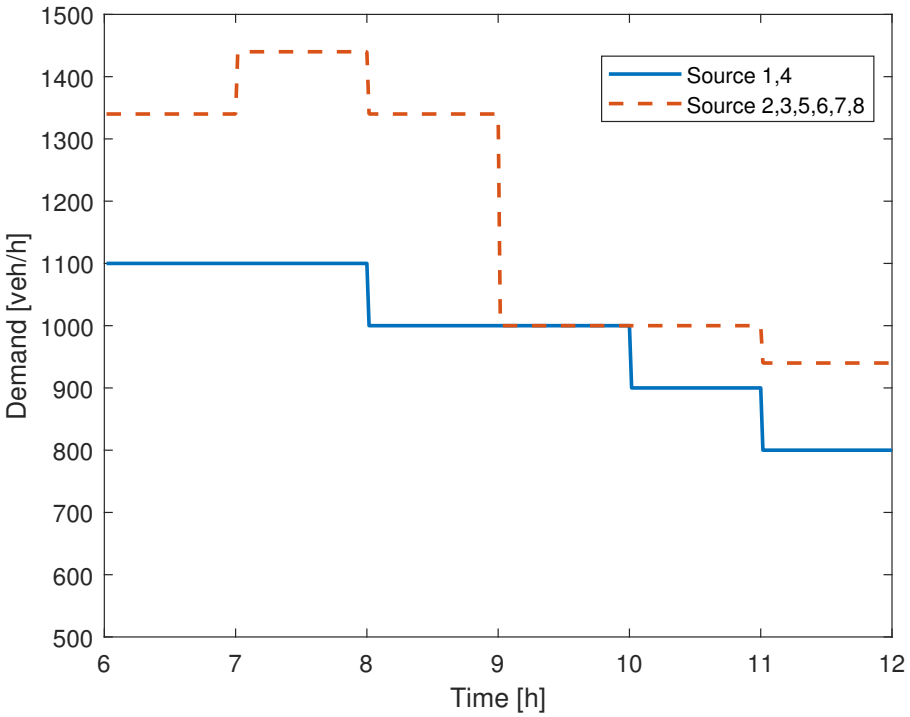

Figure 6: Scenario 6 without noise