



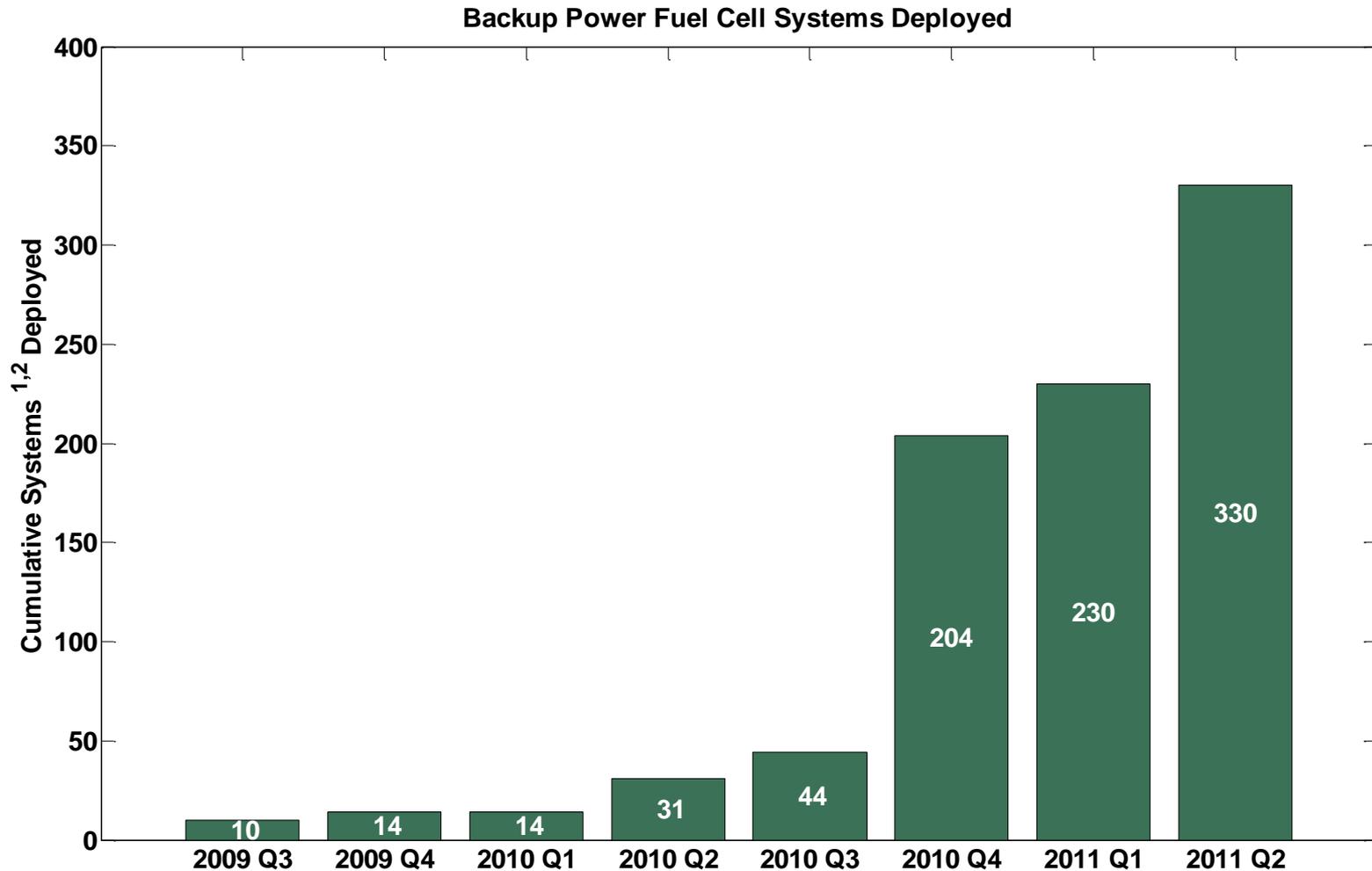
Fall 2011 Composite Data Products Backup Power



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October 11th, 2011

Backup Power Fuel Cell Systems Deployed

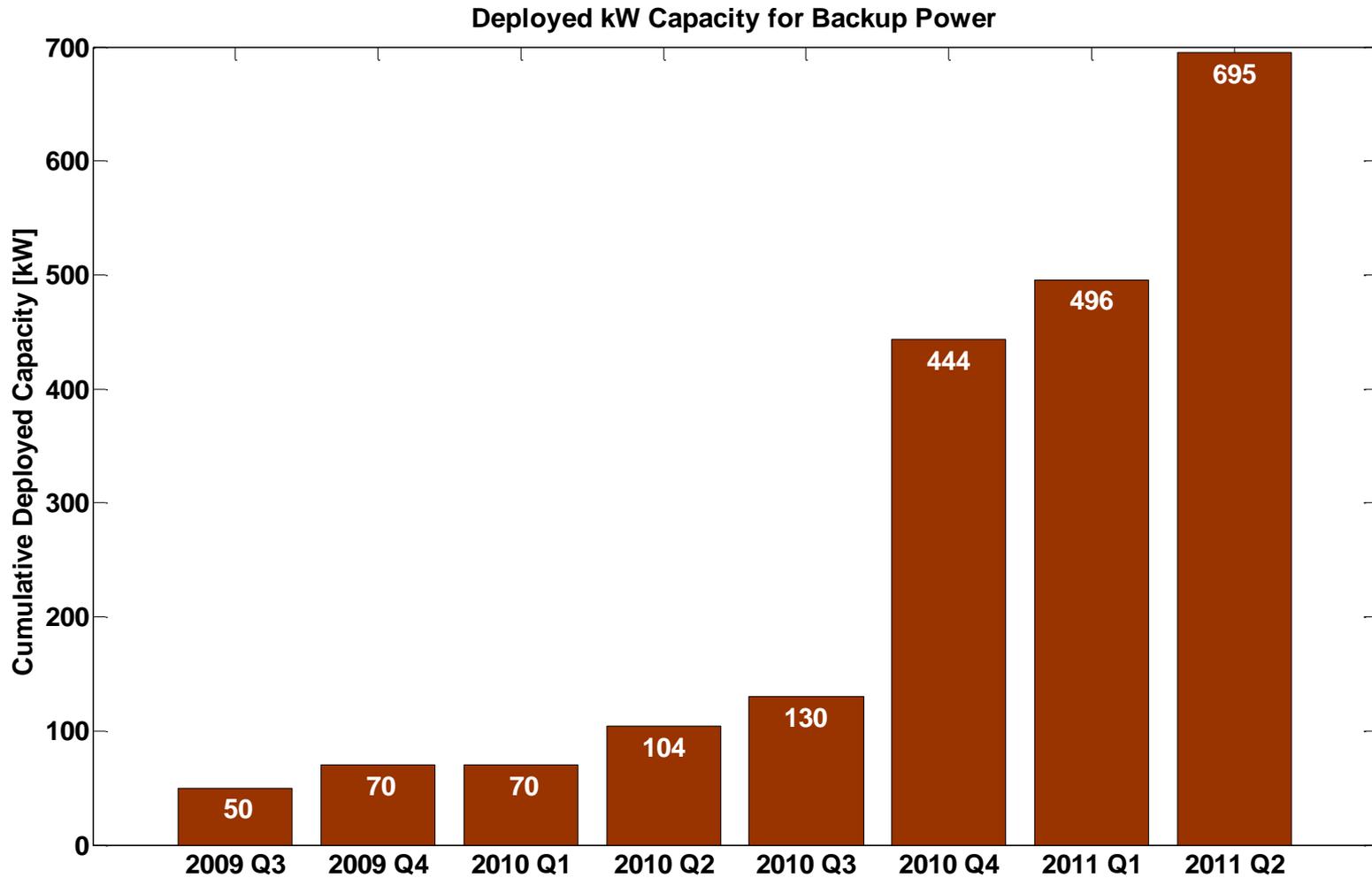


NREL cdp_bu_01

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- 1) Sites may have more than one FC system
- 2) Not all FC systems are supplying operation data

Deployed kW Capacity for Backup Power



NREL cdp_bu_02

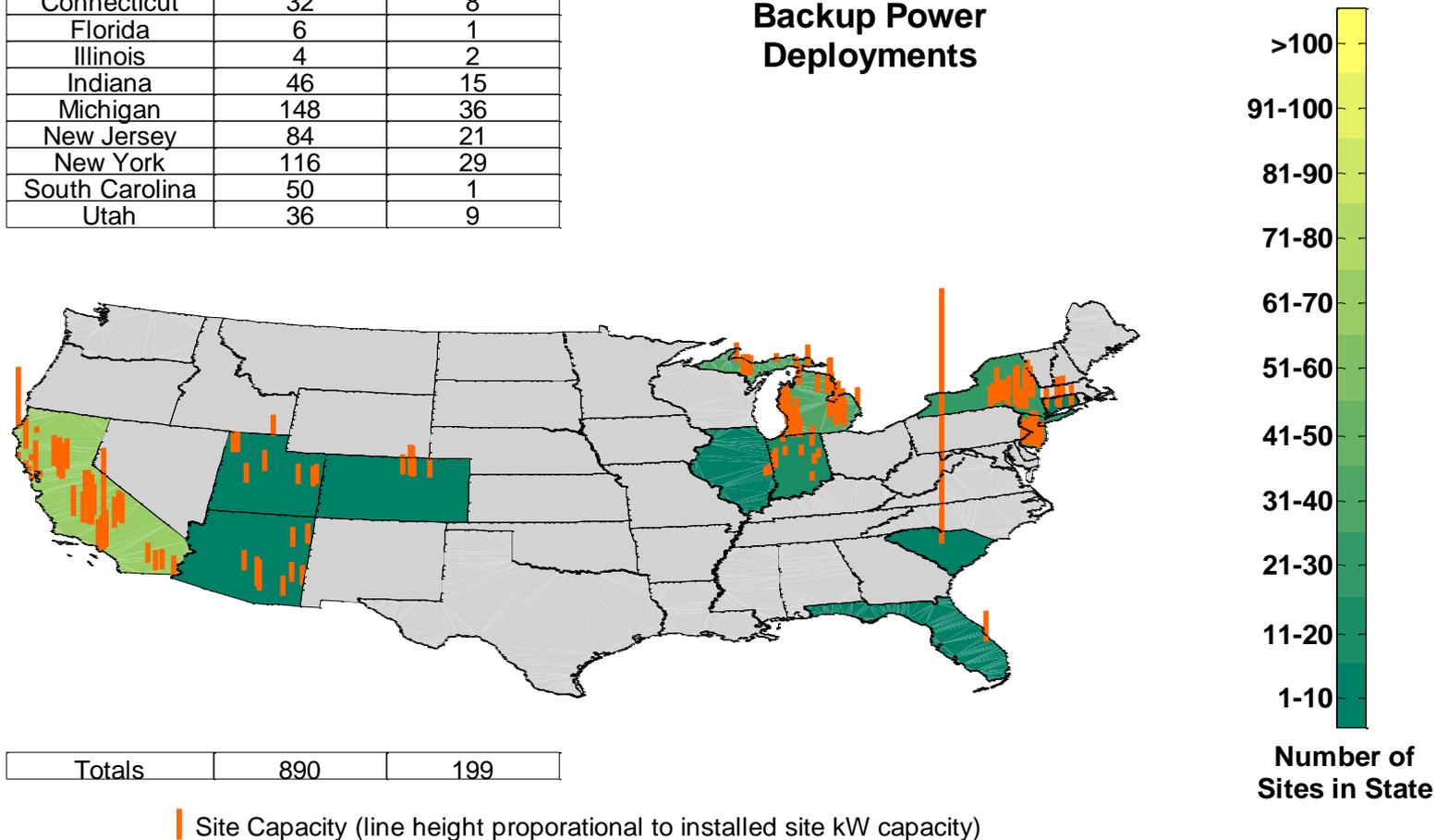
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CDP-BU-03

Backup Power Deployments

| State | kW Capacity | Sites |
|----------------|-------------|-------|
| Arizona | 40 | 9 |
| California | 304 | 63 |
| Colorado | 24 | 5 |
| Connecticut | 32 | 8 |
| Florida | 6 | 1 |
| Illinois | 4 | 2 |
| Indiana | 46 | 15 |
| Michigan | 148 | 36 |
| New Jersey | 84 | 21 |
| New York | 116 | 29 |
| South Carolina | 50 | 1 |
| Utah | 36 | 9 |

Backup Power Deployments

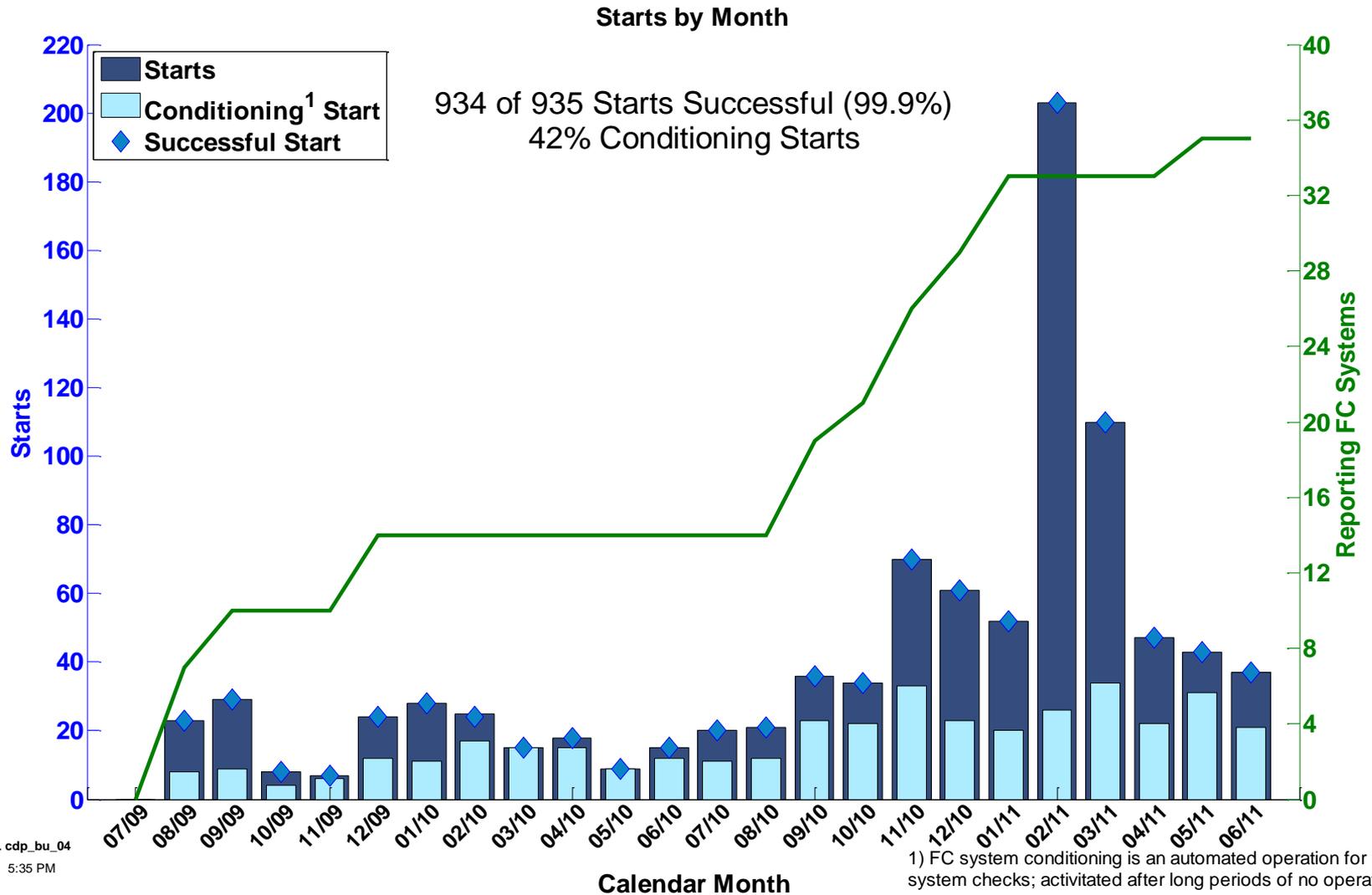


NREL cdp_bu_03

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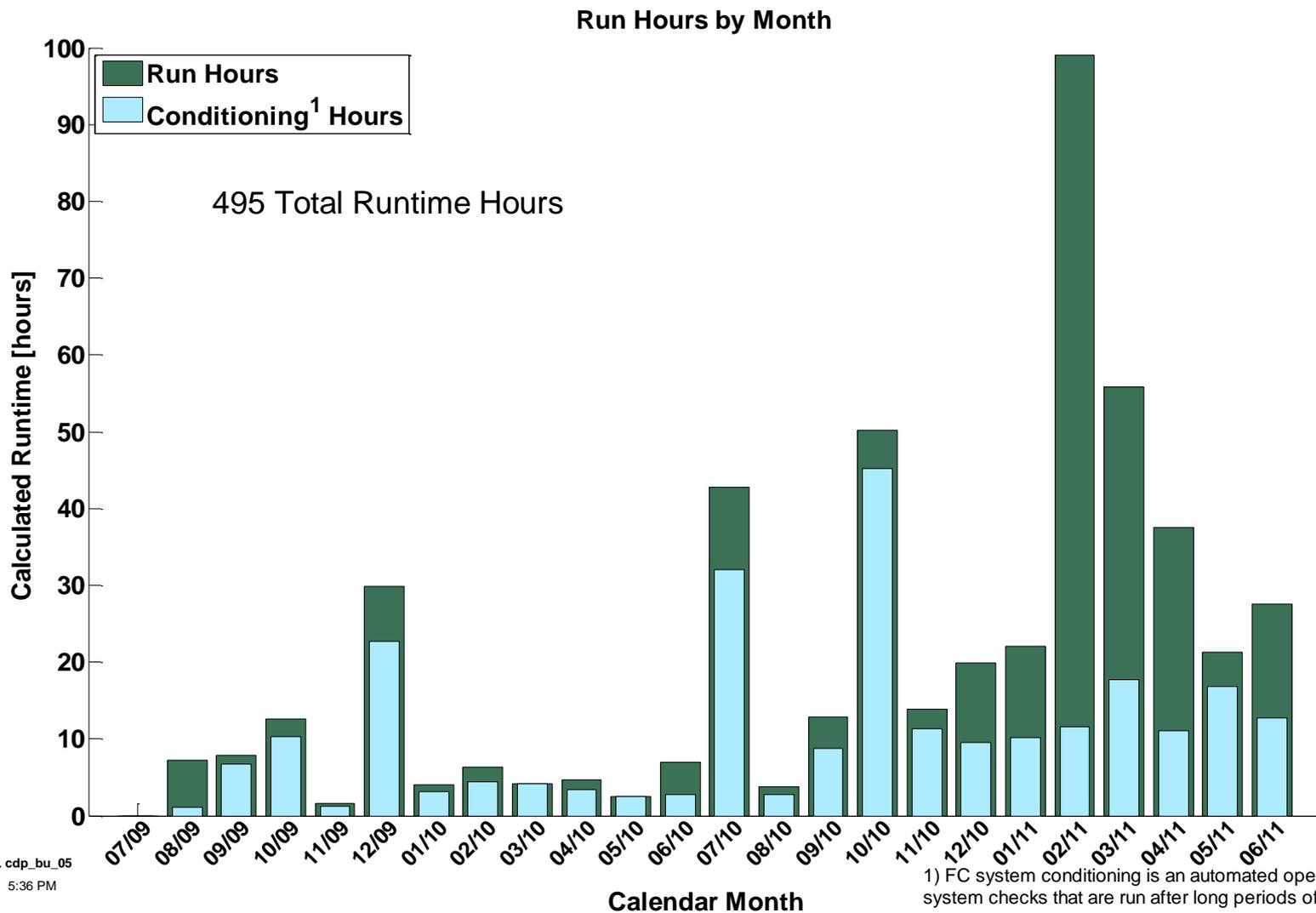
CDP-BU-04

Fuel Cell System Starts by Month

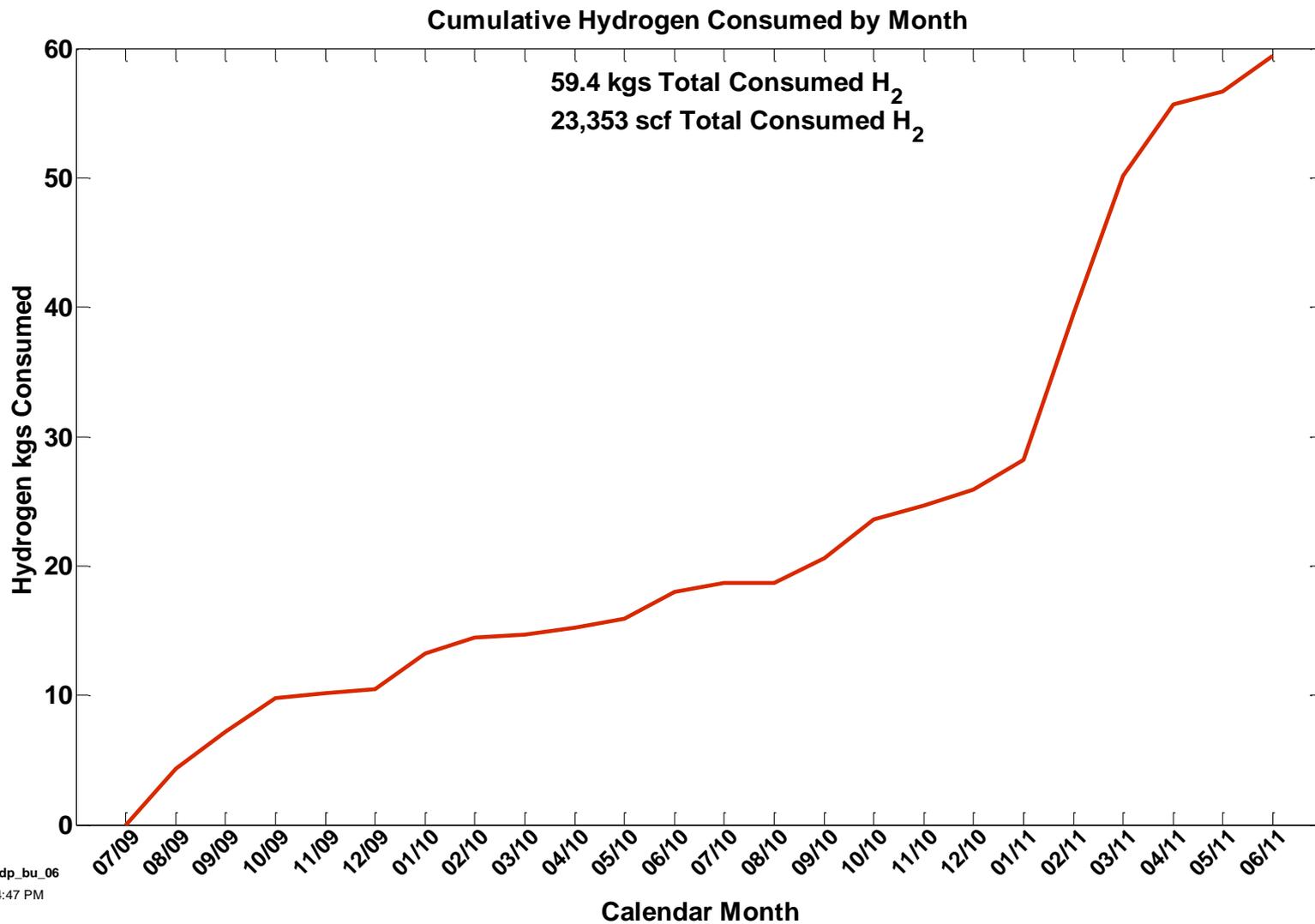


CDP-BU-05

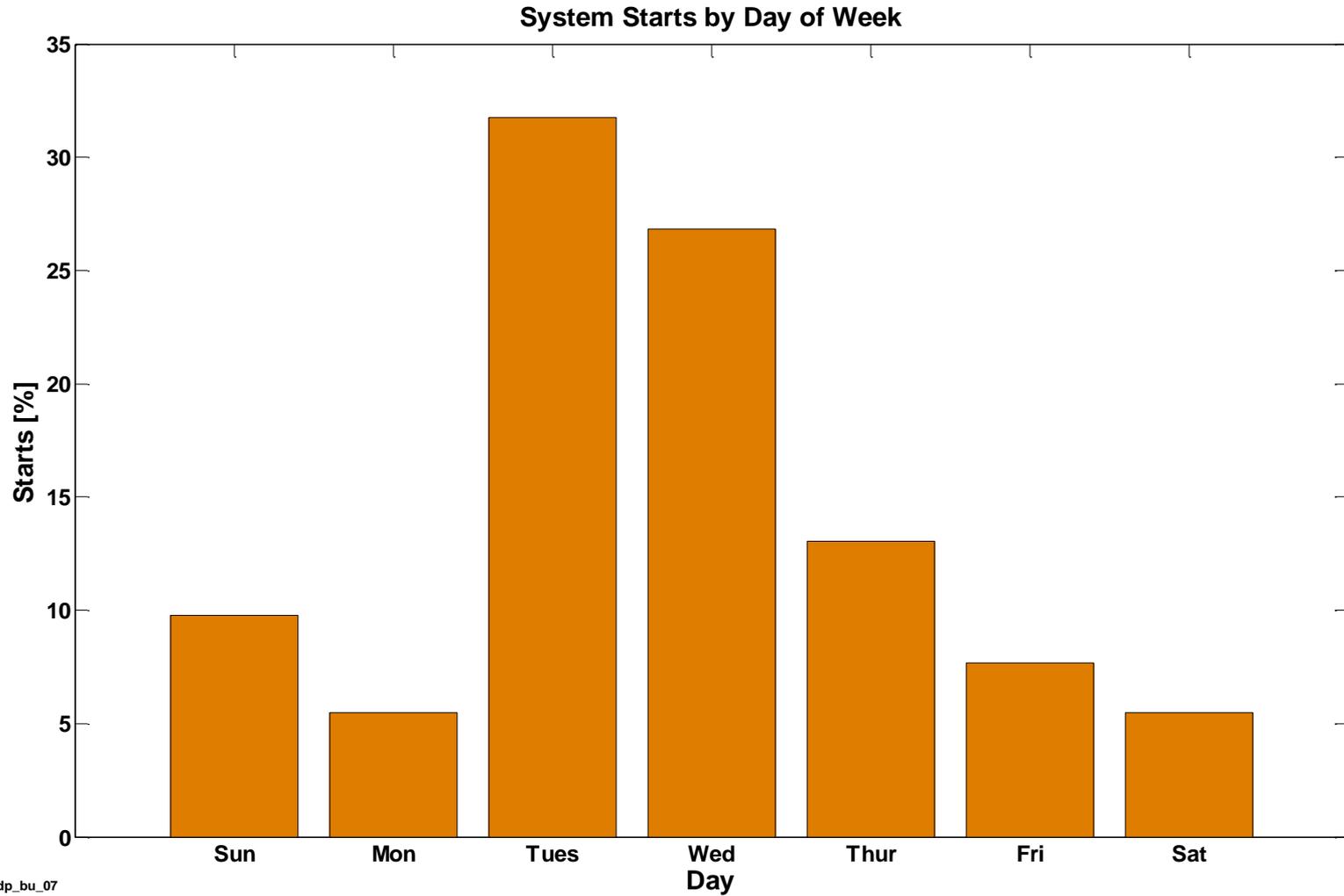
Fuel Cell System Run Hours by Month



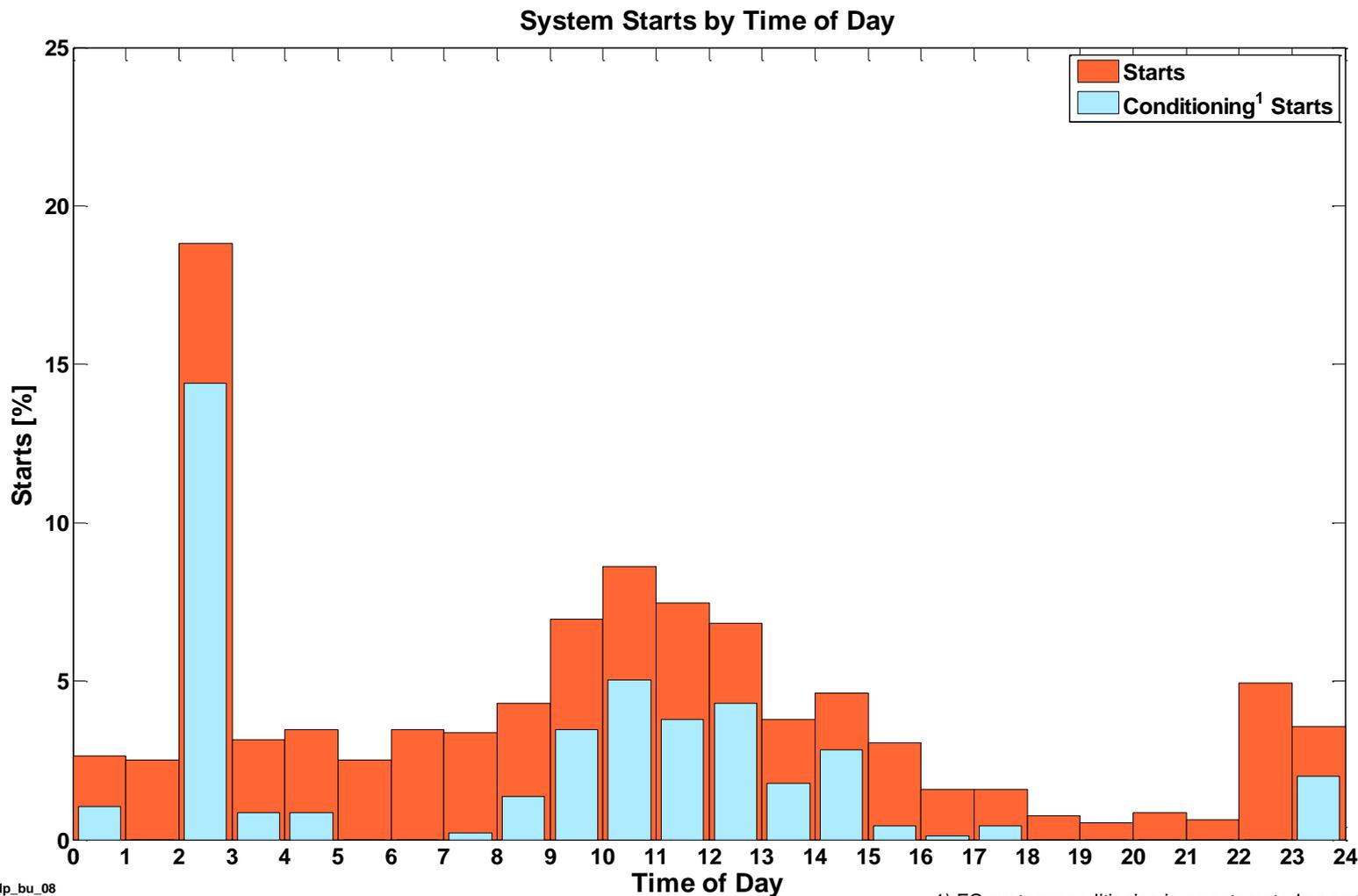
Cumulative Hydrogen Consumed by Month



Fuel Cell System Starts by Day of Week



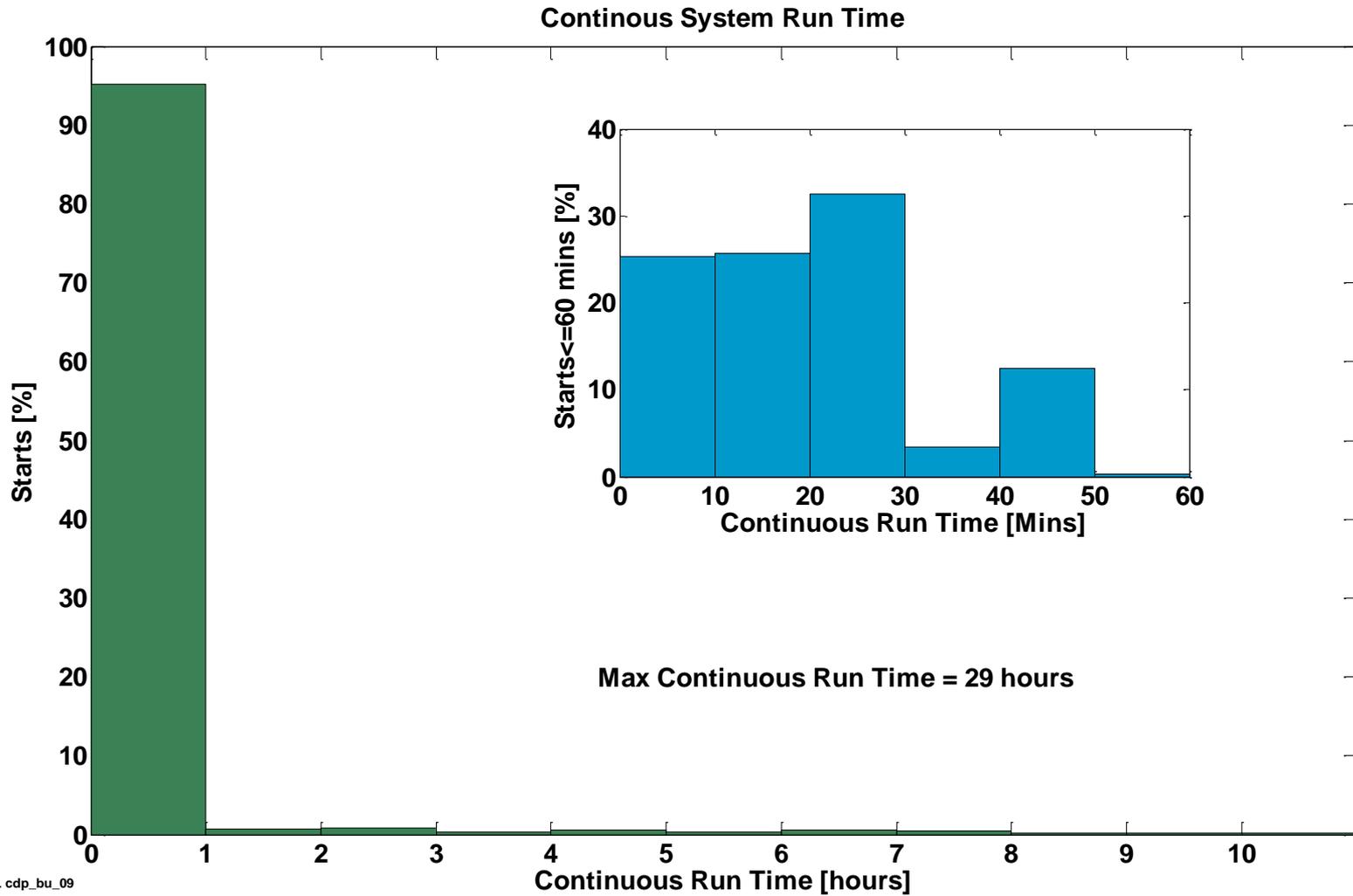
Fuel Cell System Starts by Time of Day



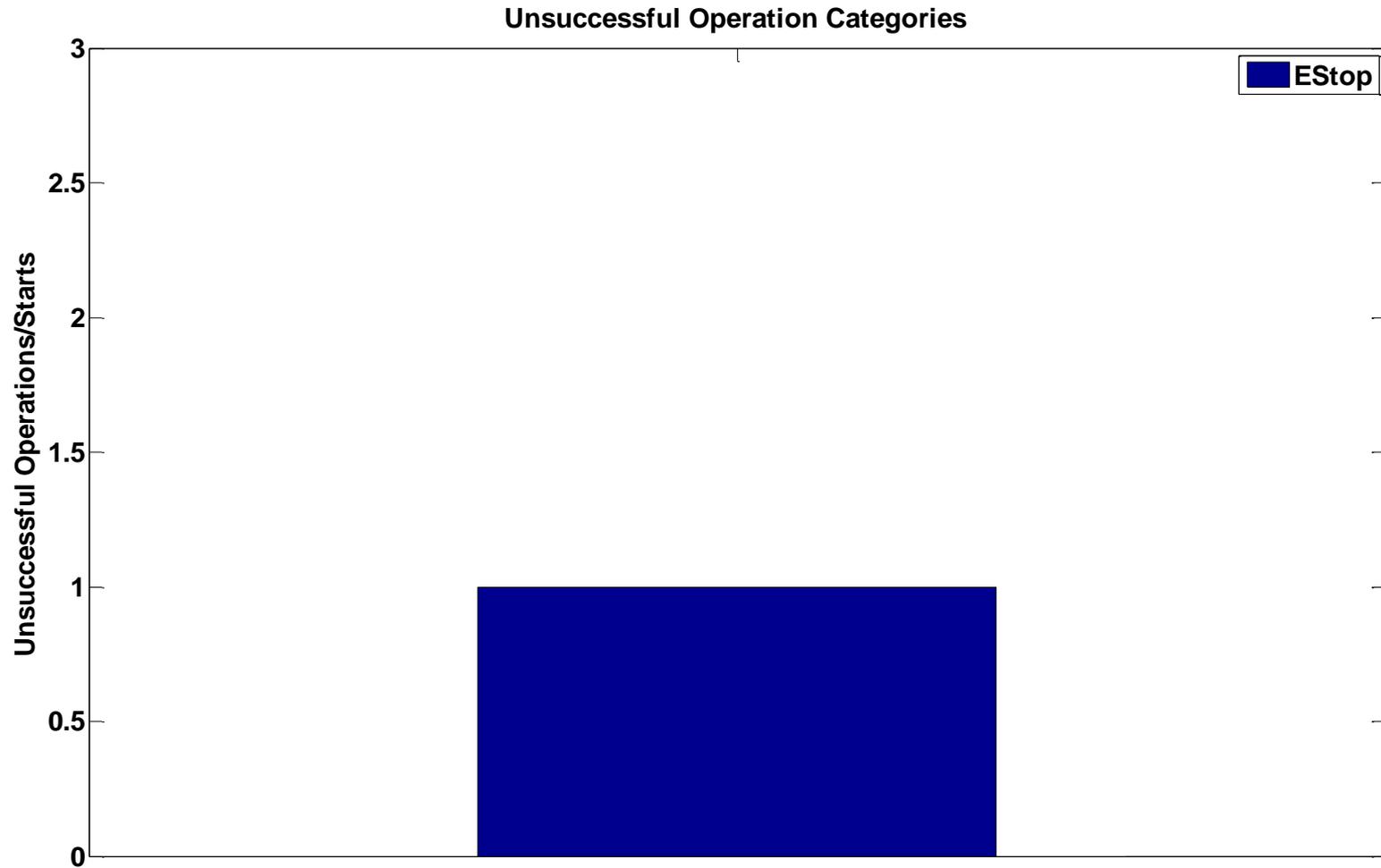
NREL cdp_bu_08

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1) FC system conditioning is an automated operation for regular system checks; activated after long periods of no operation.



Unsuccessful Operation Categories

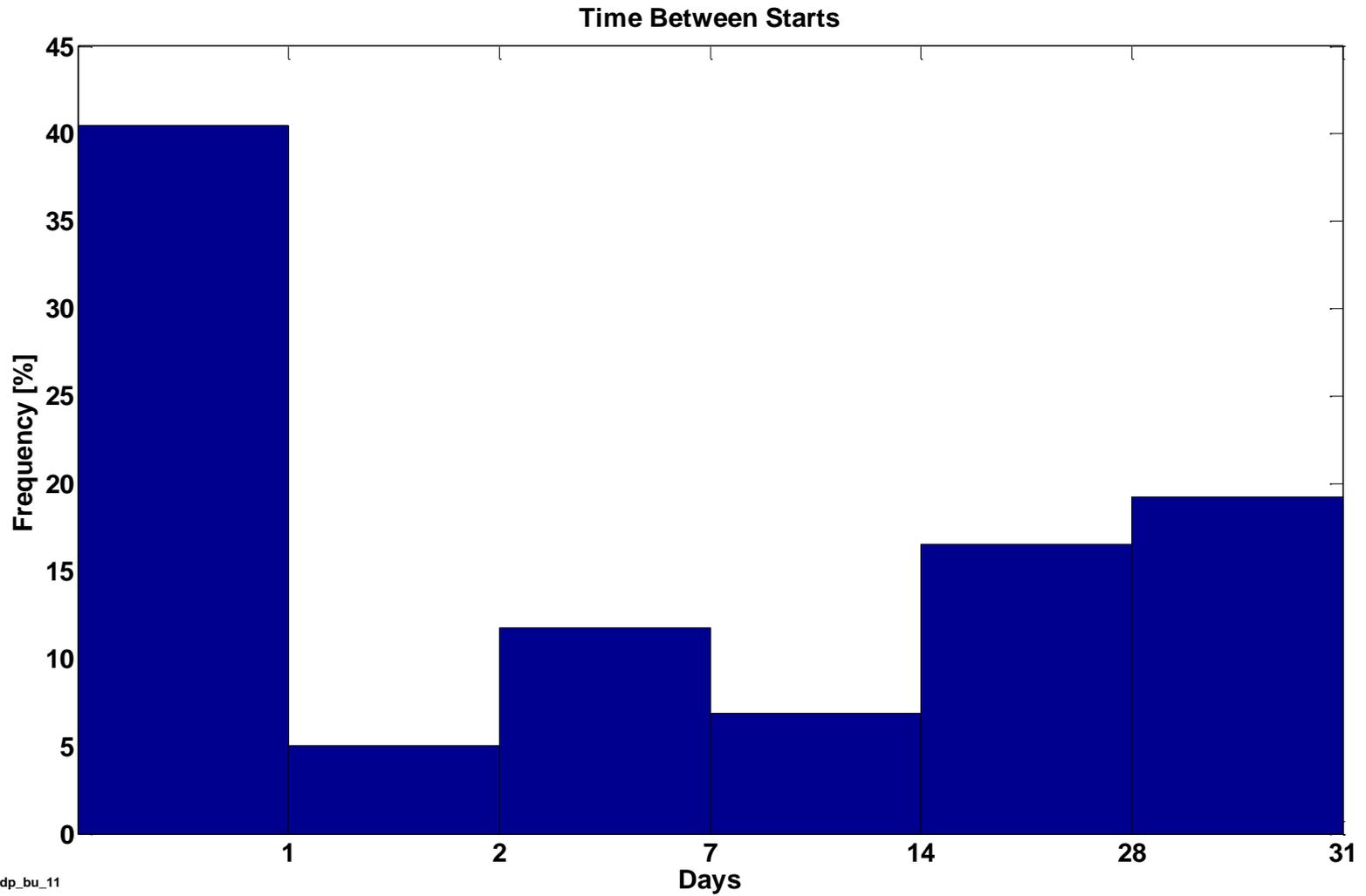


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CDP-BU-11

Time Between System Starts

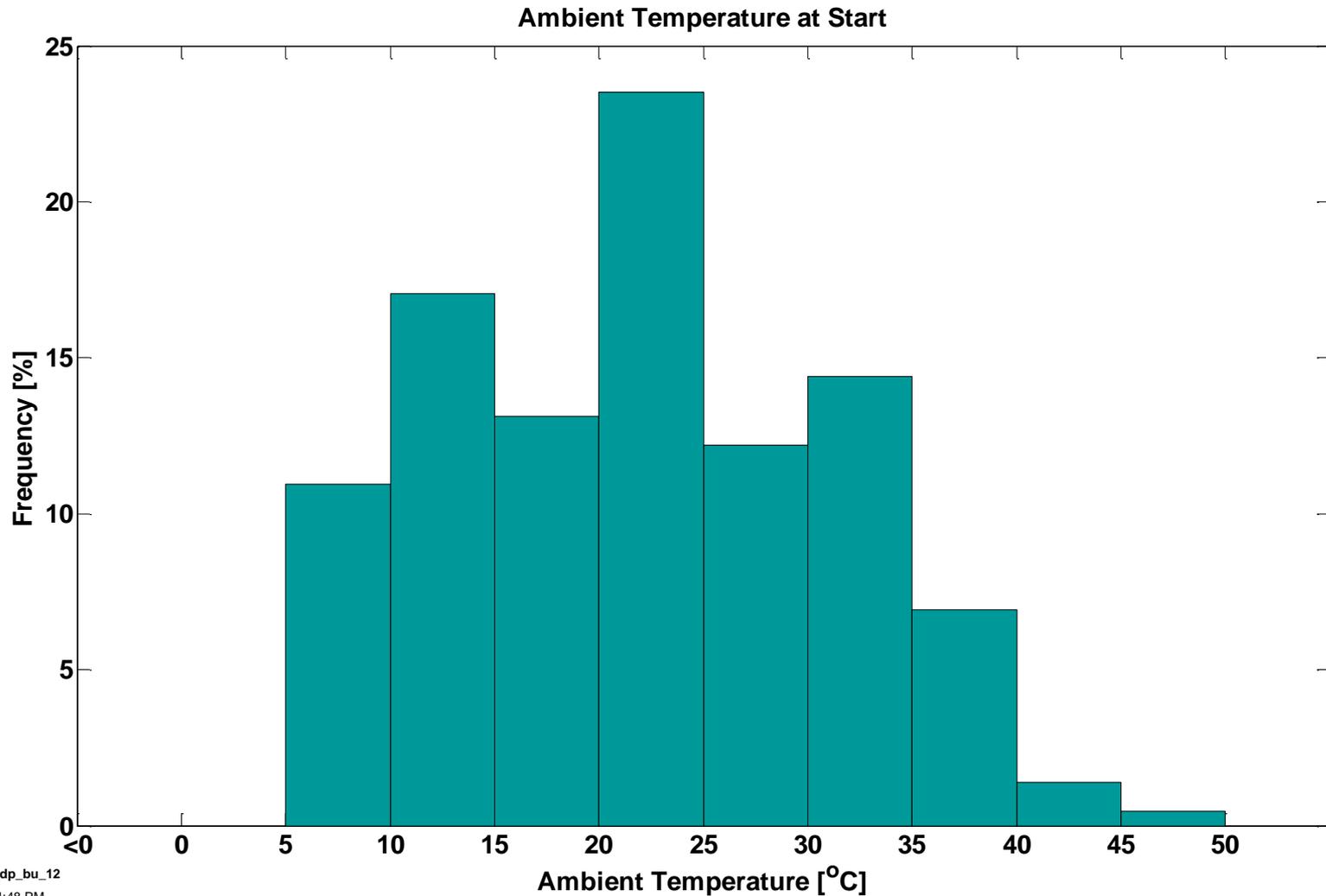


NREL cdp_bu_11

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CDP-BU-12

System Start Ambient Temperature

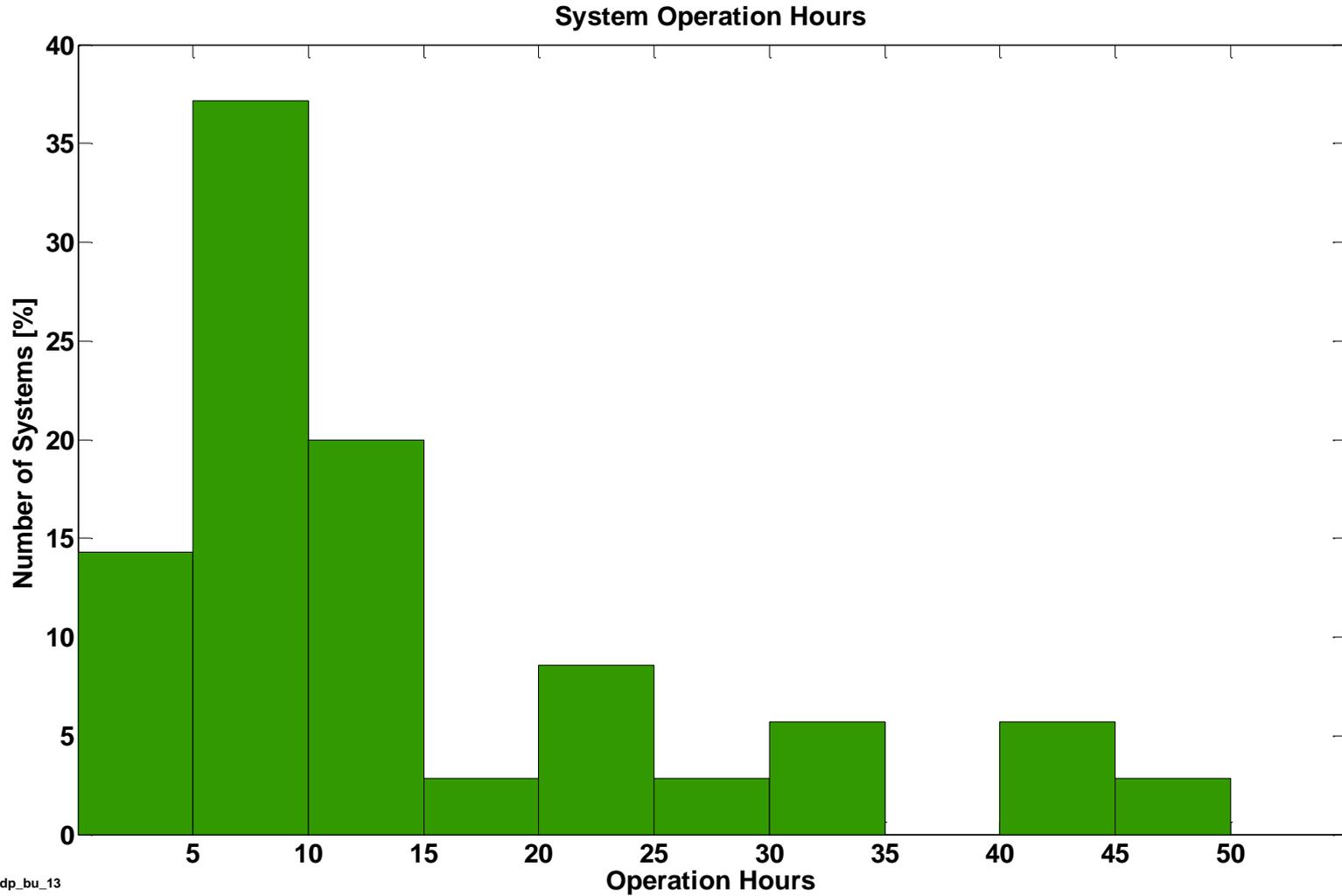


NREL cdp_bu_12

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CDP-BU-13

System Operation Time



NREL cdp_bu_13

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