Vehicle Use Case Task Force
L4: Customer connects PEV at Public Location

Document History

Revision History

Revision Number	Revision Date	Revision/ Reviewed By	Summary of Changes	Changes marked

Approvals

This document requires the following approvals.

Name	Title

1.1 Use Case Title

L4 – Vehicle Use Case
Customer connects PEV at Public Location (Curbside, workplace, business, multi family dwelling, etc).

1.2 Use Case Summary

This use case details the Connection Location (VIN Authentication, Basic Charging per enrolled program) for the customer to transfer energy. This is precluded by specific enrollment process by one or more of the connection architectures as described in Use Cases S1-3. This sequence of Use cases is followed by Use cases PR1 series that summarize the previous Use Cases.

1.3 Use Case Detailed Narrative

3. Step by Step Analysis of Each Scenario

Use Case L4: Custom Customer connects PEV at Public Location

3.1 Scenario Description

Primary Scenario (L4-A): Customer connects PEV to energy portal at curbside location.

This scenario describes what happens if customer plugs PEV into a curbside location.

Triggering Event	*Primary Actor*	*Pre-Condition*	*Post-Condition*
The customer plugs in the PEV using an EVSE cordset for charging	*PEV*	*Customer may or may not have enrolled PEV with curbside energy provider.*	*Prior enrollment may entitle customer to special rates and/or conditions.*

3.1.1 Steps for this scenario

Step #	*Actor*	*Description of the Step*	*Additional Notes*
1	Customer	Customer connects EVSE **cordset** to curbside device.	Startup steps are provided in S1
2	PEV	PEV prepares for charging rate (charger size or ALC, whatever is lowest). PEV senses power to on-board charging unit and activates 'On Plug' state.	
3	PEV/ Energy Services Communications Interface (ESCI)	PEV and Energy Services Communications Interface (ESCI) perform PEV binding and authentication process	Implementation could have PEV or ESCI as initiator of session.
4	PEV	PEV ID is transmitted to ESCI.	Unique PEV ID will ultimately support portability of charging, among other purposes.

Step #	Actor	Description of the Step	Additional Notes

3.2 Scenario Description

Alternative Scenario (L4-B): Customer connects PEV to energy portal at workplace location.

This scenario describes what happens if customer plugs PEV at a worksite location.

Triggering Event	Primary Actor	Pre-Condition	Post-Condition
The customer plugs in the PEV using either EVSE cordset or Premise EVSE for charging	*PEV*	*Customer may or may not be an employee at this location.*	*Employment may entitle customer to special rates and/or conditions.*

3.2.1 Steps for this scenario

Step #	Actor	Description of the Step	Additional Notes
1	PEV	PEV connects PEV at a worksite location. PEV owner may or may not pay for charging. Customer can plug in his PEV using either EVSE cordset or Premise EVSE for charging, depending on what device is available.	PEV may display message communicating charging/billing options or information to the Customer.
1a	Customer	Customer connects EVSE **cordset** to Energy Portal at Worksite.	Startup steps are provided in S1
1b	EVSE	Customer connects **Premise Mounted** EVSE to PEV.	Startup steps are provided in S2

Step #	*Actor*	*Description of the Step*	*Additional Notes*
2	PEV	PEV prepares for charging rate (charger size or ALC, whatever is lowest). PEV senses power to on-board charging unit and activates 'On Plug' state.	
3	PEV/ Energy Services Communications Interface (ESCI)	PEV and Energy Services Communications Interface (ESCI) perform PEV binding and authentication process	Implementation could have PEV or ESCI as initiator of session.
4	PEV	PEV ID is transmitted to ESCI.	Unique PEV ID will ultimately support portability of charging, among other purposes.

3.3 Scenario Description

Alternative Scenario (L4-C): Customer connects PEV to energy portal at business location.

This scenario describes what happens if customer plugs PEV at a business location.

Triggering Event	*Primary Actor*	*Pre-Condition*	*Post-Condition*
The customer plugs in the PEV using either EVSE cordset or Premise EVSE for charging	*PEV*	*Customer may or may not be ….*	*… may entitle customer to special rates and/or conditions.*

3.3.1 Steps for this scenario

Step #	*Actor*	*Description of the Step*	*Additional Notes*
1	PEV	PEV connects PEV at a business location. PEV owner may or may not pay for charging. Customer can plug in his PEV using either EVSE cordset or Premise EVSE for charging, depending on what device is available.	PEV may display message communicating charging/billing options or information to the Customer.
1a	Customer	Customer connects EVSE **cordset** to Energy Portal at Business.	Startup steps are provided in S1
1b	EVSE	Customer connects **Premise Mounted** EVSE to PEV.	Startup steps are provided in S2
2	PEV	PEV prepares for charging rate (charger size or ALC, whatever is lowest). PEV senses power to on-board charging unit and activates 'On Plug' state.	
3	PEV/ Energy Services Communications Interface (ESCI)	PEV and Energy Services Communications Interface (ESCI) perform PEV binding and authentication process	Implementation could have PEV or ESCI as initiator of session.
4	PEV	PEV ID is transmitted to ESCI.	Unique PEV ID will ultimately support portability of charging, among other purposes.

3.4 Scenario Description

Alternative Scenario (L4-D): Customer connects PEV to energy portal at Multi-Family Dwelling location.

This scenario describes what happens if customer plugs PEV at a multi-family dwelling location.

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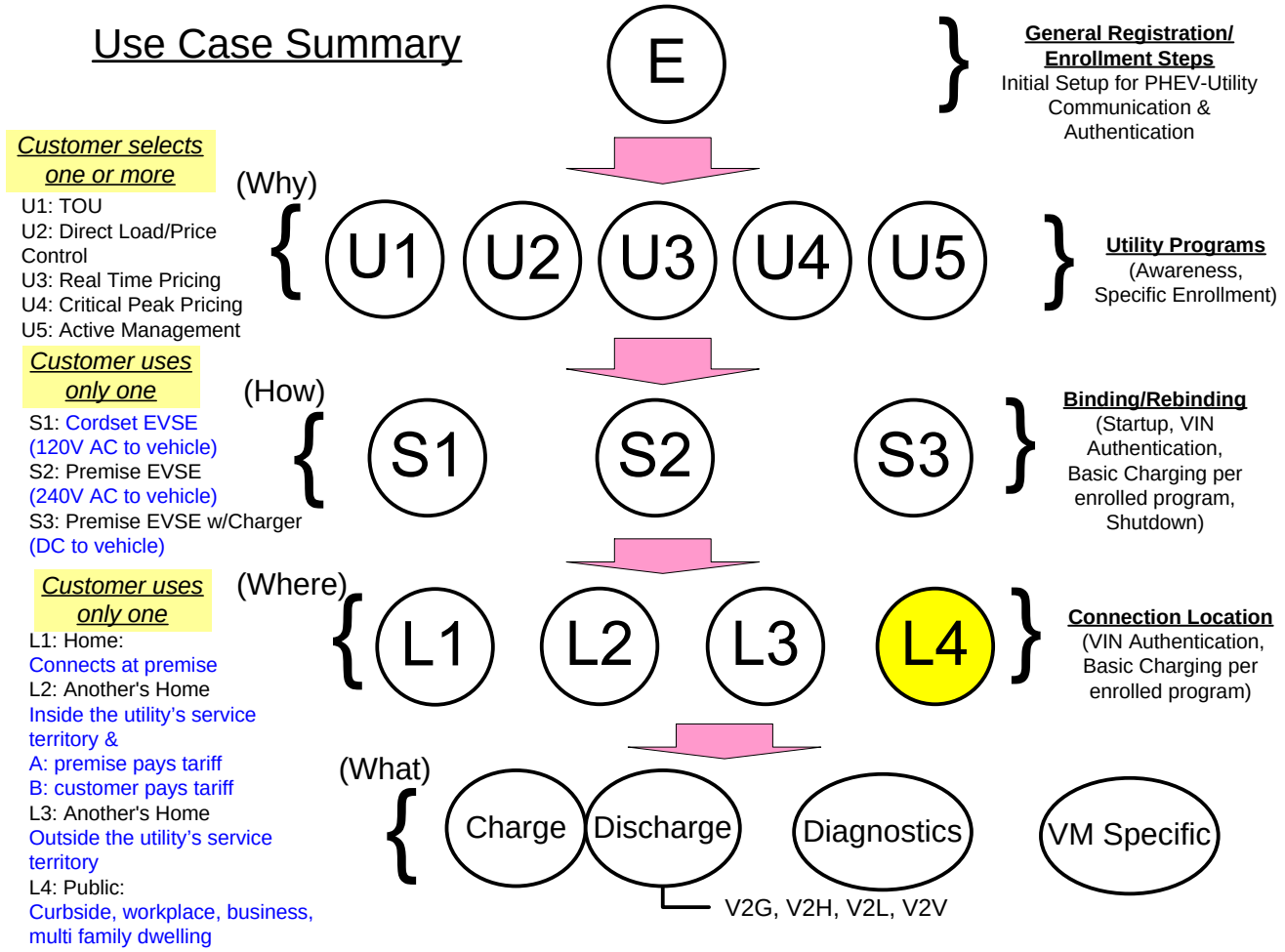
Triggering Event	*Primary Actor*	*Pre-Condition*	*Post-Condition*
The customer plugs in the PEV using either EVSE cordset or Premise EVSE for charging	*PEV*	*Customer may or may not be a resident.*	*Residency may entitle customer to special rates and/or conditions.*

3.4.1 Steps for this scenario

Step #	*Actor*	*Description of the Step*	*Additional Notes*
1	PEV	PEV connects PEV at a multi-family dwelling location. PEV owner may or may not pay for charging. Customer can plug in his PEV using either EVSE cordset or Premise EVSE for charging, depending on what device is available.	PEV may display message communicating charging/billing options or information to the Customer.
1a	Customer	Customer connects EVSE **cordset** to Energy Portal at multi-family dwelling.	Startup steps are provided in S1
1b	EVSE	Customer connects **Premise Mounted** EVSE to PEV.	Startup steps are provided in S2
2	PEV	PEV prepares for charging rate (charger size or ALC, whatever is lowest). PEV senses power to on-board charging unit and activates 'On Plug' state.	
3	PEV/ Energy Services Communications Interface (ESCI)	PEV and Energy Services Communications Interface (ESCI) perform PEV binding and authentication process	Implementation could have PEV or ESCI as initiator of session.
4	PEV	PEV ID is transmitted to ESCI.	Unique PEV ID will ultimately support portability of charging, among other purposes.

4. Requirements

This use case is the 4th in a series that follows Use Cases S1-3 for connection architectures. This use case defines the steps for the customer connecting at a public location.



4.1 Functional Requirements

Func. Req. ID	Functional Requirement	Associated Scenario # (if applicable)	Associated Step # (if applicable)

4.2 Non-Functional Requirements

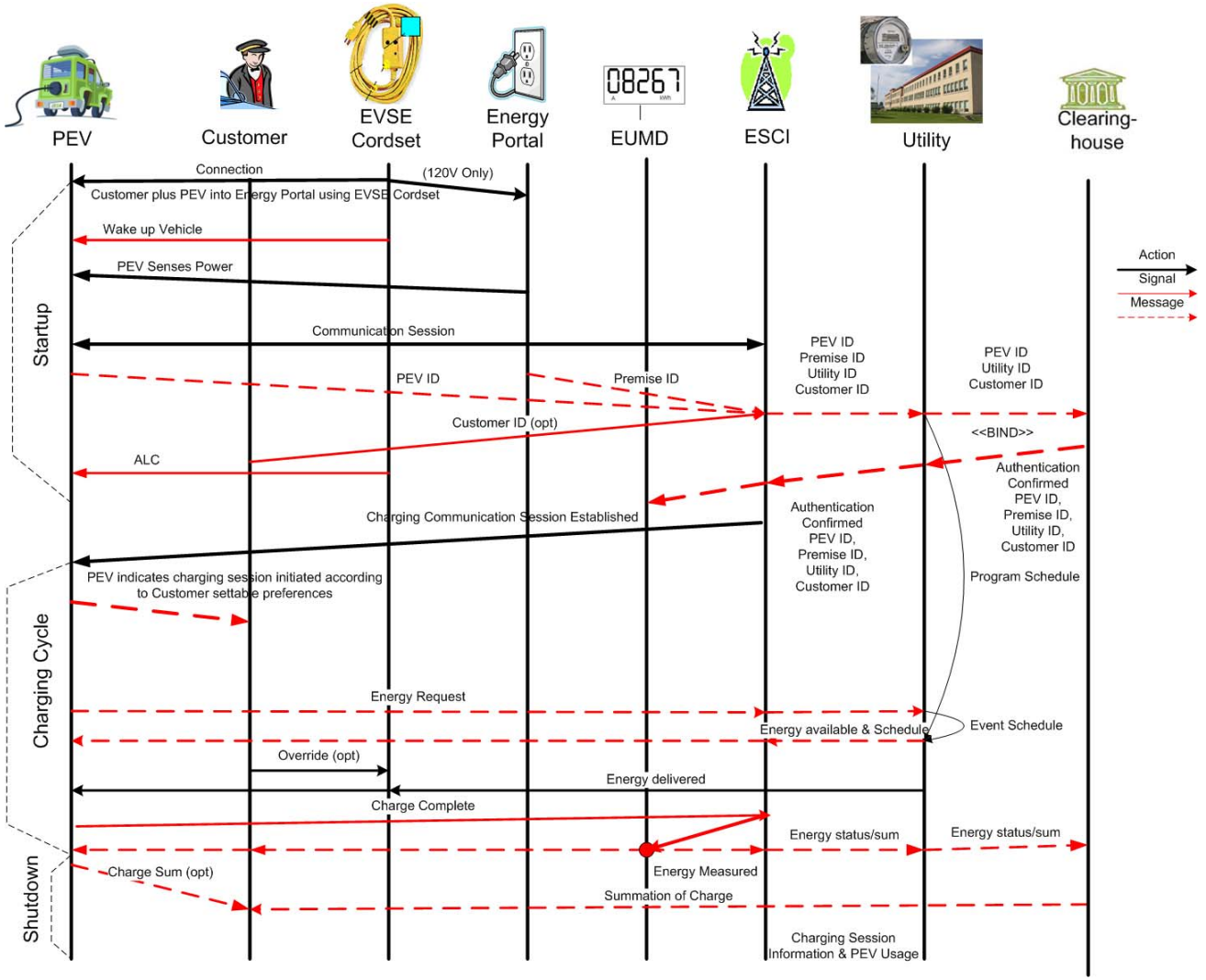
Non-func. Req. ID	Non-Functional Requirement	Associated Scenario # (if applicable)	Associated Step # (if applicable)

4.3 Business Requirements

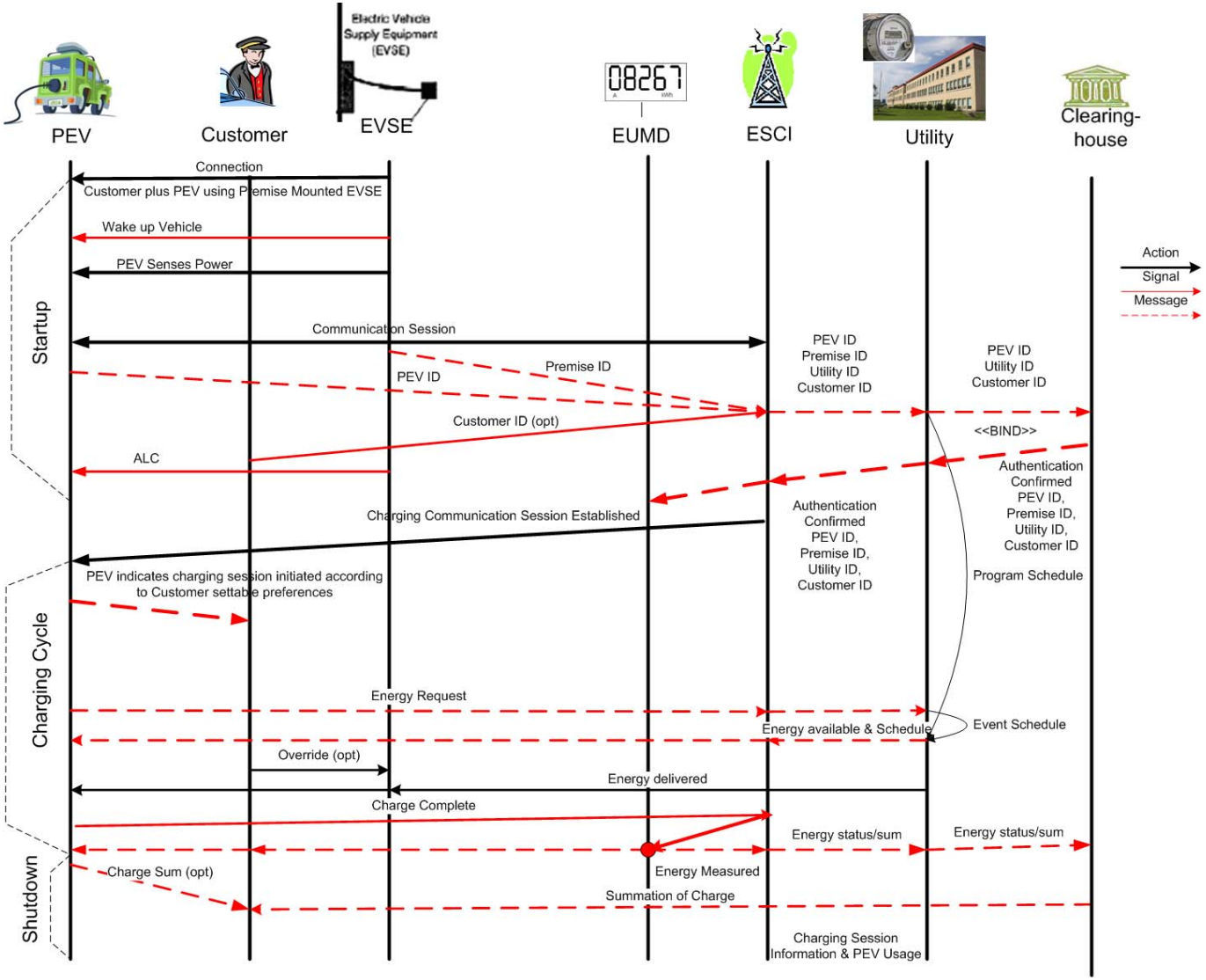
Bus. Req. ID	Business Requirement	Associated Scenario # (if applicable)	Associated Step # (if applicable)

5. Use Case Models

5.1 Sequence Diagram using EVSE Cordset



5.2 Sequence diagram using premise EVSE



5.3