Diagnostic Use Case Examples for ITER Plant Instrumentation and Control

ITER Organization, Route de Vénus sur Verdon, 13115, St. Paul-Trois-Châteaux, France.

Background of Diagnostics I&C Use Case Examples:

Why Diagnostic I&C Use Case Examples:
1. Provide a use case to illustrate a problem domain.
2. Provide a use case to illustrate a problem domain.
3. Define use cases to illustrate a problem domain.

Benefits:
1. Define use case to illustrate a problem domain.
2. Define use case to illustrate a problem domain.
3. Define use case to illustrate a problem domain.

Documentation Products:
- System Requirement Specification (SRS)
- System Design Specification (SDS)
- System Test Procedures (STP)
- System Operation - Maintenance Manual
- Diagnosis is in based repository

HW and SW Products:
- Complete working example system with source code.
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- Complete working example system with source code.

CONCLUSIONS

For the development of the diagnostics use case implementations we have followed the engineering methodology described in the PCDH. The work covers all required plant I&C deliverables through all lifecycle phases from requirement capture to operation. The documentation model and examples are demonstrative of the integrated diagnostics systems. They can be rapidly deployed by the domestic agencies who can focus on creating plant specific functions.

Next Steps

The currently implemented diagnostic use case examples are still under development and testing. In the near term, the K2 will add the high performance networks (D/A, SDI, TCN) to diagnostics and imaging diagnostic use cases (both in P6X and MTCA.4 form factor). In the following phase use cases for Thomson scattering / microwave reactivity and magnetics integrators will be added.