1.2 - Project Integrator scope and main missions

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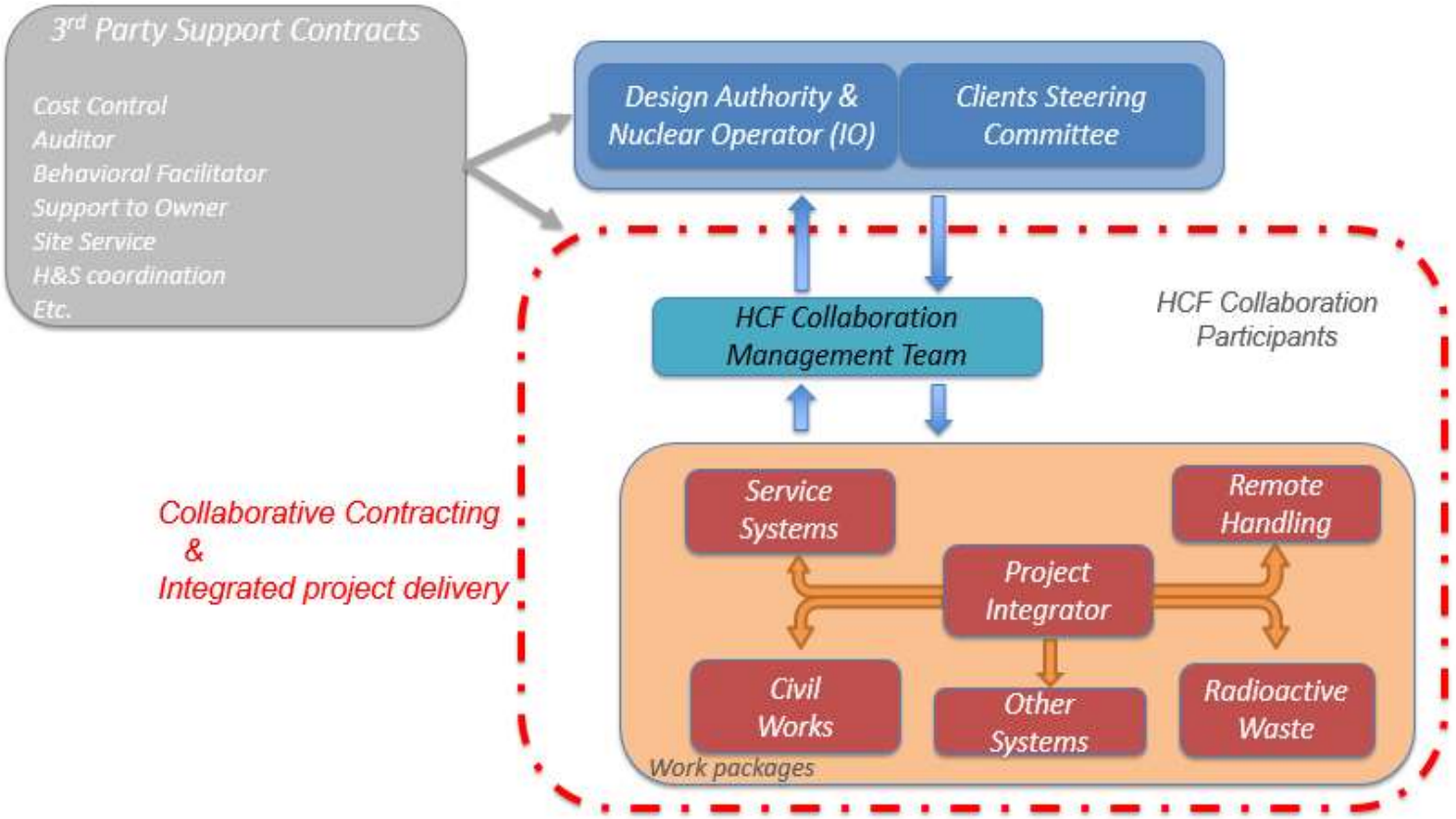
PI framework (illustration)



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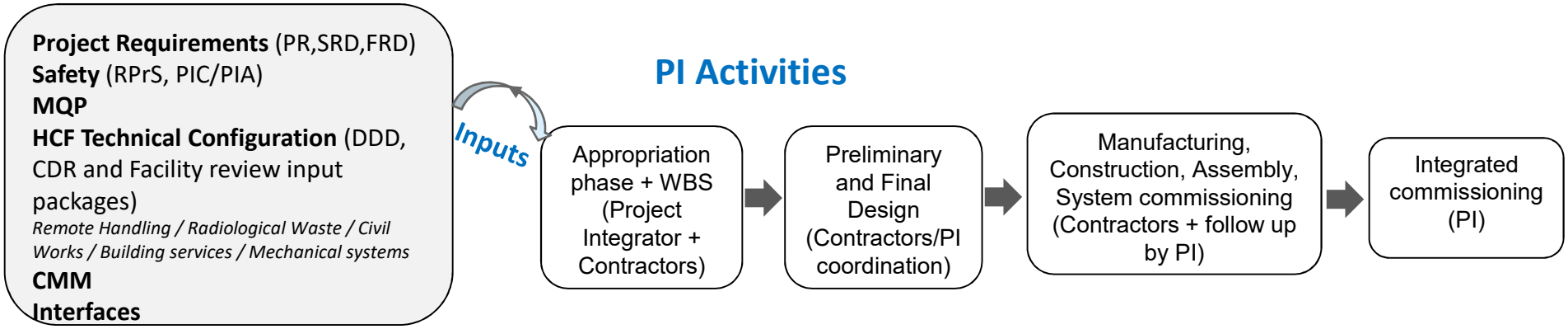
PI activities and scope overview



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PI activities and scope overview

Project Requirements (PR,SRD,FRD)
Safety (RPrS, PIC/PIA)
MQP
HCF Technical Configuration (DDD, CDR and Facility review input packages)
Remote Handling / Radiological Waste / Civil Works / Building services / Mechanical systems
CMM
Interfaces

Inputs

PI Activities

Appropriation phase + WBS (Project Integrator + Contractors)

Preliminary and Final Design (Contractors/PI coordination)

Manufacturing, Construction, Assembly, System commissioning (Contractors + follow up by PI)

Integrated commissioning (PI)

PI TECHNICAL SCOPE

- Configuration, Requirements, and change management
- Interface and Design control
- Integration + CMM management
- Nuclear Safety and support to Licensing
- Design optimization Value engineering lead
- Overall Qualification program control
- Compliance with Operational requirements
- Compliance with Waste management requirements
- Construction: Coordination and management
- Materials management
- Testing program and integrated commissioning
- Decommissioning
- Quality assurance

PI MANAGEMENT SCOPE

- Collaboration Lead role
- Project planning Lead
- Progress control
- Risks management
- Cost control

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PI activities and scope overview

- Bespoke role of the PI
- Extensive scope: strong PI, holding key roles
- PI accountability

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PI responsibilities

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Main Roles and Responsibilities during Design		PI is accountable for: (HCF functions level)	Client is accountable for	Tier-1 Contractor & in-kind PAs are accountable for (system level)
Requirements		**Review and validation of Tier-1 compliance. Approval as design Authority remains within the IO.** Manage and is accountable for the fulfilment of requirements at HCF level. **Manage and document all non-compliance.**	Define Project requirements. Ensure the update of SRDs and the propagation of requirements to the first-tier contractors. Delegate the requirement fullfilment to the PI and Tier-1, delegate requirement management at HCF level to PI, remain accountable. Approval as design authority	Fullfil the propagated requirements and demonstrate compliance for its scope.
Review and acceptance of design	Preliminary to Execution	Review (verification sheets) and accept Tier-1 design. **At specific design review gate, submit to the IO for review and acceptance a compliant integrated HCF design.** Fully accountable for design at HCF functions level.	Delegate design execution to the PI and other Tier-1, accept and endorse the design. Approve deliverables that IO (as operator) has to approve. Involvement of the TROs for the validation and production of the design in the frame of the integrated team	Submit for review and acceptance a compliant design for its scope. Conduct its internal review with performance obligation.
Integration during design		**Responsible for propagation and implementation of IO Integration requirements (as per IO PMP v6.0 ref 2NCR3F) with performance obligation.** Lead and perform integration between WPs and is accountable for fitness for purpose at this level. Held accountable for the application of best integration method across the HCF project . **Responsible for an optimized integration, that minimize impact at HCF level (cost and delay). Manage and arbitrate R&O*, to deliver the best possible integration. Delivers an integrated design under the Client's control.**	Endorse the HCF integration when integration outcome remains within Project risk portfolio only. If beyond, Client arbitrates and propagates its decision.	Integrate within its perimeter with performance obligation. Submit its design for HCF integration by the PI. Update its design as per HCF integration outcomes, with performance obligation
Configuration	Baseline L0 to L2 (ITER)	Propagate the ITER Project changes across the HCF.	Responsible for the configuration and manages/arbitrates changes at ITER Project level	Propagate the configuration management requirements to its scope of supply
	Baseline L3 (HCF)	Responsible for the configuration and manages changes below first-tier configuration item level* with performance obligation. **Organize the HCF level 3 CCB (Configuration Control boards) which scope is based on the HCF integration scope and provide the technical expertise in support to the CCB L3 chair. Propagate CCB decisions. Impacts on support PBS to be managed in CCB L2. Design solution for support systems to be kept standard compared to the rest of ITER supply.**	Arbitrates and propagates its decision beyond HCF perimeter. Fully manages CCB level 0 to 2. Chairs CCB L3.	Propagate the configuration management requirements to its scope of supply
Interface		Manage and arbitrate interfaces*, with performance obligation for HCF internal interfaces. Drive and ensure effective interfacing with external PBS. Accountable **if interfaces are not managed efficiently.**	Accept and endorse the interfaces within HCF PRP only. If beyond, Client arbitrate and propagate its decision	Responsible for interface inputs with performance obligation
Nuclear Safety	safety analyses	Perform the safety detailed analyses, and ensure the propagation of detailed safety requirements throughout the HCF with performance obligation	Defines safety requirements, delegates analysis execution to the PI, accepts and endorses the safety analyses.	Provide to the PI the inputs for the detailed analyses and propagates the DRQs throughout its design
	Licensing process	Support the IO in the licensing process, **and provide answers and technical statements to the IO for the safety authority**	Lead, implement, and is fully accountable for licensing process (no delegation). Sole contact point to the Safety Authorities.	Provide technical detail to support the PI and the IO with best-efforts

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Main Roles and Responsibilities during Design	PI is accountable for: (HCF functions level)	Client is accountable for	Tier-1 Contractor & in-kind PAs are accountable for (system level)
Project Control	Consolidate the WPs cost, schedule and progress at HCF level and support IO PMO. **Responsible for all costing activities (forecast and status). Responsible for cost-schedule optimization plan. Support (provides status, progress, etc) 3rd party Cost expert on payment control of the Collaboration. Manages and approves WBS from level 6. Manages and approve BCP (baseline change control process) from level 4.**	Control and accept the project control performed by the PI. Perform WPs audits. Arbitrate optimization plan. Fully manage WBS up to level 5. Delegate WBS management and approval to PI from level 6. Fully manage BCP from level 1 to level 3 included. Delegate BCP management and approval from level 4.	Provide to the PI inputs for cost, schedule, progress, and forecast with performance obligation. Implement and demonstrate costs and schedule performance. Contribute with best effort to the optimization plan led by the PI.
Change Management	For the HCF scope: accountable for clear identification, consolidation and definition of the need (notably based on contractors DRs). Assesses the requests for changes from the Contractors and escalates if required. **Responsible for preparation of PCR (including cost estimate, schedule, scope impact evaluation), assist and advise Client all along the process. Support the execution of PCR.**	Control and validate PCR (chairing the CCB).	Provide the inputs to the PI for PCR elaboration. Execute changes once endorsed/instructed
Risks and Opportunities	Monitor the HCF Collaboration R&O register and is responsible for the mitigation action plan set-up, task assignment, and continuous management. Identify and provide Early Warning asap. Entitled to arbitrate **for best-for-project integration, within a limit *.**	Endorse the HCF R&O plan*	Identify and raise new R&O with performance obligation. Contribute to the mitigation plan depending on its assigned role
Collaboration management	**Promote/animate/foster the collaboration. Ensure active collaboration over time in the frame of the key golden rules. Accountable for the application of collaboration golden rules and control. Define and get approved by all stakeholders an integrated implementation for collaborative tools, then sets-up and leads the daily collaboration with suitable tools and methods. Lead Collaboration board at operational level on a best-for-project decision basis, and ensure the communication within the Collaboration.**	Collaborate and commitment to the key golden rules. Responsible to ensure compliant and sustainable long-lasting Collaboration (procurement strategy, contract terms, tools and methods). Responsible for support and control services to the Collaboration: audit, experts, cost control, site services, etc). Manages Client's reserved matters (e.g. HCF functionalities, safety cases, project baseline). Responsible for establishing and implementing an efficient decision making process.	Collaborate and commitment to the key golden rules. Implement collaborative tools and methods.

* (within HCF Collaboration Project risk financial portfolio only)

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1.3 – Project Integrator skills and experience

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Integrator skills

- Multidisciplinary integration involving process, civil and building services
- Management of the interfaces
- Management of the configuration
- Management of the requirements
- Design control
- Knowledge and design capability for hot cells, nuclear process, civil and building services
- Integrated system engineering

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Experience

- Large scale international projects
- Design integration
- Nuclear safety demonstration
- Knowledge of the French INB order
- Manufacturing and construction management
- Project Control
- CAD and configuration management softwares
- Integrated and collaborative team environment
- Collaborative contracting (partnership, consortium, alliancing, etc.)

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Thank you for your attention

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