SECTION 6: ITER CANADA PLAN TO HOST ITER

PROJECT SCHEDULE AND ORGANIZATION

6.1 INTRODUCTION

The establishment of an effective Host country organization, and the organizational interfaces with the Iter Legal Entity and other Iter Parties during all phases of the Iter project is essential to successful siting, construction, commissioning, operating, deactivation and decommissioning of Iter.

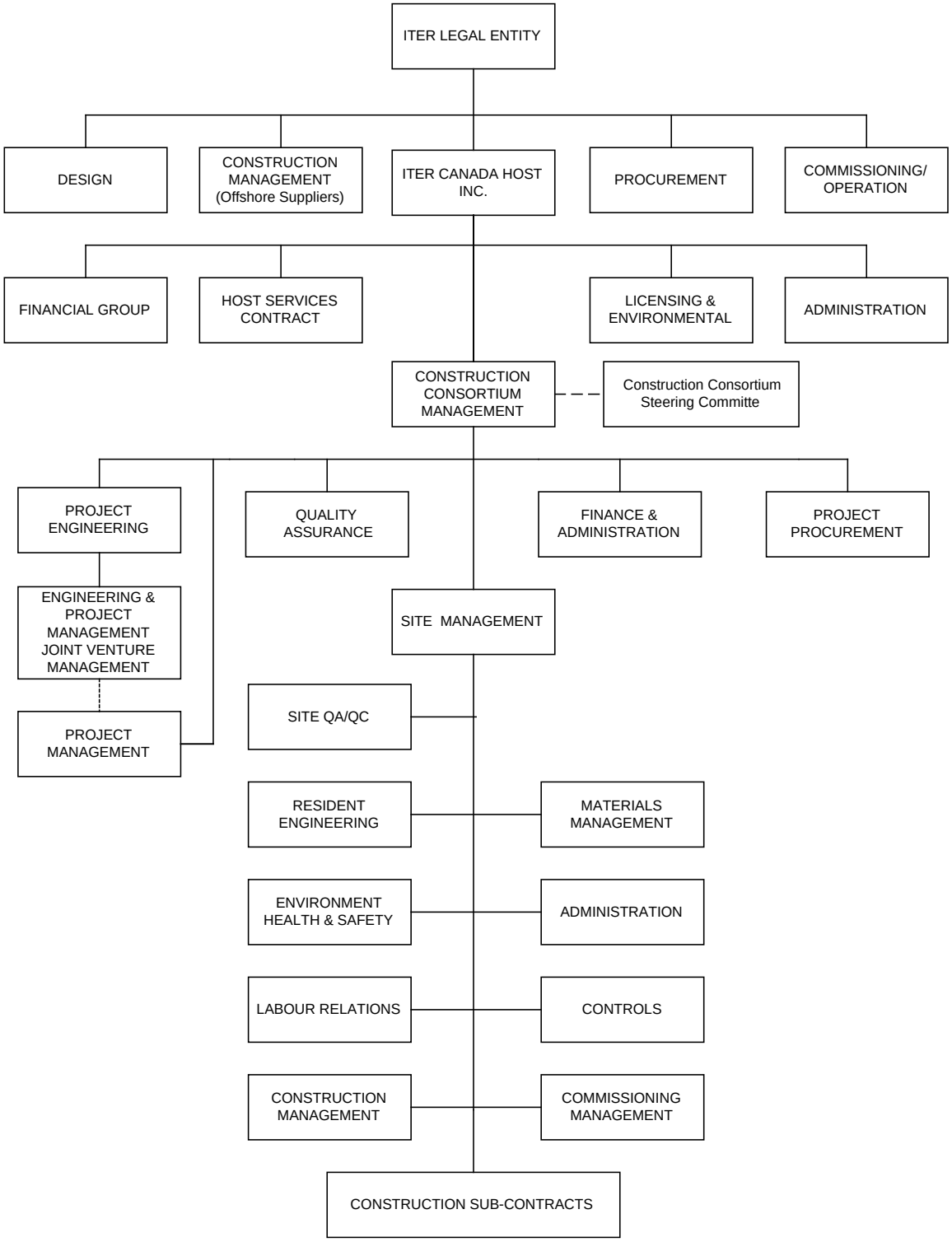
While this Section of the Iter Canada Plan will concentrate on the Construction Phase of the project, as this is the area that has received the most detailed analysis by the Joint Central Team, and is considered the highest priority at this time for the implementation of Iter, comments are also made on the requirements for later phases of Iter (Sections 6.4, 6.5 and 6.6).

Figure 6-1 on the next page, and the detailed chart in Attachment 6-A, show the overall organization developed by Iter Canada for the Construction Phase, and also shows the prime interfaces with the other parts of the Iter project during the Construction Phase. As described in Section 3, Iter Canada Host Inc. will be the prime Canadian organizational body responsible for delivering the commitments defined in this Plan to host Iter.

The Iter Legal Entity will be the design authority, owner and licensee of the Iter facility at Clarington, and therefore, has the overall management, coordination and performance responsibility for the Iter project. As shown on Figure 6-1, Iter Canada Host Inc. will interface directly with the Iter Legal Entity, on a contractual basis, as defined in Section 9, during both the Construction Phase and Operating Phase.

This Plan is on the basis that the overall Project Management responsibility for the Iter project is with the Iter Legal Entity. For example, all interface requirements between Iter Canada Host Inc. and the other Iter Parties, such as delivery schedules and expediting of equipment supplied by the non-host Iter Parties, are provided by the Iter Legal Entity. As shown in Figure 6-1, the Iter Legal Entity responsibilities include design, procurement, and commissioning responsibilities. During the Operating Phase, the Iter Legal Entity becomes responsible for all aspects of the operations of the Iter project.

Figure 6-1
ITER CONSTRUCTION
FUNCTIONAL ORGANIZATION



The major sub-groups within Iter Canada Host Inc. are as follows:

6.1.1. **Engineering and Construction Consortium:** During the Construction Phase, the largest group within Iter Canada Host Inc. is the Engineering and Construction Consortium group established by Iter Canada. This group is discussed in detail in Section 6.2 below.

6.1.2. **Financial Group:** The Financial Group, lead by the Royal Bank Financial Group, provides the financial management for Iter Canada Host Inc., as described in Section 9.1.

6.1.3. **Host Services Contract:** The Host Services Contract will be established by the Joint Implementation Agreement, as defined in Section 3.5 and described more fully in Section 9.2.5. This includes the supply electricity, tritium, personnel, capital improvements, maintenance and spare parts services to the Iter Legal Entity. Iter Canada Host Inc. will establish a specific group responsible for managing the Host Services Contract with the Iter Legal Entity. This group will ensure the provision of all the goods and services defined in Section 9.2.5.

6.1.4. **Licensing and Environmental:** As noted in Section 3, Iter Canada has established the Iter Legal Entity in Canada to allow for the initiation of the licensing process in Canada. Iter Canada directors are currently the directors of this Iter Legal Entity, and hence the licensing responsibilities, in effect, rest through them, with Iter Canada. However, once the Joint Implementation Agreement is implemented, the licensing and environmental responsibilities will be taken over directly by the new Iter Legal Entity established as an international organization by the Joint Implementation Agreement.

After the Deactivation Phase, Iter Canada Host Inc. will again take sole responsibility for the Iter Legal Entity, and hence the Decommissioning Phase.

To ensure that Iter Canada can fulfill all of these future responsibilities, Iter Canada Host Inc. will have a small group of experts engaging in oversight of these activities by the Iter Legal Entity throughout the full term of the Iter project.

6.1.5. **Administration:** The Iter Canada Host Inc. Administration group will be responsible for the day-to-day management of Iter Canada Host Inc. and will coordinate all the activities and responsibilities of Iter Canada Host Inc. These resources will be located in the office of the President of Iter Canada Host Inc. and be located on the Clarington site as soon as possible after the start of the Construction Phase.

6.2 ENGINEERING AND CONSTRUCTION CONSORTIUM

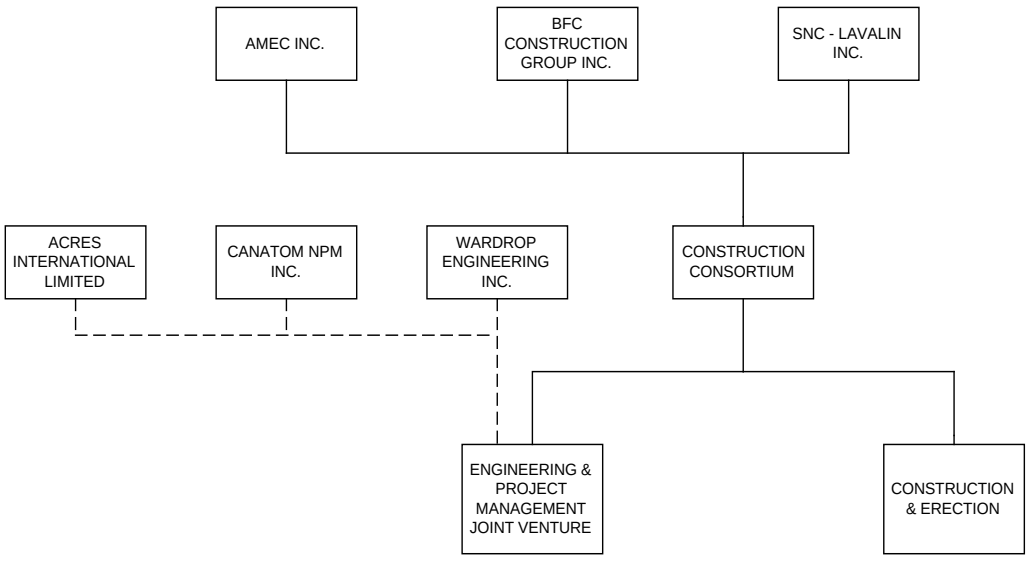
6.2.1. **Engineering and Construction Consortium ("Construction Consortium") Responsibilities:** The Construction Consortium under Iter Canada Host Inc. is responsible for the design, supply, construction and commissioning of the Iter Canada scope as defined in Section 5.2.

The Construction Consortium will be also responsible for any optional procurement of common element scope as described in Section 5.4.3 and negotiated between Iter Canada Host Inc. and Iter Legal Entity or between Iter Canada Host Inc. and the non-Host Party responsible for the scope.

6.2.2. **Engineering and Construction Consortium Members:** The Construction Consortium members are AMEC Inc., BFC Construction Group Inc. and SNC – Lavalin Inc.. The Construction Consortium is also the construction and erection contractor. There is a separate Joint Venture sub-contractor group that reports to the Construction Consortium and is responsible for Engineering and Project Management of the applicable Iter Canada scope. The companies in the Engineering and Project Management Joint Venture are Acres International Ltd., Canatom NPM Inc., and Wardrop Engineering Inc. The organizational structure is shown in Figure 6-2 below.

Detailed information on these companies is contained in Section 1 and Attachment 1-A.

Figure 6-2
ITER CONSTRUCTION
CONSORTIUM MEMBERS & ENGINEERING AND
PROJECT MANAGEMENT JOINT VENTURE



6.2.3. **Key Elements of the Consortium:** Some key elements that the Construction Consortium brings to the success of the project are:

- **Environmental Health and Safety:** The Construction Consortium members and Joint Venture companies have kept abreast of the evolving regulations and are currently involved in environmental health and safety assessment of several projects including at the Ontario Power Generation Bruce and Pickering nuclear generating stations.

- **Quality Assurance:** Compliant Quality Assurance programs have been developed within the Construction Consortium and Joint venture companies that fully satisfy the rigorous requirements of nuclear work. The Construction Consortium brings a thorough approach to Quality Assurance from both large nuclear and non-nuclear projects. The Construction Consortium Quality Assurance Program will be in compliance with one of these programs and subject to audit by member companies. Quality Assurance Programs from the other members and sub-contractors will be driven by and integrated into the Construction Consortium program.

- **Design Conformance:** The approach of the Joint Venture companies ensures full design conformance with Iter requirements and is based upon fundamentals that seek continuous improvement in each successive project based on a wide range of related project experience.

- **Compliance with Performance Criteria:** The Construction Consortium approach reflects the use of well proven equipment and techniques tailored to meet the specific requirements of the project. This assures high performance from the very beginning of the Iter Construction Phase.

- **Project Delivery:** The fully integrated team approach to this work using "best of class" resources will be a key aspect of assuring project delivery. The Construction Consortium familiarity with Canadian construction agreements and extensive involvement with them will contribute greatly to making that aspect of the job successful.

- **Understanding and Implementation Plan:** The Construction Consortium and the Joint Venture have extensive experience in the design, procurement and construction of all types of large projects and more specifically for large nuclear related projects. The members will pool their vast resources and experience with state-of-

the-art programs and tools for the successful completion o the Iter Project.

- **Schedule:** The schedule for this project is discussed in Section 6.3. It has been developed such that the design and supply is based on an optimized construction schedule. The work calendar for the construction trades is based on two 8 hour shifts per day Monday to Friday, or two 10 hour shifts Monday to Thursday, and an extra 8 hour shift on Saturday for the 5x8 shifting, or on Friday for the 4x10 shifting for the machine assembly work. The free hours during the weekdays are available for non-destructive examination, while the weekends are available for overtime work for activities that are too disruptive to other trades or for schedule recovery on critical activities.

6.2.4. **Project Delivery:** The Construction Consortium approach to Project Delivery will mirror that successfully used on comparable projects. Extensive and detailed front end planning using established principles and state-of-the-art tools will be implemented upon contract award. The fundamental process is one of:

- Establishing a Construction Consortium Steering Committee;
- Assignment of best-of-class staff from the Consortium and Joint Venture companies;
- Establishment of a detailed Work Breakdown Structure;
- Production of a detailed schedule in Primavera 3;
- Integration of cost control into the schedule;
- Identification and scheduling of all interface points with Iter Legal Entity and offshore suppliers;
- Risk Logs and detailed critical task analysis and planning;
- Production of a Project Quality Assurance Plan and procedures;
- Execution and monitoring of all required activities in the plan in accordance with approved procedures;
- Development of required documentation deliverables in parallel with execution;
- Construction completion, project commissioning and turnover of the Consortium scope; and
- Demobilization.

Throughout this process, environmental protection and worker health and safety are top priorities.

The environmental protection procedures will cover all aspects of the project. An Emergency Preparedness Plan will be created that dovetails effectively into the overall plan of the nearby Ontario Power Generation Darlington site plan.

The members of the Construction Consortium recognize the need to coordinate construction and installation activities with the Iter Legal Entity design activities and the offshore supplier delivery of key components, without which construction cannot continue. The Construction Consortium will develop, with the Iter Legal Entity, communications and procedures to provide timely and factual delivery information to provide the maximum time to adjust the construction program for anticipated delays and minimize the overall impact to the project.

6.2.5. **Construction Consortium Scope Reporting Responsibility:** Figure 6-1 summarizes the reporting and functional lead for the project, as well as the communication lines between all members of the Project Team for the key functions needed, including Iter Canada and the Iter Legal Entity. The detail organization charts are shown in the following sub-Sections.

The Construction Consortium is responsible for the detail design, supply, construction and commissioning of all the defined scope and reports to the Iter Legal Entity through Iter Canada Host Inc..

The Construction Consortium will be led by a Management team answering to the Construction Consortium Steering Committee. This team will manage the interfaces with the Iter Legal Entity and between the Engineering and Project Management Joint Venture sub-contract and the Construction Consortium construction activities.

The Engineering and Project Management Joint Venture scope will be administered by the Joint Venture Management team that will allocate the work among the three companies in line with their respective specialty scopes.

The construction scope will be shared by the members of the Consortium (AMEC, BFC and SNC-Lavalin), who will perform construction management and direct construction and erection as well as employ specialty trade sub-contractors.

6.2.6. **Construction Plan:**

6.2.6.1. **Site and Buildings:** The general construction plan for the site and buildings is to have the Engineering and Project Management Joint Venture complete the detail design and issue two types of deliverables to the Construction Consortium, i.e. engineering quotation requests (EQRs) for procurement of major components, and drawing and specification packages for construction. The Engineering and Project management Joint Venture will also provide the resident engineering and inspection functions at site.

The construction group will develop a work breakdown structure which allocates the work to a location or building and forms the basis of interface and scheduling with the Engineering and Project Management Joint Venture. The construction group will provide the procurement function for all required material and equipment.

6.2.6.2. **Machine Assembly:** The construction plan for machine assembly includes supply of defined tooling, handling of components arriving by high seas ships and rail to the site storage area, handling of components into the clean room and subsequently on to the assembly hall and/or the Tokamak pit. (See Section 5 for further clarification.)

The assembly includes all the work up to integrated commissioning that is done in the clean room, assembly hall and Tokamak pit, even if some components have the installation supervision provided by others.

6.2.6.3. **Optional Canadian Procurement of Common Element Scope:** The construction plan also includes the provisions for handling the Iter common element scope that may be more effectively procured in Canada (see Section 5.4.3). The Construction Consortium will undertake to provide on a preferred basis, competitive quality, pricing, delivery and performance for conducting scope as requested by the Iter Legal Entity or another Iter party. The financial aspect of this is defined in Section 9.2.7.

6.2.7. Detailed Engineering and Construction Consortium Organization: The detailed organization charts for the Construction Consortium organization are grouped into two sections, and are shown on the following pages:

Figure 6-3 shows the Iter Construction Consortium Organization, without the Engineering and Project Management Joint Venture organization.

Figure 6-4 shows the Engineering and Project Management Joint Venture organization reporting to the Construction Consortium Manager.

Figure 6-3
ITER CONSTRUCTION
CONSORTIUM ORGANIZATION

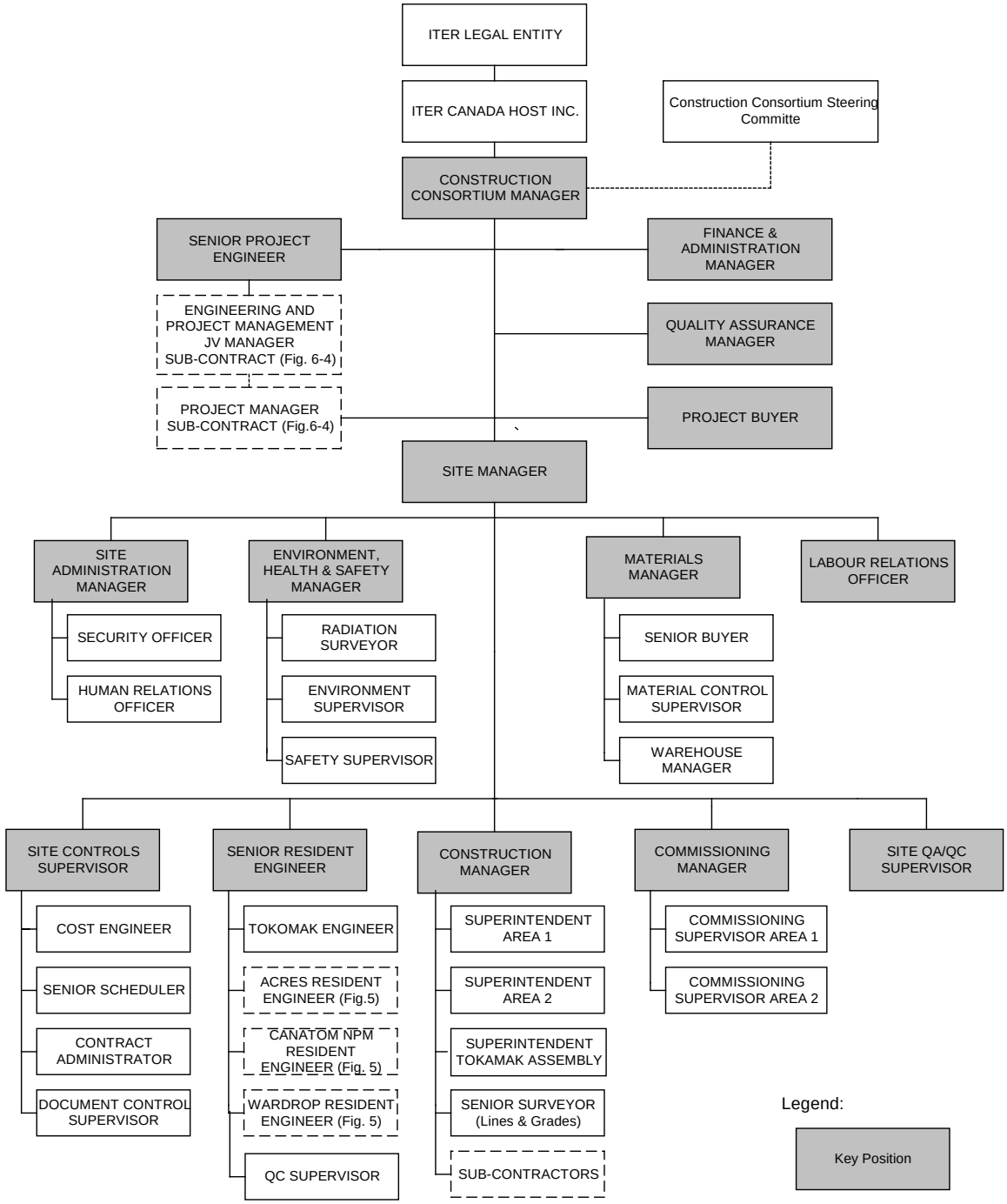
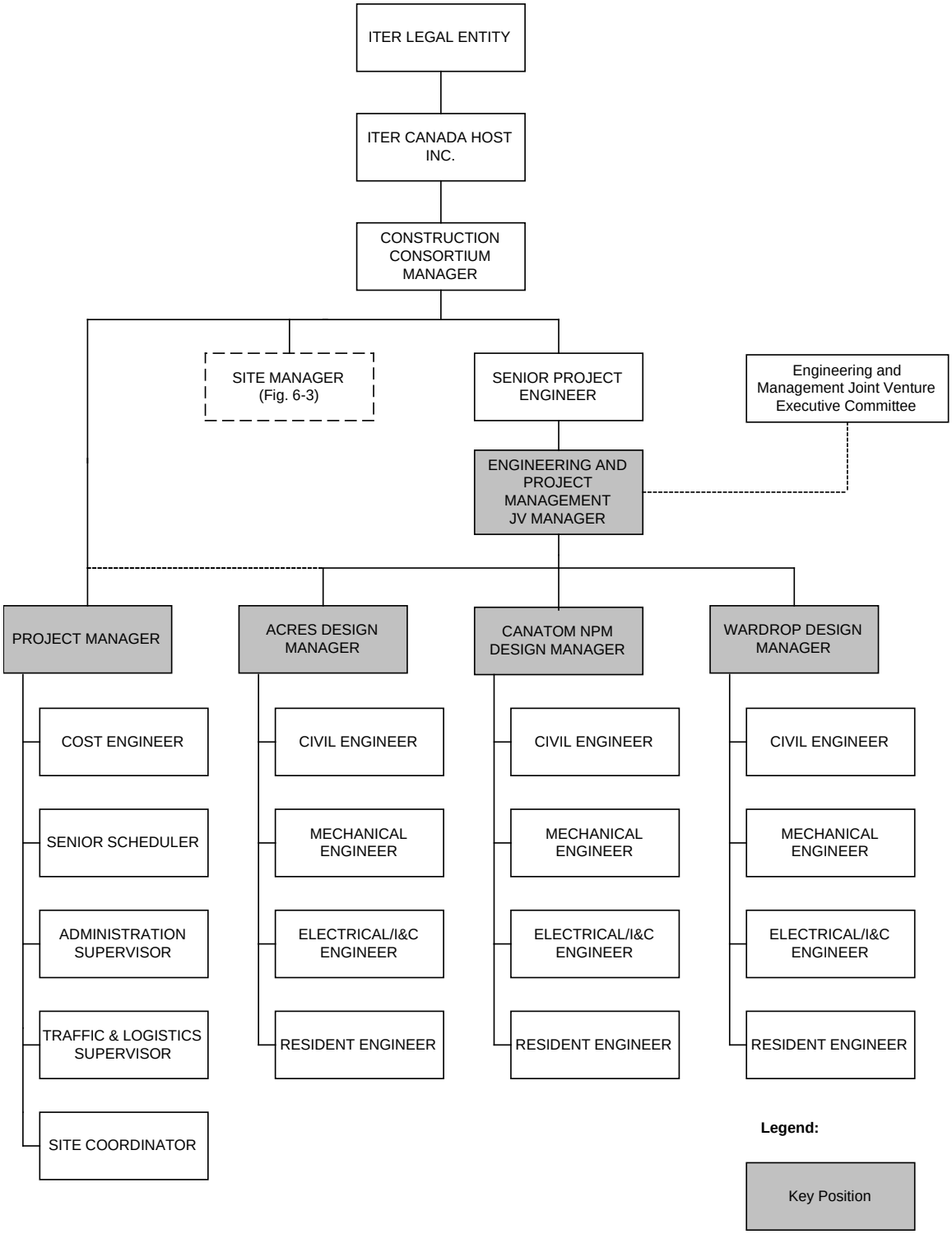


Figure 6-4
ITER ENGINEERING & PROJECT MANAGEMENT JOINT VENTURE ORGANIZATION



6.2.8. **Consortium Key Position Descriptions:** The position descriptions are segregated between the three project locations

- Construction Consortium Office
- Clarington Site
- Engineering and Project Management Joint Venture Offices

6.2.8.1. **Construction Consortium Office:**

Construction Consortium Manager: The Construction Consortium Manager's role is to ensure the Consortium scope is built to the highest standards, in a timely and professional manner, and meeting the safety, quality and cost objectives. This will be achieved by appointing a senior manager and key managers from the experienced personnel within the Consortium organizations and formation of an integrated project Team.

The Construction Consortium Manager is responsible for implementing the project policies and procedures in the construction consortium office and at site and the following functions:

- Reports to the Construction Consortium Steering Committee
- Administration of the budget, schedule and staffing
- Environmental, health and safety
- Engineering
- Procurement
- Labour relations
- Controls
- Commissioning
- Quality assurance
- Site management
- Policies and procedures
- Closeout

The Construction Consortium Manager will be located in the Consortium head office and reports to the Construction Consortium Steering Committee. He/she will interface daily with the key members in the project Team and chair the project progress meetings. He/she will be dedicated fully to the project first in the Consortium head office and then move to site as the major work shifts from design to site. During the Construction Consortium Manager's time in the Consortium office he/she will travel regularly to site to view the actual progress and meet with the Site

Manager. The following positions report to the Construction Consortium Manager:

- Senior Project Engineer
- Quality Assurance Manager
- Project Buyer
- Finance & Administration Manager
- Site Manager (shown under 6.2.9.2)
- Project Manager (shown under 6.2.9.3)

Senior Project Engineer: The Senior Project Engineer within the Construction Consortium is responsible for overall design and technical performance of the Consortium scope and ensures that all the engineering functions are being performed to the highest professional standards and achievement of the project objectives in a timely manner. These objectives will be best achieved by managing the interfaces between the Iter Legal Entity, the Joint Venture design organizations, the specialized equipment suppliers and liaison with the other key members of the project team.

The Senior Project Engineer will be responsible for technical aspects of the Engineering and Project Management Joint Venture sub-contract and implementing the design policies and procedures both in the JV office and at site. He/she is responsible for:

- Coordinating the Joint Venture design work with the Joint Venture Manager
- Design budgets and schedule for the Construction Consortium
- Site resident engineering and quality surveillance.
- Engineering closeout.

The Senior Project Engineer will be located in the Construction Consortium office and reports to the Construction Consortium Manager. He/she is a key member of the consortium management team and will interface daily with the other key members and participate in the consortium progress meetings. He/she will be dedicated fully to the project initially and then part time as the work transfers to site. From the Construction Consortium office he/she will liaise with and oversee the work of the Engineering and Project Management sub-contract by working with the Joint Venture Manager and the company Design Managers and with the site Senior Resident Engineer. The following positions will report to the Senior Project Engineer:

- Mechanical Engineer

- Electrical / I&C Engineer
- JV Manager (sub-contract)

Quality Assurance Manager: The Quality Assurance Manager is responsible for preparation and implementation of the Project Quality Assurance Manual and Procedures across the project. The Quality Assurance Manager will ensure the implementation of the quality plan by review, approval, and audit of sub-tier quality plans prepared by the design, supply, construction and commissioning organizations. The Quality Assurance Manager also reviews and approves the candidates for project quality surveyors.

The Quality Assurance Manager will be responsible for the following functions:

- Administration of the project Quality Assurance budget and staffing
- Implementation of the corporate Quality Assurance Manual
- Preparation of the Project Quality Assurance Manual and Procedures
- Review and approval of sub-tier project Quality Assurance Manuals
- Monitoring of the Consortium quality assurance activities
- Reporting to the Construction Consortium Manager on quality matters
- Accountable to the corporate Quality Assurance Manager
- Auditing the project organization, site, suppliers and contractors
- Liaison with the Design Managers in the design organizations and site Quality Assurance/Quality Control Supervisor and selection of quality surveyors
- Project Quality Assurance closeout

The Quality Assurance Manager will be located in the construction consortium office and reports to the Construction Consortium Manager. He/she will be dedicated initially full time to the project and then part time when the construction activities are underway. Initially his/her work will focus on design and procurement activities and then to site activities as the construction gets underway. He/she will travel to suppliers and site to monitor the quality assurance activities and to conduct scheduled audits.

The Quality Assurance Manager will recruit specialist auditors from the consortium organizations as appropriate to conduct audits at regular intervals in the course of the project.

Project Buyer: The role of Project Buyer is to ensure all the Consortium procurement functions are performed to the highest standards and in a timely and professional manner to best achieve the project objectives. This will be achieved by establishing a business and commercial environment in the Consortium for everyone dealing with suppliers, contractors and regulators and by clearly defining the quality, cost and schedule parameters for the procurement group.

The Project Buyer will be responsible for procurement and contracting of all the major components of the project including the following functions:

- Administration of the procurement activities in the Construction Consortium office
- Preparation of project commercial conditions for purchasing and contracts
- Preparation of procurement policies and procedures
- Preparation of bid packages from design EQRs
- Preparation and maintenance of the project procurement plan
- Qualification of suppliers and contractors
- Issue and evaluation of bids and commercial recommendation for award
- Finalizing contract documents
- Issue of Purchase Orders
- Contract administration including interpretation and changes
- Interface with suppliers and contractors
- Expediting
- Procurement records
- Procurement closeout

The Project Buyer is located full time in the Construction Consortium office and reports to the Construction Consortium Manager. When the site mobilizes the procurement responsibility will be taken over by the Materials Manager at site and the Project Buyer's role will change to supporting the Senior Buyer at site. The following staff reports to the Project Buyer:

- Purchasing Agents
- Expeditors

Finance & Administration Manager: The Finance & Administration Manager's role is to interface the scope and billings of the consortium with Iter Canada Host Inc. and the Iter

Legal Entity. This will be achieved by setting up the required financial cash flow, payroll and procedures throughout the Construction Consortium including the Engineering and Project Management sub-contract and the prompt issue of invoices for completed scope to the Iter Legal Entity.

The Finance & Administration Manager is responsible for implementing the Consortium financial policies and procedures in the Construction Consortium office and at site including the following functions:

- Reports to the Construction Consortium Steering Committee
- Administration of the consortium finances
- Financial policies and procedures
- Payroll
- Invoicing to Iter Legal Entity
- Payments to Engineering and Project Management Joint Venture
- Payments to suppliers
- Payments to sub-contractors
- Finance closeout

The Finance & Administration Manager will be located in the Construction Consortium head office and reports to the Construction Consortium Manager and the Construction Consortium Steering Committee. He/she will be dedicated fully to the project. The Finance & Administration Manager will utilize one of the consortium's corporate staff, payroll and financial programs for all consortium work.

6.2.8.2. **Clarington Site:**

Site Manager: The Site Manager's role is to ensure the scope of the project is physically built to the highest standards, in a timely and professional manner, and meeting the quality and cost objectives. This will be achieved by appointing key managers from the experienced personnel within the consortium organizations and formation of an integrated site team.

The Site Manager is responsible for implementing the project policies and procedures at site including the following functions:

- Site Quality Assurance /Quality Control
- Liaison with the Iter Legal Entity representatives at site
- Administration of the site budget, schedule and staffing

- Site administration
- Site policies and procedures
- Construction management, supervision and controls
- Site environment, health and safety
- Labour relations
- Direct construction
- Commissioning
- Site engineering administration
- Site closeout

The Site Manager will be located initially in the Construction Consortium office and move to site at mobilization. He will interface daily with the Construction Consortium Manager and key members in the consortium and site teams. He will chair the site project progress meetings. The position will be dedicated full time to the project. The following positions report to the Site Manager:

- Senior Resident Engineer
- Site Administration Manager
- Environment, Health & Safety Manager
- Materials Manager
- Site Controls Supervisor
- Site QA/QC Supervisor
- Labour Relations Officer
- Construction Manager
- Commissioning Manager

Senior Resident Engineer: The Senior Resident Engineer position is an extension of the Senior Project Engineer's role at site. He/she is responsible for implementation of the design objectives during construction and commissioning. The Senior Resident Engineer will achieve these objectives working with the Tokamak Engineer and Resident Engineers from the Engineering and Project Management Joint Venture to liaise with their design offices and convey the design requirements to the contractors and commissioning teams. The engineers will follow the work by review and approval of installation plans, issue of inspection and test plans, witnessing critical construction activities and planning and overseeing the work of the quality surveyors.

The Senior Resident Engineer will be responsible for implementing the following functions in the field:

- Administration of site engineering budget, schedule and staffing
- Preparation of resident engineering policies and procedures

- Preparation of Inspection and Test plans
- Overseeing the construction and commissioning activities
- Interpretation and clarification of design documents
- Surveillance of site document and records control
- Surveillance of materials control and warehousing
- Management of the design change control process
- Documentation submissions and approvals
- Review of construction contractor installation plans
- Quality surveillance
- As-built drawing records
- Resident Engineering closeout

The Senior Resident Engineer is located at site on a full time basis and supervises the following positions:

- Tokamak Engineer
- Acres Resident Engineer (Administratively)
- CanatomNPM Resident Engineer (Administratively)
- Wardrop Resident Engineer (Administratively)
- Quality Control Supervisor

Site Administration Manager: The Site Administration Manager's role is to ensure the smooth operation of the site office, human relations and site security.

The Site Administration Manager will be responsible for implementing and operating the site office, security, human relations and document control and record policies and procedures and the following functions:

- Administration of the site office and security budgets
- Site administration policies and procedures
- Security policies and procedures
- Document and records control
- Liaison with Construction Consortium members' Human Resources departments to obtain secondment of site staffing
- Hires, assigns, directs and coordinates the activities of local hire staff for security and office duties
- Organizes the smooth transfer and integration of seconded staff
- Office administration close-out

The Site Administration Manager is located at site on a full time basis and supervises the following positions:

- Security Officer
- Human Relations Officer

Environment, Health & Safety Manager: The role of the Environment, Health & Safety Manager is to ensure that all of the work is performed to the highest standards of safety and respect for the environment that are achievable. This will be achieved by promoting the development of a safety culture, by encouraging the functioning of the internal responsibility system at all levels of the site team and by promoting adherence to the principles of sustainable development.

The Environment, Health & Safety Manager will be responsible for producing, implementing and monitoring the project's Environmental Protection, Health & Safety and Emergency Response Programs. This will include:

- Supervising the completion of the Critical Task Analysis
- Supervising the preparation and implementation of the Environmental Management and Health & Safety Plans
- Supervising the preparation and implementation of the required Health & Safety, Environmental Protection and Emergency Response procedures
- Ensuring compliance with the applicable regulations including the Environmental Protection, Occupational Health & Safety; Workplace Safety & Insurance Board, Transportation of Dangerous Goods and Canadian Nuclear Safety Commission Regulations
- Ensuring the timely and thorough completion of any accident investigations
- Auditing compliance with the Environmental Management and Health & Safety Plans
- Ensuring prompt completion of any corrective actions identified during audits or accident investigations
- Ensuring that Return-to-Work programs are prepared and implemented on the project
- Supervising the preparation and delivery of Environment, Health & Safety training programs.

In addition, the Environment, Health & Safety Manager will:

- Serve as a working level contact for Iter Canada, the Iter Legal Entity, Joint Health & Safety Committee, Trades Committee and regulatory agencies on matters related to

Environmental Protection, Health & Safety and Emergency Response
- Serve as a resource for project managers, supervisors and staff on all matters related to Environmental Protection, Health & Safety and Emergency Response

The Environment, Health & Safety Manager will also be responsible for providing assistance to project managers, engineers and designers on health physics and environmental protection. This may include supervising the completion of technical analysis, reviewing design concepts and preparing material for submission to regulatory agencies. The Environment, Health & Safety Manager will have access to the services of Health Physicists, Occupational Hygienists, Environmental Engineers, Construction Safety Supervisors and Radiation Surveyors from all of the member companies of the Consortium team.

The Environment, Health & Safety Manager will be devoted full time and will be based at the site.

The Environment, Health & Safety Manager reports to the Site Manager and has the following positions reporting to him/her:

- Radiation Surveyor
- Safety Supervisor
- Environment Supervisor

Materials Manager: The role of Materials Manager is to ensure all the engineering procurement functions are performed to the highest standards and in a timely and professional manner to best achieve the project objectives. This will be achieved by establishing a business and commercial environment on the project for everyone dealing with suppliers, contractors and regulators and by clearly defining the quality, cost and schedule parameters for the procurement group.

The Materials Manager will be responsible for procurement and contracting of all the major components of the project and the following functions:

- Administration of the procurement activities at site
- Preparation of site commercial conditions for purchasing and contracts
- Material stock coding system
- Material receiving, storage and issue
- Material inventory

- Site warehouse operation
- Preparation of site procurement policies and procedures
- Preparation of bid packages from design EQRs
- Preparation and maintenance of the site procurement plan
- Qualification of suppliers and contractors
- Issue and evaluation of bids and commercial recommendation for award
- Finalizing contract documents
- Issue of Purchase Orders
- Interface with suppliers and contractors
- Expediting
- Shipping and logistics
- Procurement records
- Procurement closeout

The Materials Manager will be located in the Site office as soon as construction starts and reports to the Site Manager. He/she will be a key member of the site management team; he/she will interface daily with the other key members and participate in the site progress meetings. He/she will also interface with the Project Buyer in the Construction Consortium office to ensure the material delivered to site is properly coded and protected. The following positions will report to the Materials Manager:

- Warehouse Manager
- Materials Control Supervisor
- Senior Buyer

Site Controls Supervisor: The Site Controls Supervisor role is to ensure all the project control functions are performed to the highest standards and in a timely and professional manner to best achieve the project objectives. This will be achieved by establishing across the site an appreciation of the requirements and benefits of the cost and schedule control systems for the success of the project.

The Site Controls Supervisor will be responsible for implementing and operating the project control policies and procedures at site and the following functions:

- Assigns, directs and coordinates the activities of staff performing planning/scheduling, estimating, and cost functions for the site work
- Project contractual budget development and monitoring.
- Develop project change control and budget administration systems

- Ensures that a validated cost and schedule control system is implemented for construction
- Manages weekly, monthly and quarterly progress and status reporting and ensures reporting documentation is compatible with project management organization guidelines
- Participates in meetings with the Construction Consortium and the Iter Legal Entity to ensure an effective communication and reporting of project status
- Develops project performance measurement characteristics for uniform periodic assessment
- Prepares a self-assessment of the organization's performance
- Assigns staff and provides technical guidance to field production schedulers assigned to work on package task teams
- Project controls close-out

The following positions will report to the Site Controls Supervisor:

- Cost Engineer
- Senior Scheduler
- Contract Administrator
- Document Control Supervisor

Site Quality Assurance / Quality Control Supervisor: The Site QA/QC Supervisor role is to ensure all the inspection functions are performed to the highest standards and in a timely and professional manner to best achieve the project objectives of high quality. This will be achieved by administering an Inspection Agency sub-contract for the supply of inspectors and inspection equipment, tying the inspection activities to the construction installation procedures and ensuring compliance with the Project Quality Assurance Manual and Procedures on site.

The Site QA/QC Supervisor will be responsible for the following functions:

- Contract administration of the Independent Inspection Agency sub-contract
- Preparation of Inspection and Test plans
- Non-destructive examination
- Quality surveillance on construction, material control, document control, records

The site QA/QC Supervisor reports to the Site Manager and has no direct staff but deals directly with the Independent Inspection Agency Manager.

Labour Relations Officer: The Labour Relations Officer is responsible for maintaining effective and harmonious relations with labour organizations and unions involved in the execution of the construction work. The Labour Relations Officer is responsible for implementing the Consortium labour relations program on site and the following specific functions:

- Establishes and maintains effective relations with labour organizations and provides the first line responsibility for effective and harmonious labour relations
- Definition of union jurisdiction on a task prior to start of work
- Assures an effective labour relations program is established and maintained, and coordinates with local labour unions
- Provides input and assists with the estimate and schedule

The Labour Relations Officer is located full time at site and reports to the Site Manager.

Construction Manager: The Construction Manager is responsible for execution of the construction work including direct supervision of the Area Superintendents and surveying.

The Construction Manager is responsible for implementing the construction policies and procedures on site and the following specific functions:

- Plans, organizes and directs work activities of craft personnel for completion of construction activities according to design drawings, specifications and standards, within budget and schedule
- Requisitions qualified labour, materials and equipment required for completing work assignments
- Maintains functional installation procedures and ensures training of craftsmen in their use
- Ensures compliance with cost, schedule, quality requirements and applicable safety regulations
- Assures accurate and timely reporting of time charges and schedule performance
- Monitors activities of subcontractors ensuring compliance with design, policies and procedures
- Provides input and assists with the estimate and schedule

The Construction Manager is located full time at site and reports to the Site Manager. The following positions report to the Construction Manager:

- Superintendent Area 1
- Superintendent Area 2
- Superintendent Tokamak Assembly
- Senior Surveyor

The specialty trade sub-contracts also report in the site organization to the Construction Manager

Commissioning Manager: The role of Commissioning Manager is to ensure that all the Consortium scope commissioning functions are performed to the highest standards in a timely and professional manner to best achieve the project objectives. This will be achieved by establishing a plan whereby the Construction Consortium will do the tests on non-specialist equipment which is all the equipment and systems included in the Consortium scope.

The Commissioning Manager will be responsible for implementing the commissioning policies and procedures at site and the following functions:

- Administration of the commissioning budget, schedule and staffing
- Preparation of commissioning policies and procedures
- Commissioning, operations, maintenance and change control
- Commissioning interface of construction trades
- Commissioning tools
- Commissioning and operating spares
- Commissioning progress reporting to management
- Commissioning documents and records
- Commissioning final report and closeout

The Commissioning Manager will be located in the site office and reports to the Site Manager. He/she will interface daily with the other key members of the site team for the preparation of the commissioning procedures and spare part requirements. The following positions will report to the Commissioning Manager:

- Commissioning Supervisor Area 1
- Commissioning Supervisor Area 2

6.2.8.3. Engineering and Project Management Joint Venture Offices

Engineering and Project Management JV Manager: The Engineering and Project Management JV Manager is responsible for Consortium scope design and technical specification and project management for the Construction Consortium up to the point when the site has mobilized. He/she oversees all the engineering and project management functions to ensure they are being performed to the highest professional standards in a timely manner. These objectives will be best achieved by managing the interfaces between the Iter Legal Entity, the Consortium Manager and the JV design organizations.

The Engineering and Project Management JV Manager will be responsible for all aspects of the Engineering and Project Management Joint Venture sub-contract including the allocation of new scope design work equitably between the JV companies and implementing the design policies and procedures both in the JV office and at site. He/she is responsible for:

- Administration of JV engineering budget, schedule and staffing
- Consortium budget and cost control (pre-construction period)
- Consortium schedule (pre-construction period)
- Traffic & logistics (pre-construction period)
- Preparation of engineering policies and procedures
- Implementation of design codes and standards
- Design modeling, analysis and calculations
- Procurement quality surveillance
- Preparation of drawings, specifications and EQRs
- Management of the ECC process
- Design documentation submissions and approvals
- Review of supplier shop drawings
- Resident engineering and quality surveillance
- Design progress reporting
- As-built drawings
- Engineering closeout

The Engineering and Project Management JV Manager is located full time in the JV office and reports to the Senior Project Engineer. When the major project activity transfers to site the project management responsibility will be taken over by the Site Manager and the Engineering and Project Management JV Manager's role will be reduced to design engineering and resident

engineering. The following positions will report to the this position:

- Project Manager (administratively)
- Acres Design Manager
- Canatom NPM Design Manager
- Wardrop Design Manager

Project Manager: The role of the Project Manager is to ensure all the project control functions are performed to the highest standards and in a timely and professional manner to best achieve the project objectives. This will be achieved by establishing an appreciation of the benefits and requirements of the cost, schedule and documentation control systems for the success of the project.

The Project Manager will be responsible for implementing and operating the project control policies and procedures from the JV office until the site organization is in place including the following functions:

- Administration of the project controls budget, schedule and staffing
- JV office administration
- Site coordination
- Control of the engineering budget and schedule
- Preparation of control policies and procedures
- Traffic & logistics
- Progress reporting to management and client's representative
- Document control
- Records control
- Project controls closeout

The Project Manager will be located in the JV office and reports to the Engineering and Project Management JV Manager. He/she will be a key member of the management team; he/she will interface daily with the other key members and participate in the project progress meetings. He/she will be dedicated fully to the project until the project work shifts to site and the function is transferred to site. The Project Manager could move to site to the position of Site Controls Supervisor to support the Site Manager at that time. The following positions report to the Project Manager in the JV office:

- Cost Engineer
- Senior Scheduler

- Administration Supervisor
- Traffic & Logistics Supervisor
- Site Coordinator

Design Managers: The Design Managers (Acres, CanatomNPM and Wardrop) are each responsible for their allocated scope design and technical performance as assigned by the Engineering and Project Management JV Manager. The Design Managers oversee all the engineering functions to ensure they are being performed to the highest professional standards and the achievement of the project objectives in a timely manner. These objectives will be best achieved by managing the interfaces in their company and with the other JV companies.

The Design Managers will be responsible for all aspects of their pre-determined scope as well as any new scope design work awarded by the Construction Consortium and implementing the design policies and procedures both in the JV office and at site in the areas they are each responsible for:

- Administration of engineering budget, schedule and staffing
- Preparation of engineering policies and procedures
- Implementation of design codes and standards
- Design modeling, analysis and calculations
- Preparation of drawings, specifications and EQRs
- Management of the ECC process
- Design documentation submissions and approvals
- Review of supplier shop drawings
- Resident engineering and quality surveillance
- Design progress reporting
- As-built drawings
- Engineering closeout

The Design Managers are located full time in the JV office and report to the Engineering and Project Management JV Manager. The following positions report to them:

- Civil engineer
- Mechanical engineer
- Electrical/I&C Engineer
- Resident Engineer

6.3 CONSTRUCTION PHASE SCHEDULE

6.3.1 **General Comment:** Iter Canada believes that the overall schedule proposed for the implementation of Iter in the Draft ITER Final Design Report is too restrictive and does not reflect other options that should be considered with equal weight.

Iter Canada believes that the draft Iter Final Design Report proposed overall project schedule should be considered only as one possible scenario, not as the baseline schedule for Iter implementation.

The schedule presented in the Draft ITER Final Design Report shows that on creation of the Iter Legal Entity after the Joint Implementation Agreement is ratified, there will be an approximate 2 year period before the actual start of site construction (defined as T=0). The schedule then goes on to show a 96 month schedule from T=0 to first plasma, ie. an 8 year construction/commissioning phase beyond T=0.

In effect, therefore, the ITER Final Design Report actually proposes a ten year Construction Phase – using the real start of the Construction Phase as the start of the Joint Implementation Agreement and the creation of the Iter Legal Entity, as defined in the Final Explorers' Report. Iter Canada does not believe this should be the basis of Negotiations nor the baseline plan, but as only an indicative plan with other options possible.

The critical path items, highlighted in the ITER Final Design Report, causing ~2 years being added to the schedule are the regulatory licensing procedure and the construction of the tokamak building, although in fact we believe the magnet manufacturing is also on the critical path, due to not starting the procurement process until the ILE is created.

Of importance, the Iter Canada Plan to Host Iter shows that the licensing has already commenced in Canada and that the prime contractors for the building and infrastructure have been chosen.

For the common element scope procurement, the ITER Final Design Report should be more flexible in terms of when procurement specifications are prepared and the procurement bid cycle is started. Iter Canada believes that this work can proceed well before the Joint Implementation Agreement and the Iter Legal Entity are established. The real critical path item should be a final decision on the procurement scheme between all the Iter Participants by the end of 2001, thus allowing the procurement process to commence late 2001 or early 2002 at the same time the preferred site is chosen, not mid 2003 as anticipated in the ITER Final Design Report. The objective of the parties should be to define a scheme that will get the project into a position that tooling and fabrication contract awards can be made immediately on the

signing of the Joint Implementation Agreement and creation of the Iter Legal Entity. This process would include initiating the formal tending and selection process with vendors prior to the establishment of the Iter Legal Entity, which Iter Canada believes would be acceptable to suppliers, even though budget approval will not have been obtained by the parties.

With respect to the licensing activities, our Canadian plan allows for a much shortened licensing process by up to two years, compared with that stated in the Iter Final Design Report. This is achieved through the initiation of the process in March 2001, such that a license to construct could be available mid-2003, and un-restricted construction could commence mid-2003 on any and all aspects of the project.

In addition, as shown in our submissions to the Procurement Packages, procurement of the tokamak building complex can be established with an overall 8 year construction period, ie., starting from the creation of the Iter Legal Entity in 2003.

6.3.2. Iter Canada Schedule: The master schedule for the overall Iter Project is the responsibility of the Iter Legal Entity. For the Iter Canada scope of work during the Construction Phase, the overall bar chart schedule is shown in Attachment 6-B. The detailed schedule for the individual items (eg. buildings, tokamak machine assembly, etc.) is shown in Attachment 6-C.

As part of the development of this Iter Canada schedule, detailed site labour, engineering resources and project management resources have been established. The Task Agreement between Iter Canada and the Joint Central Team for the assembly of the tokamak machine has also been incorporated into this schedule.

The Plan by Iter Canada is based on the Iter Canada Host Inc. and the Iter Legal Entity scheduling being prepared, integrated, managed and communicated using the Primavera software programming.

Iter Canada proposes to provide to the Joint Central Team, Iter Parties and Negotiating Team a one-day workshop on project scheduling using Primavera.

6.4 OPERATIONAL PHASE ORGANIZATION

At the end of the Construction Phase, the overall Iter Canada Host Inc. organization remains the same, with the exception that the scale of the Engineering and Construction Consortium organization is scaled down considerably, following de-mobilization of the site resources.

However, the Engineering and Construction Consortium remains in operation during the complete Iter project to provide contracted requirements, through Iter Canada Host Inc., for designated maintenance, services and capital improvements to the Iter Legal Entity or any of the Iter Parties requiring direct work in Canada.

Iter Canada will clarify the final organzation of the Iter Canada Host Inc. during the negotiations, as the overall Iter Legal Entity organization structure for the Operating Phase becomes better defined.

6.5 DEACTIVATION PHASE

The Iter Canada Host Inc. organization remains as for the Operating Phase during the Deactivation Phase.

6.6 DECOMMISSIONING PHASE

During the Decommissioning Phase the organization of Iter Canada Host Inc. also remains the same, with the exception that the contracting body, ie. the Iter Legal Entity, becomes a Canadian member only entity, with responsibilities for decommissioning the Iter project, utilizing the segregated funds provided during the preceding phases of the project.

Iter Canada may, at the time of the start of the Decommissioning Phase, merge the operations of the Iter Legal Entity and Iter Canada Host Inc.. This could provide a simplified organization and management structure. For example, the Host Services Contract may no longer be required.

6.7 ATTACHMENTS

6-A: Overall organization of Iter during the Construction Phase

6-B: Overall Project Schedule for the Construction Phase

6-C: Detailed Project Schedule for the Construction Phase

Attachment 6-A: Overall organization of Iter during the Construction Phase

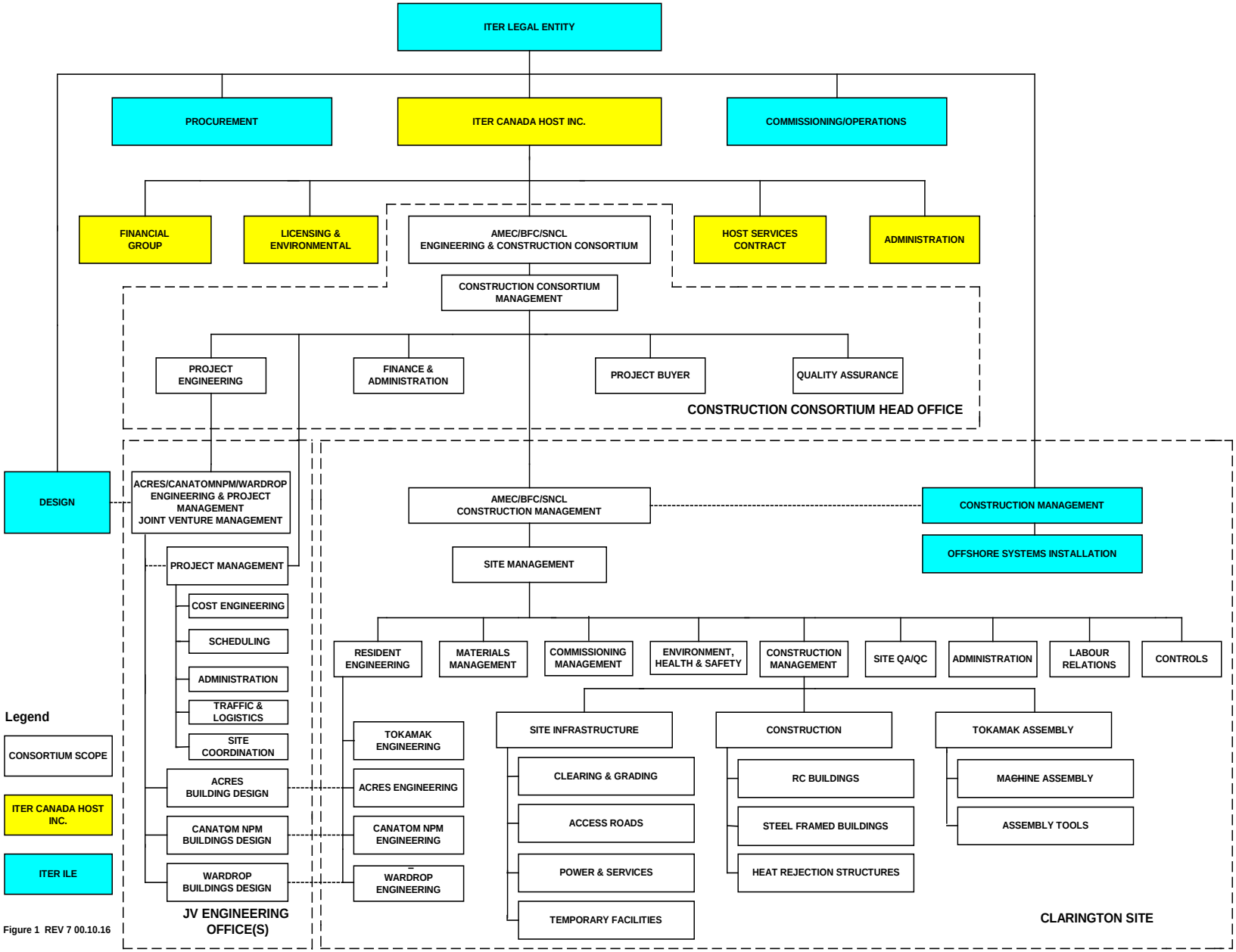
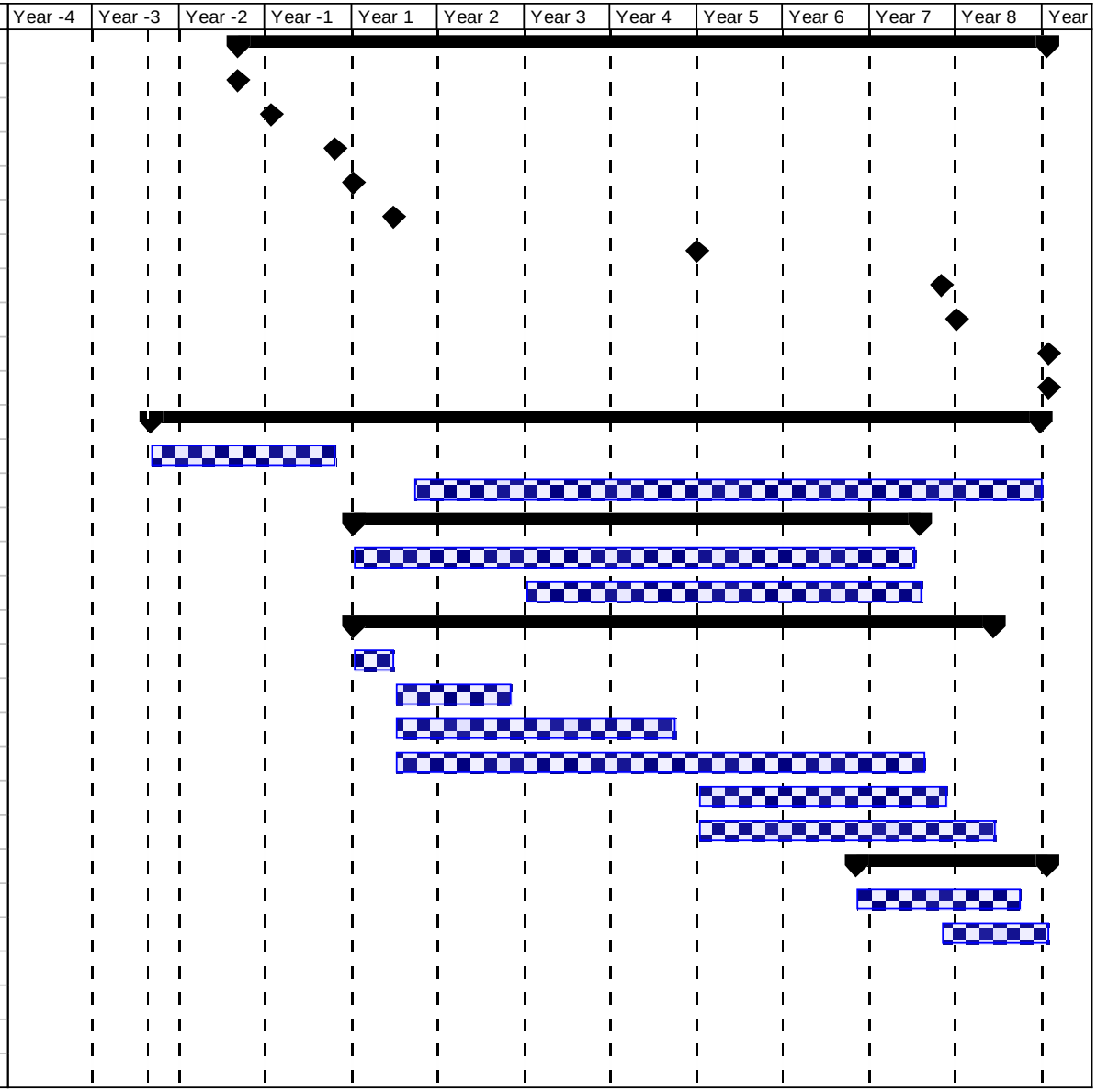


Figure 1 REV 7 00.10.16

Attachment 6-B: Overall Project Schedule for the Construction Phase

ID	Task Name
1	**MILESTONES**
2	Site Selection
3	Submit PSAR
4	Final license to Site & Construct
5	Magnets First Purchase Order
6	First Concrete
7	Start Tokamak Assembly
8	Start Integrated Commissioning
9	Submit FSAR
10	Obtain License to Operate
11	First Plasma
12	**LICENSING**
13	Application for License to Construct
14	Application for License to Operate
15	**PROCUREMENT**
16	Magnet Supply
17	Major Components Supply
18	**BUILDINGS & INSTALLATION**
19	Excavation
20	Site Fabrication Buildings
21	Tokamak Building
22	Other Buildings
23	Tokamak Assembly
24	Install Other Systems
25	**COMMISSIONING**
26	System Startup & Testing
27	Integrated Commissioning



6-C: Detailed Project Schedule for the Construction Phase

- **Major Milestones and Licensing (one page)**
- **Construction Summary (6 pages)**