

US Department of Agriculture
Foreign Agricultural Service



Business Needs Requirements Document
Food Aid Information System (FAIS)

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TABLE OF CONTENTS

I.	INTRODUCTION / BACKGROUND	4
II.	MISSION STATEMENT / SYSTEM CONCEPT	5
III.	HIGH LEVEL BUSINESS NEEDS.....	6
IV.	FAIS FUNCTIONAL DECOMPOSITION MODEL.....	7
V.	HIGH LEVEL PROCESS FLOW: BUDGET & PLANNING	9
VI.	HIGH LEVEL PROCESS FLOW: PROPOSAL & AGREEMENT MANAGEMENT	10
VII.	HIGH LEVEL PROCESS FLOW: PROCUREMENT & ACCOUNTS MANAGEMENT	11
VIII.	LOGICAL DATA MODEL: PROPOSAL & AGREEMENT MANAGEMENT	12
IX.	LOGICAL DATA MODEL: PROCUREMENT & ACCOUNTS MANAGEMENT.....	13
X.	FAIS BUSINESS REQUIREMENTS MATRIX (RULES & GOALS).....	14

I. Introduction / Background

The objective of the Food Aid Information System (FAIS) effort is to assist the Foreign Agricultural Service (FAS) in its efforts to consolidate and expand upon the capabilities of the food aid computer applications in use today. This new system will not only support all of FAS' food-aid-related functions, but will also integrate seamlessly into the USFARMS vision for the entire food aid business process by incorporating electronic communications and robust application integration.

The management and delivery of food aid is inherently complex. Adding to this complexity is the fact that multiple government Agencies play a role in this process and each maintains one or more computer application(s) that support this role. The food aid business process requires sharing this information among Agencies. While some "manual" sharing of information does take place, little or no direct electronic communication currently exists. This opens the door to degraded data integrity, and the inability to reconcile information maintained in one application with information contained in another.

To help overcome these obstacles, FAIS will be deployed as the much improved electronic enabler through which FAS will manage and administer its food aid programs. FAIS will be a single, integrated database that coherently mirrors and facilitates the entire food aid process. This database will contain all data relevant to the business processes that FAS performs in the administration of food aid programs. Some of this data will originate in FAS, while other data will originate in the information systems owned and operated by FAS' strategic partners.

Purpose of Document

The purpose of the Business Needs Document is to describe the needs of the Food Assistance Division (FAD) in managing the food aid programs; to describe the shortcomings that exist as a result of not having a consolidated database application; and to describe how the FAIS will overcome the existing shortcomings to meet the business needs of FAD.

This document also presents high level graphical representations of FAIS. The FAIS Functional Decomposition Model (Section IV) depicts how the business needs were decomposed into their component parts. The process flow diagrams (Section V, VI, VII, and VIII) illustrate the steps in each process for each major area. Finally, the relationship between the different kinds of food aid data is depicted in data model diagrams (Section IX and X).

Acronyms and Key Terms

A glossary of Acronyms and Key Terms for FAIS is located in a separate document, named "Definition of Acronyms and Key Terms," and is available upon request.

II. Mission Statement / System Concept

FAD requires the ability to manage and track all food aid accounts, proposals, and agreements along with their associated activities in one centralized information system. To that end, the goal for FAIS is to maximize food aid programming within its limited resources and personnel, create and track proposal submissions and negotiate agreements quickly and accurately, and prevent funds mismanagement through proper funds control.

CURRENT LEVEL OF FAS AUTOMATION OF FOOD AID BUSINESS FUNCTIONS		
BUSINESS FUNCTION	% AUTOMATED (FADS, Food Aid Online, PowerTrack)	% MANUAL (documents & spreadsheets)
1. Budget & Planning	10%	90%
2. Proposal Management	50%	50%
3. Agreement Management	10%	90%
4. Procurement Tracking	5%	95%
5. Accounts Management	10%	90%
6. Reporting & Performance Management	25%	75%
7. Work Management	5%	95%

This table provides an estimate for the level of automation in today's food aid processes. As a highly manual process, FAD administers its program through a set of non-integrated spreadsheets, emails and online systems. Duplicate data entry increases the probability of mistakes and the difficulty of managing a paper-intensive system make food aid a prime candidate for a consolidated data repository and web-based online application.

III. High Level Business Needs

To support FAS' mission and goals, the following High Level Business Needs have been identified for FAIS:

For the **Budget and Planning** area – FAD needs to accurately track usage of its annual USDA allocations and apportionments by maintaining a budget statement of planned vs. actual expenditures. Additionally, FAD requires a robust budgeting tool to assess the impact of changes to their budget by incorporating updates to their allocations and apportionments and through reimbursements for funds expended. Accurate tracking and reporting of the budget throughout the year (reconciliation) would allow FAD to proactively make better and timelier decisions as changes occur with agreements and previously approved budgets.

Currently, this process takes place with a variety of non-integrated spreadsheets with virtually no automation involved. Data entry is often duplicated, increasing chances for errors to be made.

For the **Proposal Management** area – FAD needs to receive and process Cooperating Sponsor (CS) proposals in a timely fashion. Receiving proposals involves the ability to quickly assess the merit of the proposal as compared to pre-defined criteria and route the proposal through the recommendation / approval process. Quicker response to CS proposals as well as a smoother approval/decision process would greatly improve FAS' image amongst its food assistance vendors and embassy attaches.

Currently, this process involves the most automation (FADS) in receiving proposals and loading them into a database. However, some proposals come into FAS via email, fax or US mail, requiring an analyst to key in the data, a slow, error-prone process. This process can be greatly improved with a better user interface. Assessment of proposals is done through FADS, but this user interface is deemed poor which results in analyst reluctance in using the system.

For the **Agreement** area – FAD needs to process and negotiate legal agreements for approved proposals in a shorter time than experienced today. The general consensus amongst the CSs is that USDA takes significantly more time to negotiate agreements than is reasonable. The small USDA staff for this function is further hampered by the hardcopy paper flow of documents.

Additionally, analysts need to work with the CS to amend agreements, close out agreements and create claims when required.

Currently, this process contains little automation. Processing agreements involves a manual process of building a Word document agreement by selecting appropriate legal language paragraphs from a repository. Frequent problems include the analyst making changes to the legal language without authority or inadvertently leaving out required language.

Several cooperating sponsors have noted that processing amendments, closing out agreements and processing claims take an excessive amount of time and actually hamper their accounting and tracking functions by keeping agreements open longer than necessary or not receiving funds when required.

For the **Procurement Tracking** area – The Transportation & Logistics Branch (TLB) needs to assist the CS in selecting commodities and arranging freight transportation for those commodities. FAD needs to be apprised of actual commodity and freight costs associated with approved agreements since it affects the food aid budget.

Currently, this process is accomplished by working with the Kansas City Commodity Office (KCCO) and their systems to determine the source of the lowest landed cost commodities and freight to give recommendations to the CS. The Transportation & Logistics Branch personnel keep track of their data through a variety of locally maintained spreadsheets, retyping data obtained from other sources. A time-consuming aspect of their work involves searching through these spreadsheets to answer questions about carriers, costs and delivery dates. There is no easy cross-reference to the approved agreements that FAD maintains.

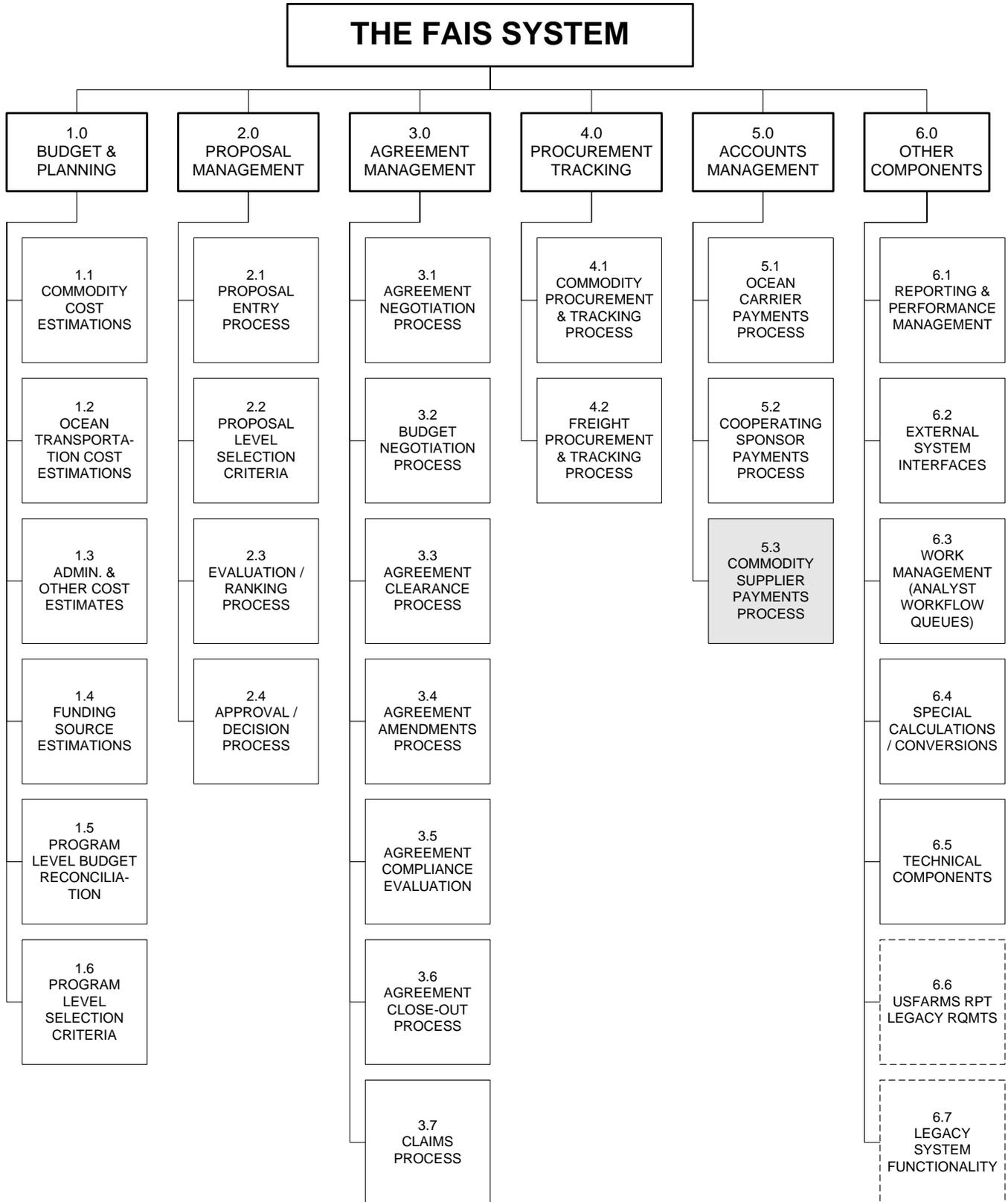
For the **Accounts Management** area – The Accounting and Reimbursable Agreements Division needs to process freight payments to ocean carriers and supply administrative cost payments to a CS. FAD needs to be apprised of these costs associated with approved agreements since it affects the food aid budget and the actual implementation of the agreement.

Currently, for the Food for Education (FFE) program, this process is accomplished through monitoring PowerTrack, a vendor package, which allows the Accounting and Reimbursable Agreements Division personnel to review requests for payments against approved agreements and prepare SF1166 forms for actual payment. Again, a set of spreadsheets are updated as payments are made but there is no easy cross-reference back to the approved agreements that FAD maintains.

Other business needs revolve around proper and accurate Reporting of all data encompassed by the food aid process. In particular, this section will allow reporting against performance measures that satisfy results-based outcome reporting requirements. Additionally, reports that enhance the overall management of food aid will include status of work assigned to analysts, status of the agreement negotiation process, CS performance, and CS compliance just to name a few. Providing a mechanism for better service to the Cooperating Sponsors, US Farmers, and priority countries needing food aid will be developed in this section as well.

IV. FAIS Functional Decomposition Model

The FAIS Functional Decomposition Model depicts Teracore's approach on segmenting the FAIS system into six major modules to cover the FAS food aid process and the High Level Business Needs identified in the previous section. Each of these modules includes a set of processes underneath them to depict the component functions within. Moreover, each of these processes will either be included in the FAIS system or will be handled by developing an external system interface with another system and sending or receiving data from that system.

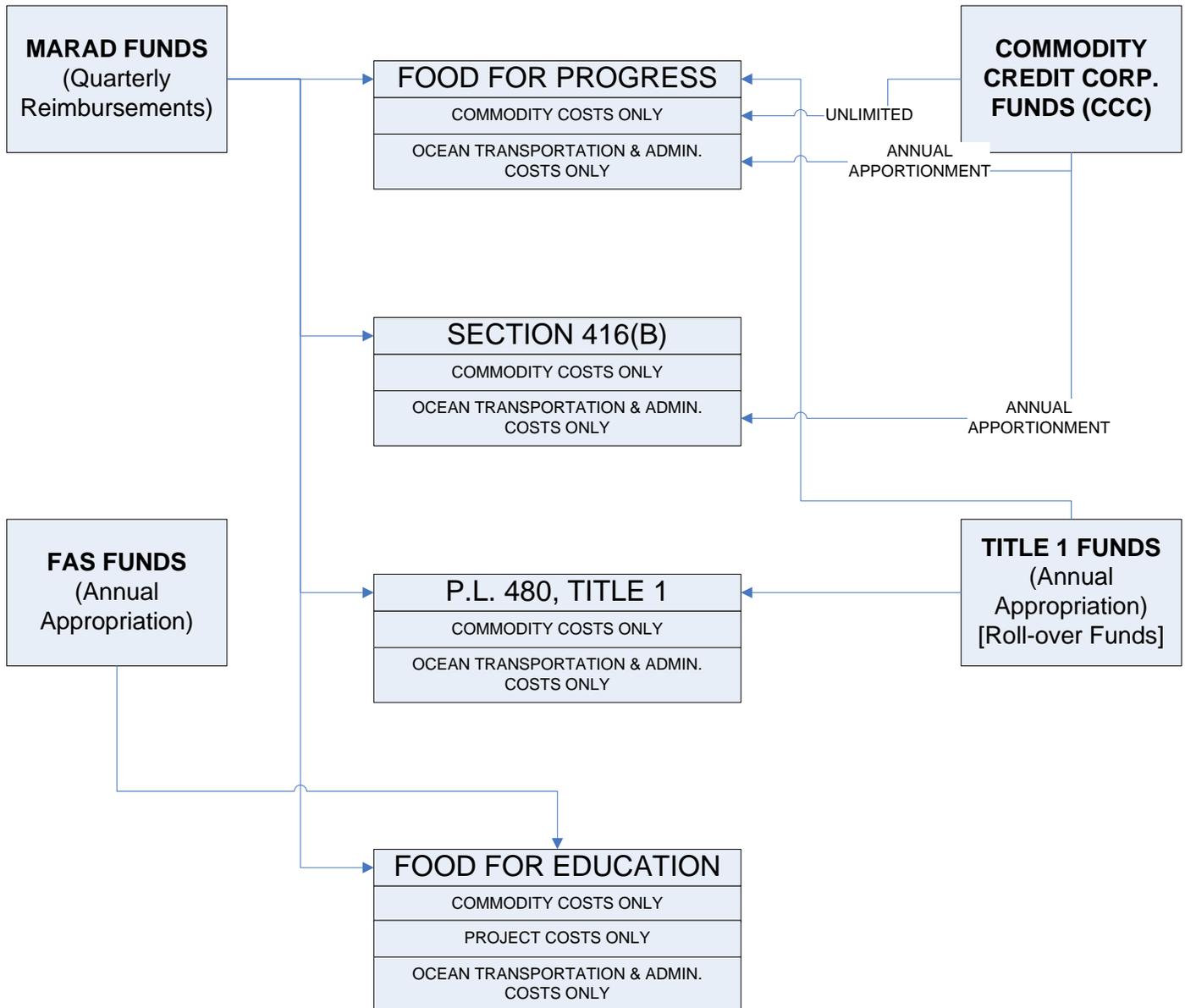


- Indicates a temporary place holder for a category of requirements;

-- Grayed shaded box indicates process done outside of FAIS, but included here for completeness

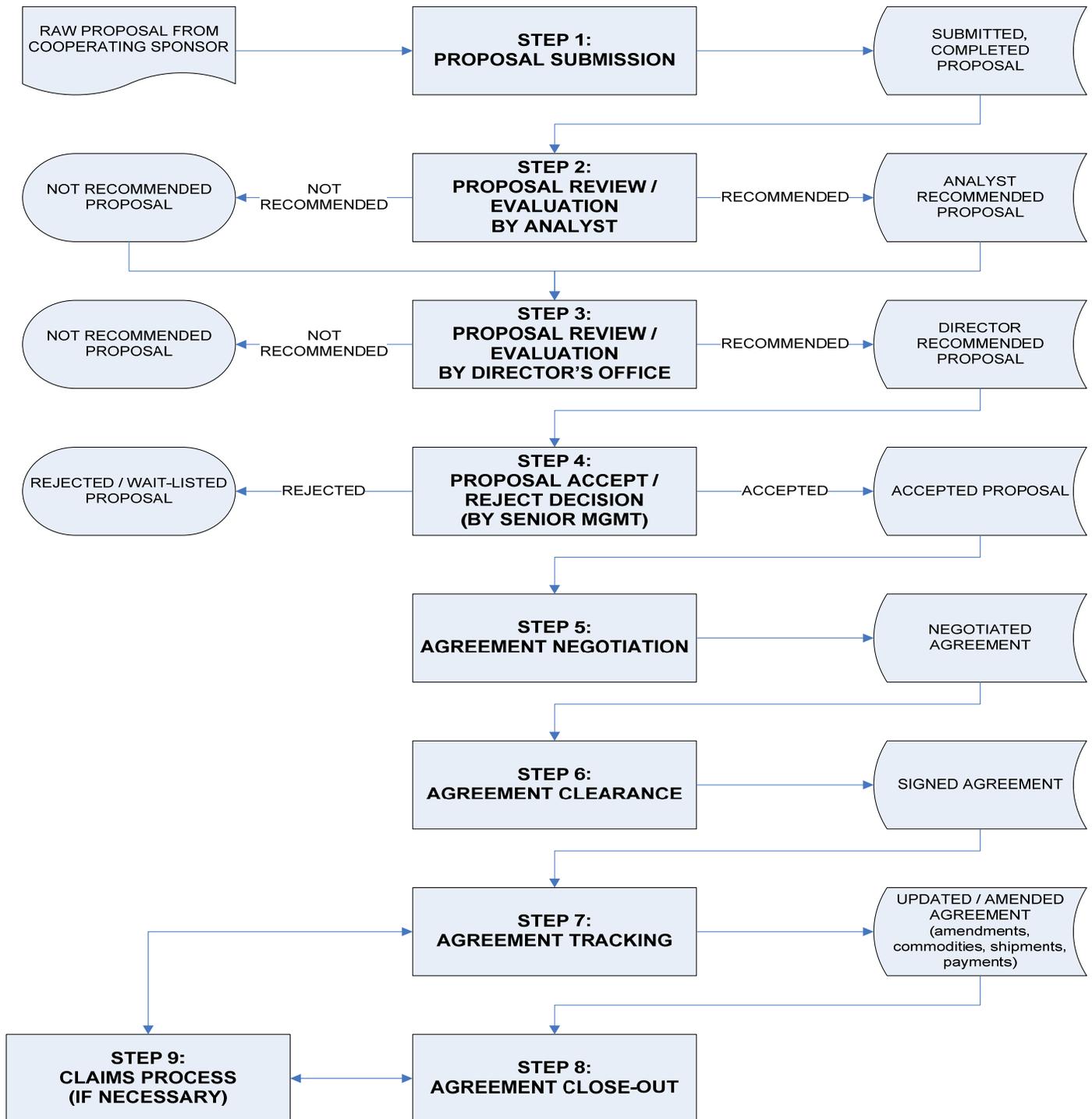
V. High Level Process Flow: Budget & Planning

The High Level Process Flow diagram for the Budget and Planning module depicts the Funding Sources for the Food for Progress, Section 416(B), P.L. 480, Title 1, and Food for Education Programs of FAD. The Funding Sources include the MARAD Funds, FAS Funds, Commodity Credit Corporation (CCC) Funds, and Title 1 Funds which can be applied to the various Programs.



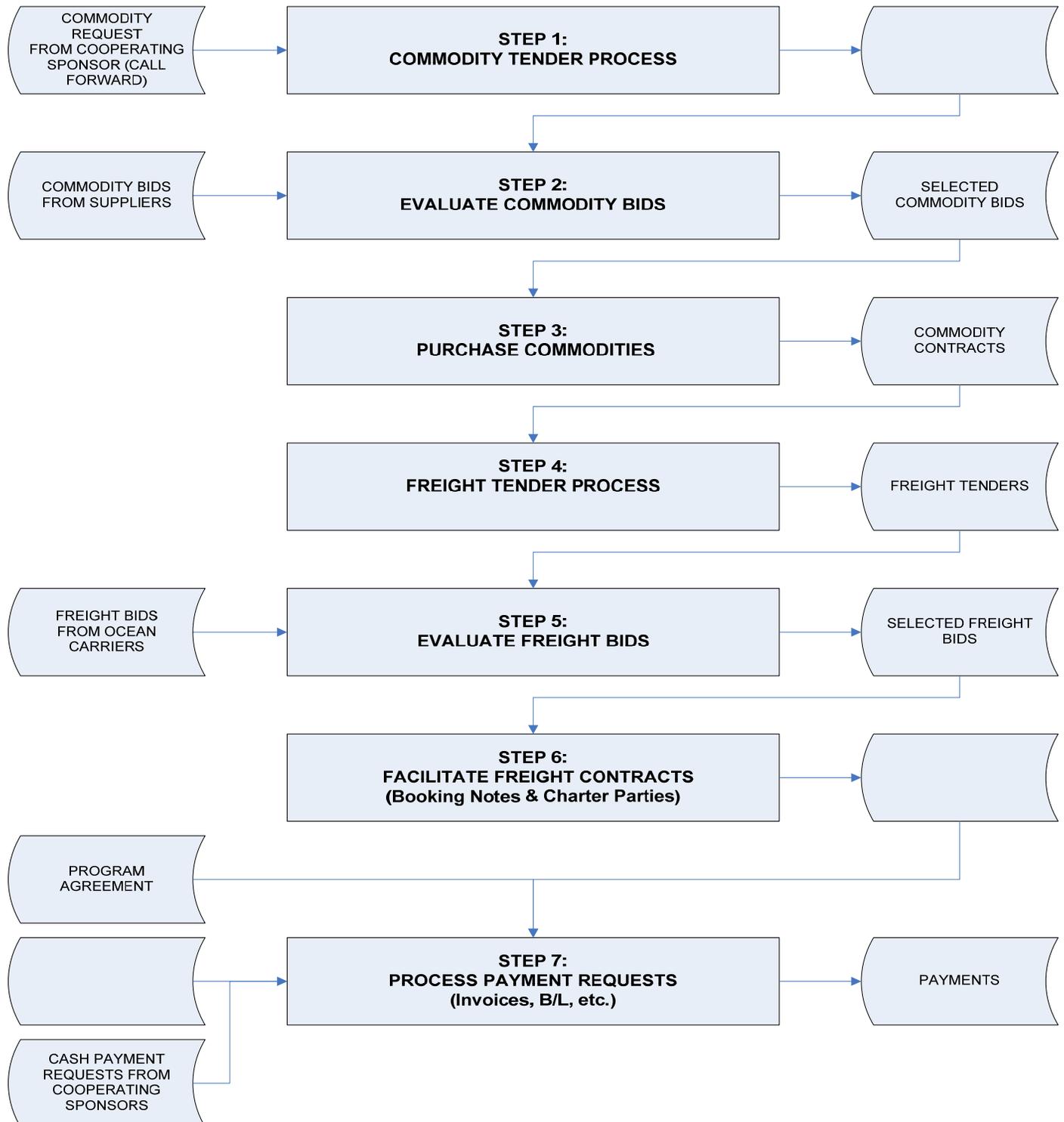
VI. High Level Process Flow: Proposal & Agreement Management

The High Level Process Flow diagram below depicts the high level steps involved in the Proposal Management and Agreement Management modules of the FAIS system.



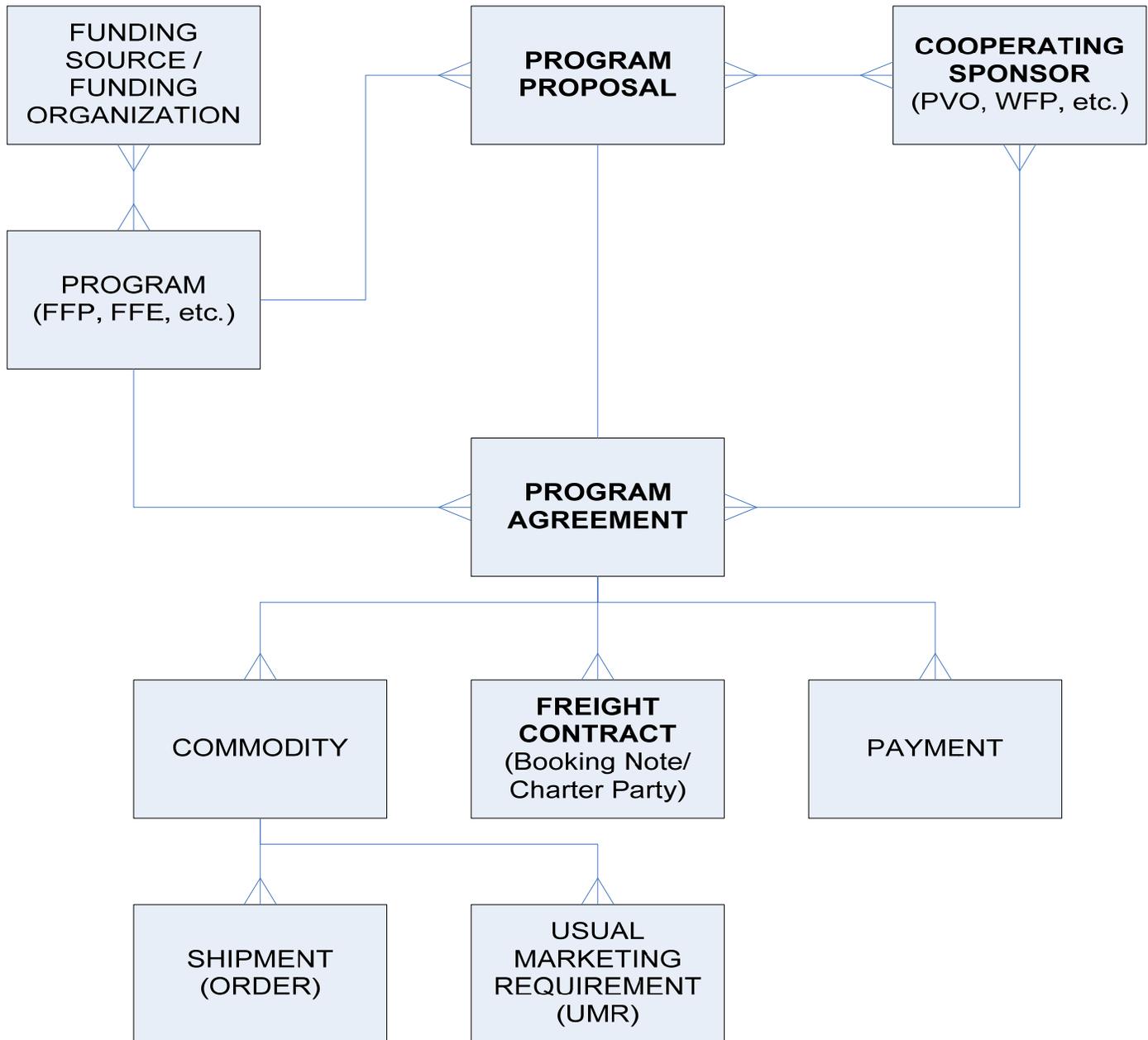
VII. High Level Process Flow: Procurement & Accounts Management

The High Level Process Flow diagram below depicts the high level steps involved in the Procurement Tracking and Accounts Management modules of the FAIS system.



VIII. Logical Data Model: Proposal & Agreement Management

The FAIS Logical Data Model below depicts the data relationships for the Proposal Management and Agreement Management modules of the FAIS system.

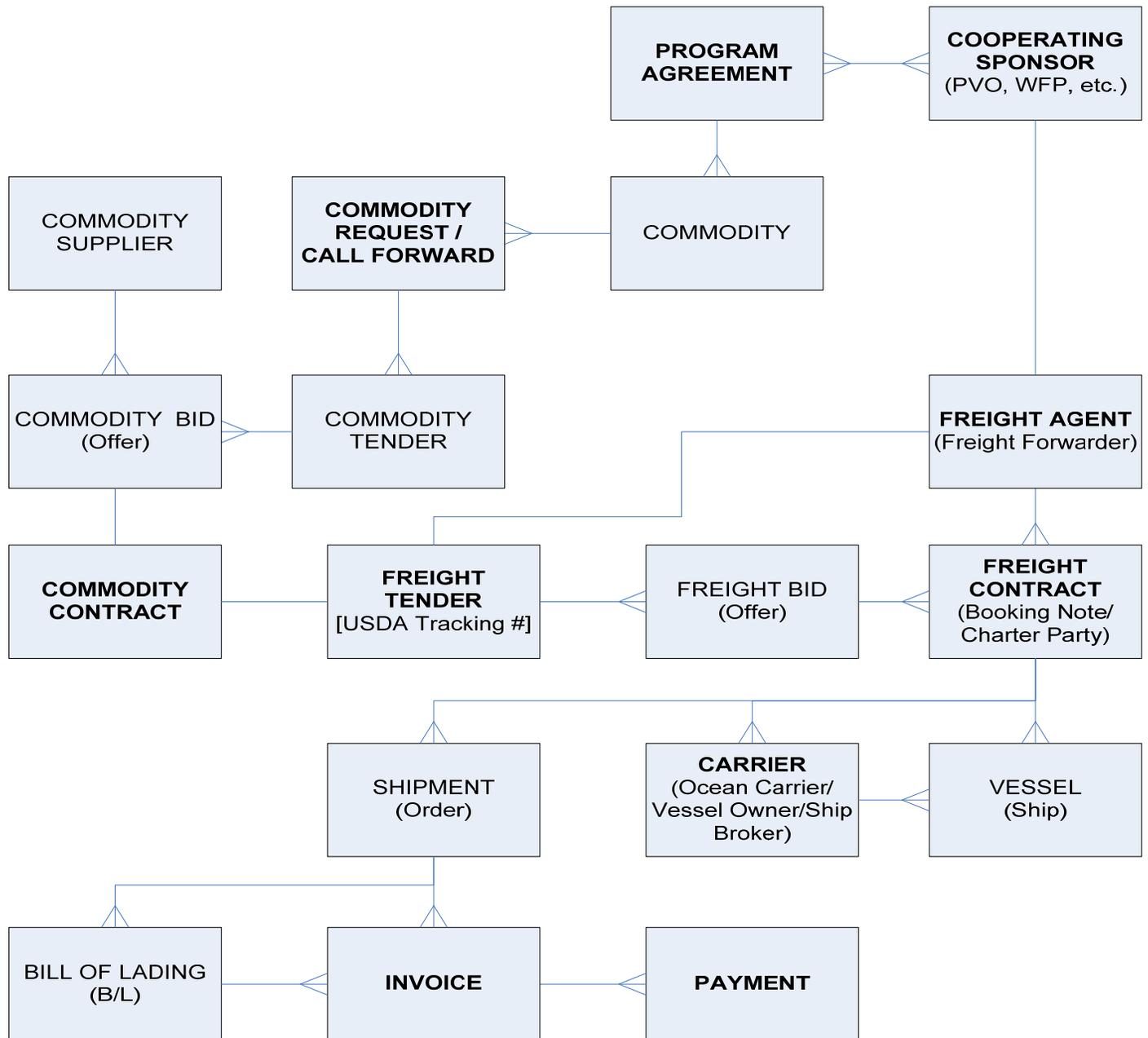


Legend:

-  Means a "one" to "many" relationship
-  Means a "many" to "many" relationship

IX. Logical Data Model: Procurement & Accounts Management

The FAIS Logical Data Model below depicts the data relationships for the Procurement Tracking and Accounts Management modules of the FAIS system.



Legend:

-  Means a “one” to “many” relationship
-  Means a “many” to “many” relationship

X. FAIS Business Requirements Matrix (Rules & Goals)

The FAIS Business Requirements Matrix table below lists out the Business Requirements that have been generated from the FAIS Functional Decomposition Model. These Business Requirements are listed in order according to their Order #. Descriptions of the following column headings are listed below:

- **ID** = unique requirement identifier; necessary for traceability
- **Order #** = hierarchy number; designates the parent/child functional area relative to the functional decomposition model
- **Complexity Level** = level of complexity or difficulty, relative to other requirements; can be low, medium, or high
- **Definition Level** = level of clarity, relative to other requirements; can be low, medium, or high; low means vague or ambiguous; high means clear, unambiguous, well-defined; all requirements should be high (or at least medium) before they are ready for design and construction
- **Priority Level** = level of importance, relative to other requirements; can be 1 (critical), 2 (important) or 3 (useful) [**Note:** priority is not shown in the following matrix, since all the requirements at this level are priority 1 (critical)]

(Also see **Appendix A** for the report layout view of these requirements)

ID	ORDER #	REQUIREMENT TITLE	COMPLEXITY LEVEL	DEFINITION LEVEL
1000	1	Support All Budget And Planning Functions	HIGH	LOW
1001	1.1	Support All Commodity Cost Estimation Functions	MEDIUM	LOW
1003	1.2	Support All Ocean Transportation Cost Estimation Functions	MEDIUM	LOW
1004	1.3	Support All Administrative And Other Cost Estimate Functions	MEDIUM	LOW
1005	1.4	Support All Funding Source Estimation Functions	HIGH	LOW
1006	1.5	Support All Program Level Budget Reconciliation Functions	HIGH	LOW
1007	1.6	Support All Program Level Selection Criteria Functions	MEDIUM	LOW
1008	2	Support All Proposal Management Functions	MEDIUM	MEDIUM
1009	2.1	Support All Proposal Entry Process Functions	MEDIUM	MEDIUM
1010	2.2	Support All Proposal Level Selection Criteria Functions	MEDIUM	LOW
1011	2.3	Support All Evaluation/Ranking Process Functions	MEDIUM	LOW
1012	2.4	Support All Approval/Decision Process Functions	MEDIUM	MEDIUM
1013	3	Support All Agreement Management Functions	MEDIUM	MEDIUM

ID	ORDER #	REQUIREMENT TITLE	COMPLEXITY LEVEL	DEFINITION LEVEL
1014	3.1	Support All Agreement Negotiation Process Functions	MEDIUM	LOW
1015	3.2	Support All Agreement Budget Negotiation Process Functions	MEDIUM	LOW
1016	3.3	Support All Agreement Clearance Process Functions	MEDIUM	LOW
1017	3.4	Support All Agreement Amendments Process Functions	MEDIUM	LOW
1018	3.5	Support All Agreement Compliance Evaluation Functions	MEDIUM	LOW
1019	3.6	Support All Agreement Close-Out Process Functions	MEDIUM	LOW
1020	3.7	Support All Claims Process Functions	MEDIUM	LOW
1021	4	Support All Procurement Tracking Functions	HIGH	MEDIUM
1022	4.1	Support All Commodity Procurement And Tracking Process Functions	MEDIUM	LOW
1023	4.2	Support All Freight Procurement And Tracking Process Functions	HIGH	LOW
1024	5	Support All Accounts Management Functions	HIGH	MEDIUM
1025	5.1	Support All Ocean Transportation Payments Process Functions	HIGH	LOW
1026	5.2	Support All Cooperating Sponsor Payment Process Functions (Cash Requests)	HIGH	LOW
1035	5.3	Support All Commodity Supplier Payments Process Functions	LOW	MEDIUM
1027	6	Support All Other Component Functions	HIGH	LOW
1028	6.1	Support All Reporting And Performance Management Functions	MEDIUM	LOW
1029	6.2	Support All External System Interface Functions	HIGH	LOW
1030	6.3	Support All Work Management (Analyst Workflow Queues) Functions	MEDIUM	LOW
1031	6.4	Support All Special Calculation/Conversion Functions	MEDIUM	LOW
1032	6.5	Support All Technical Component Functions	MEDIUM	LOW
1033	6.6	Support All USFARMS Report Legacy Requirements	MEDIUM	LOW
1034	6.7	Support All Existing Functionality In The Legacy Systems	MEDIUM	MEDIUM