

<b>Amendment History</b>				
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(Restricted for internal reference only)

### 3.5 FUNCTION POINT ANALYSIS AND RESOURCE ESTIMATION

This appendix presents a high-level estimation of manpower resources required for application development based on the functionalities proposed in the DDS (CLIS DDS and CSU DDS) in using the Function Point Analysis (FPA) technique. The first part of FPA was done in the last FS (CLIS DDS) and updated as per the revised functionalities. The second part of FPA addresses to the functionalities of CSU DDS. All estimation is conformed to the following guidelines:

- An Introduction to FPA [G19a] version 2.2 dated June 2003
- Resource Estimation Guide [G19] version 4.4 dated October 2003
- Function Point Analysis Counting Manual [PSS/FPA/M/1] version 1.1 dated June 2003

The FPA and resource estimation are based on the following assumptions:

1. The development effort per function point (FP) under PC LAN / Midrange project category is 3.97 for ITMU Contract Staff.
2. 1 man-day equals 7.5 man-hours.
3. 1 man-month equals 22.5 man-days.
4. 30% FP uncertainty factor is used in estimating the development efforts after taking the following considerations:
  - To ensure a secured, flexible and scalable proposed system to be implemented, a combination of technologies will be used for the proposed DDS including web-based multi-tier architecture, GIS technology and XML based electronic data interchange.
  - Considerable effort will be required to provide interface with the existing digital map data format conversion and validation software (currently the source code is not available) to minimize the manual efforts involved in the data format conversion process.
  - Considerable effort will be required in the design of manipulation of CSU source data that come from 13 PDs.
  - Considerable effort will be required to align the PDs' requirements on CSU data.
  - Considerable difficulty to achieve a reasonably accurate system size in early stage of System Development Life Cycle (SDLC) in order to estimate the resources for construction of a feasibility study depends on expert judgement.

3.5.1 FPA and Resource Estimation for CLIS DDS

3.5.1.1 Function Complexity Worksheets

The function complexity worksheets consist of following categories:

- Internal Logical File (ILF)
- External Interface File (EIF)
- External Input (EI)
- External Output (EO)
- External Enquiry (EQ)

The corresponding worksheet for each category is shown below.

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CLIS Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : Internal Logical File (ILF)

Description	RET	DET	Low	Avg.	High
<b>Source Spatial Data Hub</b>					
B1000 in Arc/Info Native	13	57	0	0	1
B5000 in Arc/Info Native	14	53	0	0	1
B10000 in DGN	12	127	0	0	1
B20000 in DGN	12	110	0	0	1
C1000 in Arc/Info Native	28	194	0	0	1
BG1000 in Arc/Info Native	1	16	1	0	0
RG1000 in Arc/Info Native	1	6	1	0	0
SG1000 in Arc/Info Native	1	13	1	0	0
<b>Multi-format Spatial Data Hub</b>					
B1000	13	57	0	0	1
B5000	14	53	0	0	1
B10000	12	127	0	0	1
B20000	12	110	0	0	1
C1000	28	194	0	0	1
RG1000	1	6	1	0	0
SG1000	1	13	1	0	0
<b>GeoCom</b>					
DOP5000	1	1	1	0	0
DOP10000	1	1	1	0	0
<b>Digital data from other Government Departments</b>					
Digital data from other Government Departments	1	1	1	0	0
<b>Customer and Sales Management Subsystem</b>					
Customer Information	1	14	1	0	0
Data Dictionary	1	15	1	0	0
Licence / Contract Information	1	10	1	0	0
Customer Order Record	1	14	1	0	0
Order Detail	1	8	1	0	0
Undertaking Information	1	11	1	0	0
Code tables	3	5	1	0	0

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
Project Name : CLIS Data Dissemination System for LandsD  
Date : 21-Apr-2004  
Function Type : Internal Logical File (ILF)

Description	RET	DET	Low	Avg.	High
Job Queue	1	8	1	0	0
Total			17	0	10

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
Project Name : CLIS Data Dissemination System for LandsD  
Date : 21-Apr-2004  
Function Type : External Interface File (EIF)

Description	RET	DET	Low	Avg.	High
Nil			0	0	0
Total			0	0	0

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CLIS Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Input (EI)

Description	FTR	DET	Low	Avg.	High
RF42 Archiving and purging conversion error log	3	5	0	0	1
RF47 Archiving and purging the Customer and Sales Record Subsystem Records	4	57	0	0	1
RF49 Archiving and purging job queue	1	11	1	0	0
UF05-1 Maintaining the customer profile records (Addition)	1	14	1	0	0
UF05-2 Maintaining the customer profile records (Amendment)	1	14	1	0	0
UF05-3 Maintaining the customer profile records (Deletion)	1	1	1	0	0
UF06-1 Maintain digital map product information (Addition)	2	12	0	1	0
UF06-2 Maintain digital map product information (Amendment)	2	12	0	1	0
UF06-3 Maintain digital map product information (Deletion)	2	2	1	0	0
UF07 Update licence expiry date	2	4	1	0	0
UF08 Renew customer licence record	1	10	1	0	0
UF09-01 Update licence record such as change of computer terminal information	1	10	1	0	0
UF09-02 Update customer licence / cessation information	1	10	1	0	0
UF10 Update payment status upon payment confirmation (for offline payment by demand note)	3	6	0	0	1
UF17-1 Maintaining the code tables for CLIS DDS (Addition)	3	5	0	0	1
UF17-2 Maintaining the code tables for CLIS DDS (Amendment)	3	5	0	0	1
UF17-3 Maintaining the code tables for CLIS DDS (Deletion)	3	3	0	1	0
UF20-1 Maintaining the undertakings information (Addition)	1	11	1	0	0
UF20-2 Maintaining the undertakings information (Amendment)	1	11	1	0	0
UF20-3 Maintaining the undertakings information (Deletion)	1	1	1	0	0
UF22-1 Maintaining the online technical support information (Addition)	2	8	0	1	0
UF22-2 Maintaining the online technical support information (Amendment)	2	8	0	1	0
UF22-3 Maintaining the online technical support information (Deletion)	2	2	1	0	0
DF02-1 Create customer order information	7	51	0	0	1
DF02-2 Logged the customer order information into the job queue	2	11	0	1	0
DF02-3 Create new licence number / undertaking contract number for each order	3	4	0	1	0
DF11-1 Perform job queue monitoring and processing	1	11	1	0	0
DF12 Prioritization the job orders in the job queue	1	11	1	0	0
DF13 Create Demand Note	1	14	1	0	0
DF19-1 Convert into Multi-format Spatial Data Hub for B1000 digital map data	13	57	0	0	1
DF19-2 Convert into Multi-format Spatial Data Hub for B5000 digital map data	14	53	0	0	1
DF19-3 Convert into Multi-format Spatial Data Hub for B10000 digital map data	12	127	0	0	1
DF19-4 Convert into Multi-format Spatial Data Hub for B20000 digital map data	12	110	0	0	1

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CLIS Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Input (EI)

Description	FTR	DET	Low	Avg.	High
DF19-5 Convert into Multi-format Spatial Data Hub for C1000 digital map data	28	194	0	0	1
DF19-6 Convert into Multi-format Spatial Data Hub for G1000 digital map data	3	35	0	0	1
DF19-7 Convert into Multi-format Spatial Data Hub (Filter the restricted layer in SSDH)	6	126	0	0	1
UF24-1 Update Source Spatial Data Hub with digital map data from CLIS (B1000 in Arc/Info Native)	13	57	0	0	1
UF24-2 Update Source Spatial Data Hub with digital map data from CLIS (B5000 in Arc/Info Native)	14	53	0	0	1
UF24-3 Update Source Spatial Data Hub with digital map data from CLIS (B10000 in DGN)	12	127	0	0	1
UF24-4 Update Source Spatial Data Hub with digital map data from CLIS (B20000 in DGN)	12	110	0	0	1
UF24-5 Update Source Spatial Data Hub with digital map data from CLIS (C1000 in Arc/Info Native)	28	194	0	0	1
UF24-6 Update Source Spatial Data Hub with digital map data from CLIS (BG1000 in Arc/Info Native)	1	16	0	1	0
UF24-7 Update Source Spatial Data Hub with digital map data from CLIS (RG1000 in Arc/Info Native)	1	6	1	0	0
UF24-8 Update Source Spatial Data Hub with digital map data from CLIS (SG1000 in Arc/Info Native)	1	13	1	0	0
UF24-9 Update revision date of the digital map sheet information	3	5	0	0	1
DF09 Suspending the batch conversion	3	7	0	0	1
DF10 Reactivate the conversion process	3	7	0	0	1
DF17 Error log for update of the Source Spatial Data Hub with the digital map data from CLIS	1	5	1	0	0
DF18 Reactivating the update of the Source Spatial Data Hub with digital map data from CLIS	3	8	0	0	1
UF30-1 Maintaining user accounts table (Addition)	1	5	1	0	0
UF30-2 Maintaining user accounts table (Amendment)	1	5	1	0	0
UF30-3 Maintaining user accounts table (Deletion)	1	1	1	0	0
UF26-1 Maintaining access right control table (Addition)	1	5	1	0	0
UF26-2 Maintaining access right control table (Amendment)	1	5	1	0	0
UF26-3 Maintaining access right control table (Deletion)	1	1	1	0	0
DF48 Encryption/decryption for transmission through a secured channel	2	7	0	1	0
<b>Total</b>			25	9	22

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CLIS Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Output (EO)

Description	FTR	DET	Low	Avg.	High
RF17 Printing of the licence renewal fee statement	2	7	0	1	0
RF18 Interface with CLIS to extract the revision history information of digital map products	10	120	0	0	1
RF21 Licence expiration / Cessation early reminder (Generate a licence or cessation early reminder within the expiry period)	2	10	0	1	0
RF23 Generating a licence record status / cessation report for the authorised LandsD users	2	16	0	1	0
RF44 Generating ad hoc reports	5	57	0	0	1
UF05-4 Printing of the customer profile records	2	14	0	1	0
UF06-5 Printing of digital map product information	2	12	0	1	0
UF17-5 Printing of the code tables for CLIS DDS	3	5	1	0	0
UF20-5 Printing of the Undertakings information	1	11	1	0	0
UF22-5 Printing of online technical support information	2	6	0	1	0
DF04-1 Generate order form / memo (Generate a map order form)	3	12	0	1	0
DF04-2 Generate order form / memo (Generate an ordering memo)	2	5	1	0	0
DF11-2 Job queue monitoring and processing (Perform the data compression for the requested digital map data)	0	0	0	0	0
DF13-2 Print demand note	2	14	0	1	0
DF16-1 Issuing the electronic news bulletin (Generate the content of electronic news bulletin)	2	12	0	1	0
DF16-2 Issuing the electronic news bulletin (Send electronic news bulletin via email)	2	12	0	1	0
DF28-2 Assemble the extracted digital map data and compress data	20	300	0	0	1
DF28-3 Write the required files onto the appropriate media	2	6	0	1	0
DF28-4 Write the customer information in the header file on all disks	2	10	0	1	0
DF28-5 Update the job queue	3	9	0	1	0
DF29 Send an E-mail notification to customer to download the data	2	11	0	1	0
DF30 Create hyperlink to a corresponding location for customer to download demand note	1	14	1	0	0
DF37-1 Gnerate order documentation / labels (Print the order documentation / labels)	3	12	0	1	0
DF37-2 Gnerate order documentation / labels (Send order documentation to customer by e-mail)	3	6	0	1	0
DF38-2 Create hyperlink to a corresponding location for customer to download digital map data	2	4	1	0	0
DF50-2 Print demand note	1	14	1	0	0
RF52 Job queue report	2	15	0	1	0
<b>Total</b>			6	17	3

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CLIS Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Inquiry (EQ)

Description	FTR	DET	Low	Avg.	High
RF01-1 Access customer accounts information (For account details)	2	10	0	1	0
RF01-2 Access customer accounts information (For current digital map sheets and digital map products held)	2	15	0	1	0
RF01-3 Access customer accounts information (For details of previous transactions)	2	15	0	1	0
RF01-4 Access customer accounts information (Welcome screen to visit SMO website)	1	2	1	0	0
RF01-5 Access customer accounts information (Disclaimer screen)	1	2	1	0	0
RF01-6 Access customer accounts information (User login / logout)	2	5	1	0	0
RF04 Provide a wizard or computer guide for selection of the digital map product	3	5	1	0	0
RF06-1 Display digital map sheet index and revision details	3	5	1	0	0
RF06-2 Provide zoom and pan facilities to allow customer to locate the area of interest	1	2	1	0	0
RF06-3 Display overview of Hong Kong Map	1	2	1	0	0
RF06-4 Display Hong Kong Map by district level or sub-district level	1	2	1	0	0
RF06-5 Display map legend	1	2	1	0	0
RF07-1 Select digital map product by standard areas	3	9	0	1	0
RF07-2 Select digital map sheet product by sheet reference number	3	9	0	1	0
RF07-3 Select digital map product by cursor based selection on sheet index	3	9	0	1	0
RF07-4 Select digital map product by the HK Grid Coordinate	3	9	0	1	0
RF07-5 Retrieve digital map product sample	8	12	0	0	1
RF07-6 Select digital map product of other Government department	3	9	0	1	0
RF07-7 Select digital map product by specific feature layers	3	9	0	1	0
RF07-8 Select digital map product by category of data dictionary	3	6	0	1	0
RF10-1 Identification of the updated digital map sheet since last purchase	5	9	0	0	1
RF10-2 Highlights those updated sheets since last purchase by the customer	2	6	0	1	0
RF27-1 Provide online technical support information (Provided detailed digital map product descriptions)	3	5	1	0	0
RF27-2 Provide online technical support information (Provided future development, sales policy and products availability)	3	5	1	0	0
RF27-3 Provide online technical support information (Provided instruction in using the digital map product)	3	5	1	0	0
RF27-4 Provide online technical support information (Provided Frequently Asked Question (FAQ))	3	5	1	0	0
UF06-4 Enquiry of digital map product information	2	12	0	1	0
UF17-4 Enquiry of the code tables for DDS	3	5	1	0	0

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CLIS Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Inquiry (EQ)

Description	FTR	DET	Low	Avg.	High
UF20-4 Enquiry of the Undertakings information	1	11	1	0	0
UF22-4 Enquiry of the online technical support information	2	8	0	1	0
DF28-1 Extraction the required digital map data based on the job queue detail	1	11	1	0	0
DF38-1 Verify the customer login information	1	5	1	0	0
DF50-1 Enquiry of the demand note record	1	14	1	0	0
RF31 System log audit	1	10	1	0	0
RF32 Enquiry on the system log	1	10	1	0	0
RF33 System log report generation	1	10	1	0	0
RF34 Archiving and purging system log records	1	10	1	0	0
RF35 Restoring archived system log	1	10	1	0	0
RF36 Create activities audit log	1	10	1	0	0
RF37 Enquiry activities log	1	10	1	0	0
RF38 Activities log report	1	10	1	0	0
RF39 Archiving and purging activities log record	1	10	1	0	0
RF42 Archiving and purging conversion error log	1	10	1	0	0
UF30-4 Maintaining user accounts table (Search)	1	5	1	0	0
UF26-4 Maintaining access right control table (Search)	1	5	1	0	0
RF45 Backing up the system logs	1	10	1	0	0
RF47 Archiving and purging the system records	1	10	1	0	0
RF48 Restoring the archived system records	1	10	1	0	0
RF49 Archiving and purging job queue	1	10	1	0	0
RF51 Enquiry job queue	2	15	0	1	0
<b>Total</b>			34	14	2

3.5.1.2 FPA worksheet for Development Project

**FPA WORKSHEET FOR DEVELOPMENT PROJECT**

Project ID : SuppFS DDS  
 CLIS Data Dissemination System for  
 Project Name : LandsD  
 Date : 21-Apr-2004

	LOW	AVERAG E	HIGH	FP
Internal Logical File (ILF) :	17	0	10	269
External Interface File (EIF) :	0	0	0	0
External Input (EI) :	25	9	22	243
External Output (EO) :	6	17	3	130
External Inquiry (EQ) :	34	14	2	170
Total Unadjusted F.P. :	812			

**GENERAL SYSTEM CHARACTERISTICS**

Data Communication :	4	Online Update :	4
Distributed Processing :	5	Complex Processing :	2
Performance :	2	Reusable Code :	3
Heavily Used Configuration :	3	Installation Ease :	3
Transaction Rate :	4	Operational Ease :	4
Online Data Entry :	4	Multiple Sites :	4
End-user Efficiency :	4	Ease of Change :	3

**Adjusted Function  
 Point : 925.68**

3.5.2 FPA and Resource Estimation for CSU DDS

3.5.2.1 Function Complexity Worksheets

The function complexity worksheets consist of following categories:

- Internal Logical File (ILF)
- External Interface File (EIF)
- External Input (EI)
- External Output (EO)
- External Enquiry (EQ)

The corresponding worksheet for each category is shown below.

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 CSU Data Dissemination System for  
 Project Name : LandsD  
 Date : 21-Apr-2004  
 Function Type : Internal Logical File (ILF)

Description	RET	DET	Low	Avg.	High
<b>Received and Extracted CSU Data</b>					
Building CSU Data	22	149	0	0	1
Lot CSU Data	20	85	0	0	1
Road Centreline CSU Data	4	14	1	0	0
<b>Centralized CSU Data: Building CSU</b>					
Building Geographical Info	1	12	1	0	0
Proposed Tower Polygon	1	3	1	0	0
Proposed Podium Polygon	1	3	1	0	0
Active Tower Polygon	1	4	1	0	0
Active Podium Polygon	1	3	1	0	0
Demonlshed Tower Polygon	1	3	1	0	0
Demonlshed Podium Polygon	1	3	1	0	0
Building Structural Info	1	14	1	0	0
Geo-Struct Mapping	1	4	1	0	0
Building OP Info	1	3	1	0	0
OP Info	1	4	1	0	0
Building Lot No In OP	1	15	1	0	0
Development Name	1	5	1	0	0
Building Development Name	1	3	1	0	0
Building Name	1	5	1	0	0
Building Address	1	36	1	0	0
Street Location	1	8	1	0	0
Street Name	1	9	1	0	0
Location Name	1	3	1	0	0
Data Provision Date	1	3	1	0	0
Participating Department	1	2	1	0	0
Renamed CSU	1	4	1	0	0
<b>Centralized CSU Data: Lot CSU</b>					
Land Info	1	20	1	0	0
Cert of Compliance Date	1	2	1	0	0
Resumption Notice	1	3	1	0	0
Land Resumption Notice	1	2	1	0	0

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 CSU Data Dissemination System for  
 Project Name : LandsD  
 Date : 21-Apr-2004  
 Function Type : Internal Logical File (ILF)

Description	RET	DET	Low	Avg.	High
Lot Type Name	1	4	1	0	0
Log Type District	1	2	1	0	0
Land Classification	1	2	1	0	0
Area Unit	1	2	1	0	0
Land Ownership	1	2	1	0	0
Lease Condition Type	1	2	1	0	0
Lease Use	1	2	1	0	0
Lot Polygon	1	3	1	0	0
Overlap Lot Polygon	1	3	1	0	0
Lot Register	1	15	1	0	0
Lot Register Lot Type	1	3	1	0	0
Lot Register Area	1	2	1	0	0
Memorial	1	8	1	0	0
Lot Register Memorial	1	2	1	0	0
Memorial Nature	1	4	1	0	0
Subdivision	1	2	1	0	0
Centralized CSU Data: Road Centreline CSU					
Road Segment Layer	1	6	1	0	0
Road Intersection Layer	1	2	1	0	0
Road Intersection	1	3	1	0	0
Road Name	1	3	1	0	0
User Access Right Control Table	1	5	1	0	0
Code Tables	1	5	1	0	0
Task and Schedule Table	1	5	1	0	0
Packed CSU Data	46	248	0	0	1
<b>Total</b>			<b>50</b>	<b>0</b>	<b>3</b>

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
Project Name : CSU Data Dissemination System for LandsD  
Date : 21-Apr-2004  
Function Type : External Interface File (EIF)

Description	RET	DET	Low	Avg.	High
Nil			0	0	0
Total			0	0	0

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CSU Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Input (EI)

Description	FTR	DET	Low	Avg.	High
CF01 Provide CSU submission user interface for DO	1	5	1	0	0
CF02 Store received CSU data from DO	1	5	1	0	0
CF03 Validate CSU data from DO	1	5	1	0	0
CF04 Timestamp CSU data from DO	1	5	1	0	0
CF05 Record transaction of submitted CSU data	1	5	1	0	0
CF07-1 Manipulate spatial and textual data (Building CSU spatial and textual data)	22	149	0	0	1
CF07-2 Manipulate spatial and textual data (Lot CSU spatial and textual data)	20	85	0	0	1
CF07-3 Manipulate spatial and textual data (Road Centreline CSU spatial and textual data)	4	14	0	0	1
CF08 Store manipulated data into the spatial database	46	248	0	0	1
CF09-1 Validate data during manipulation (Building CSU data)	22	149	0	0	1
CF09-2 Validate data during manipulation (Lot CSU data)	20	85	0	0	1
CF09-3 Validate data during manipulation (Road Centreline CSU data)	4	14	0	0	1
CF10 Timestamp the manipulated CSU Data	1	5	1	0	0
CF11 Trigger task for CSU data extraction	1	5	1	0	0
CF12 Plan and manage task timetable for CSU data extraction	1	5	1	0	0
CF13-1 Define criteria and rules for data extraction (Building CSU data)	22	149	0	0	1
CF13-2 Define criteria and rules for data extraction (Lot CSU data)	20	85	0	0	1
CF13-3 Define criteria and rules for data extraction (Road Centreline CSU data)	4	14	0	0	1
CF15 Track data extraction record	1	5	1	0	0
CF16 Record transaction of manipulated CSU data	1	5	1	0	0
CF17 Validate received data from DAMin/DAMout	1	5	1	0	0
CF19-2 Disseminated CSU data to DU (Searching criteria for data)	1	5	1	0	0
CF21 Assign order ID for download activity (every user request)	1	5	1	0	0
CF26 Record transaction of download CSU data	1	5	1	0	0
CF34-1 Maintain Metadata of CSU (Addition)	3	60	0	0	1
CF34-2 Maintain Metadata of CSU (Amendment)	3	60	0	0	1
CF34-3 Maintain Metadata of CSU (Deletion)	3	3	0	1	0
UF27-1 Maintain code table (Addition)	1	10	1	0	0
UF27-2 Maintain code table (Amendment)	1	10	1	0	0
UF27-3 Maintain code table (Deletion)	1	1	1	0	0
UF28-1 Maintain system parameters (Addition)	1	10	1	0	0
UF28-2 Maintain system parameters (Amendment)	1	10	1	0	0
UF28-3 Maintain system parameters (Deletion)	1	1	1	0	0
UF29 Synchronization of system date and time	1	1	1	0	0
<b>Total</b>			21	1	12

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CSU Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Output (EO)

Description	FTR	DET	Low	Avg.	High
CF14-1 Extract CSU Files to conform to file format standards (in E00 format)	46	248	0	0	1
CF14-2 Extract CSU Files to conform to file format standards (in DGN format)	46	248	0	0	1
CF19-1 Disseminated CSU data to DU (Display)	1	5	1	0	0
CF22 Pack selected CSU files	1	5	1	0	0
CF23 Embed password, terms and conditions into the package file	1	1	1	0	0
CF24 Checksum on the package file	1	1	1	0	0
CF28 Email acknowledge of request CSU package file hyperlink for re-download	1	5	1	0	0
CF29 Management report for update frequency and number of records for each provision	2	10	0	1	0
CF30 Management report for successful / failure CSU data transfer	2	10	0	1	0
CF31 Management report for CSU data release delat versions and details	2	10	0	1	0
CF32 User report on user information and access right for PDs	2	10	0	1	0
CF33 User report on User Activities	2	10	0	1	0
CF35 Submit Metadata to Metadata Catalogue System (MCS)	3	60	0	0	1
<b>Total</b>			5	5	3

**FUNCTION COMPLEXITY WORKSHEET**

Project ID : SuppFS DDS  
 Project Name : CSU Data Dissemination System for LandsD  
 Date : 21-Apr-2004  
 Function Type : External Inquiry (EQ)

Description	FTR	DET	Low	Avg.	High
CF06 Acknowledge on submission	1	5	1	0	0
CF18 Acknowledge on receipt of data from DAMin/DAMout	1	5	1	0	0
CF20 Display useful contact point information	1	5	1	0	0
CF25 Remove outdate download package files by scheduler	1	5	1	0	0
CF27 Acknowledge on CSU data download	1	5	1	0	0
CF34-4 Maintain Metadata of CSU (Search)	3	60	0	0	1
UF27-4 Maintain code table (Search)	1	10	1	0	0
UF28-4 Maintain system parameters (Search)	1	10	1	0	0
<b>Total</b>			7	0	1

3.5.2.2 FPA worksheet for Development Project

**FPA WORKSHEET FOR DEVELOPMENT PROJECT**

Project ID : SuppFS DDS  
 CSU Data Dissemination System for  
 Project Name : LandsD  
 Date : 21-Apr-2004

	LOW	AVERAGE	HIGH	FP
Internal Logical File (ILF) :	50	0	3	395
External Interface File (EIF) :	0	0	0	0
External Input (EI) :	21	1	12	139
External Output (EO) :	5	5	3	66
External Inquiry (EQ) :	7	0	1	27
Total Unadjusted F.P. :	627			

**GENERAL SYSTEM CHARACTERISTICS**

Data Communication :	4	Online Update :	4
Distributed Processing :	5	Complex Processing :	2
Performance :	2	Reusable Code :	3
Heavily Used Configuration :	3	Installation Ease :	3
Transaction Rate :	4	Operational Ease :	4
Online Data Entry :	4	Multiple Sites :	4
End-user Efficiency :	4	Ease of Change :	3

**Adjusted Function  
 Point : 714.78**