



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

ITAAC Inspection

Scheduling

August 28, 2008



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Objectives

- To meet NRC needs
 - Right place at the right time tool
 - Effectively implement ITAAC inspections / closure
 - Real time updates as schedule moves
- To minimize unnecessary applicant burden
 - Provides for a structured organization of the ITAAC requirements
 - Appropriately focus NRC resources
 - Optimize NRC / applicant interface
 - Efficient communications (seamless data transfer)



Scheduling Platforms

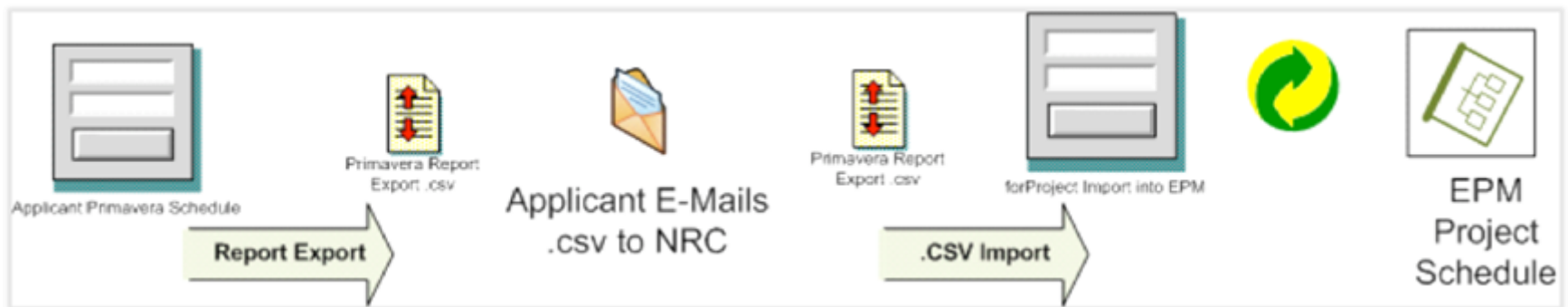
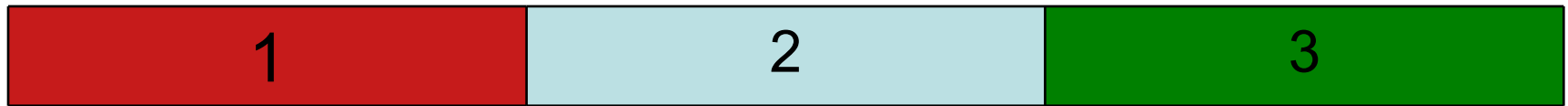
Applicant

NRC

Primavera scheduling tools <ul style="list-style-type: none">• P3• P5• P6• Other potential scheduling platforms	Enterprise Project Management (EPM) <ul style="list-style-type: none">• Microsoft Project Pro• Microsoft Project Server• Microsoft SharePoint• SQL Server
Email	Email (Microsoft Outlook)



Proof of Concept





Scheduling Interface

- Primavera (industry) to Microsoft Project Pro (NRC)
- Activity code dictionary
 - Combined ITAAC and Structures, Systems & Components (SSCs) activity code scheme
 - Meets necessity of exporting Primavera data to maintain NRC scheduling architecture
 - Activity code mapping (forProject™)
 - Provides the ability to import data and correctly bin

Primavera : AP1000 ITAAC | Activity Codes

File Edit View Project Enterp

Activity Codes

Global EPS Project

Select Activity Code

AP1000 ITAAC Example Modify...

Display: All Values

Code Value	Description
2.2.02.05a.iii	AS-Installed Inspection (Seismic Type Test Bounded)
2.2.02.05a.iii.01	PCCWST
2.2.02.05a.iii.02	PCS Water Distribution Bucket
2.2.02.05a.iii.03	PCS Water Distribution Weir
2.2.02.05a.iii.04	PCCWST Isolation AOV
2.2.02.05a.iii.05	PCCWST Isolation MOV
2.2.02.05a.iii.06	PCCWST Isolation Block MOV
2.2.02.05a.iii.07	PCS Recirculation Loop Manual Isolation Valve
2.2.02.05a.iii.08	PCCWST Supply to FPS Manual Isolation Valve
2.2.02.05a.iii.09	PCS Makeup to SFS Manual Valve
2.2.02.05a.iii.10	PCS Water Makeup Isolation Stop Check Valve
2.2.02.05a.iii.11	PCS Flow Sensor
2.2.02.05a.iii.12	Containment Pressure Sensor
2.2.02.05a.iii.13	PCCWST Level Sensor
2.2.02.05a.iii.14	Containment High-range Pressure Sensor
2.6.03.02.ii	Type Test/ Analysis (Seismic)
2.6.03.02.ii.01	125 Vdc 24-hour Battery Bank
2.6.03.02.ii.02	125 Vdc 72-hour Battery Bank
2.6.03.02.ii.03	Spare 125 Vdc Battery Bank
2.6.03.02.ii.04	24-hour Battery Charger
2.6.03.02.ii.05	72-hour Battery Charger
2.6.03.02.ii.06	Spare Battery Charger
2.6.03.02.ii.07	125 Vdc Distribution Panel
2.6.03.02.ii.08	120 Vac Distribution Panel
2.6.03.02.ii.09	Fuse Panel
2.6.03.02.ii.10	Fused Transfer Switch Box
2.6.03.02.ii.11	Spare Fused Transfer Switch Box
2.6.03.02.ii.12	125 Vdc MCC
2.6.03.02.ii.13	125 Vdc Switchboard
2.6.03.02.ii.14	Regulating Transformer
2.6.03.02.ii.15	24-hour Inverter
2.6.03.02.ii.16	72-hour Inverter

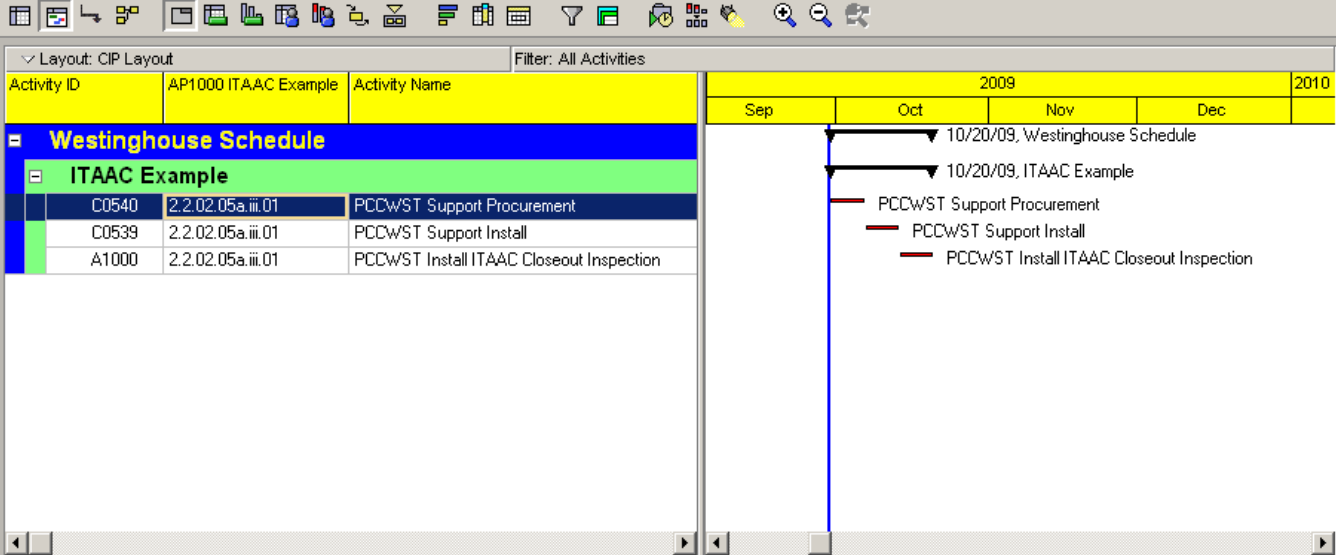
Close Add Delete Cut Copy Paste Help

2010

Start Primavera Project Ma... Control Panel Primavera ITAAC Coding... 10:05 AM

Activities

- Projects
- Resources
- Reports
- Tracking
- WBS
- Activities
- Assignments
- WPs & Docs
- Expenses
- Thresholds
- Issues
- Risks



General Status Resources Relationships Codes Notebook

Activity: C0540 PCCWST Support Procurement Project: AP1000 ITAAC Demo

Activity Code	Code Value	Description
AP1000 ITAAC Example	2.2.02.05a.iii.01	PCCWST

Assign Remove



.csv Report Format

Column titles should have no numbers or spaces and need to remain in their original order

Dates need to be in the format below

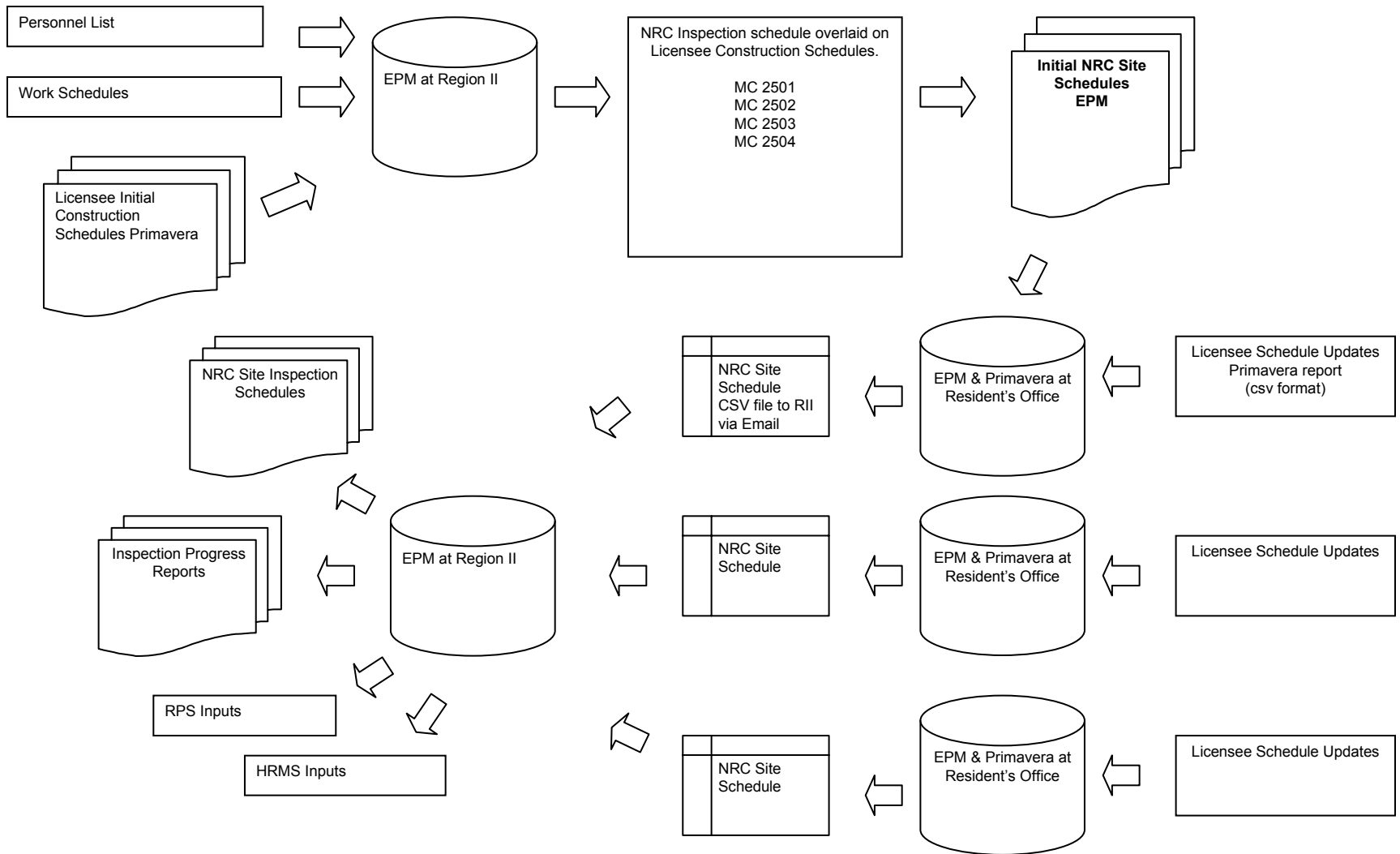
Primavera

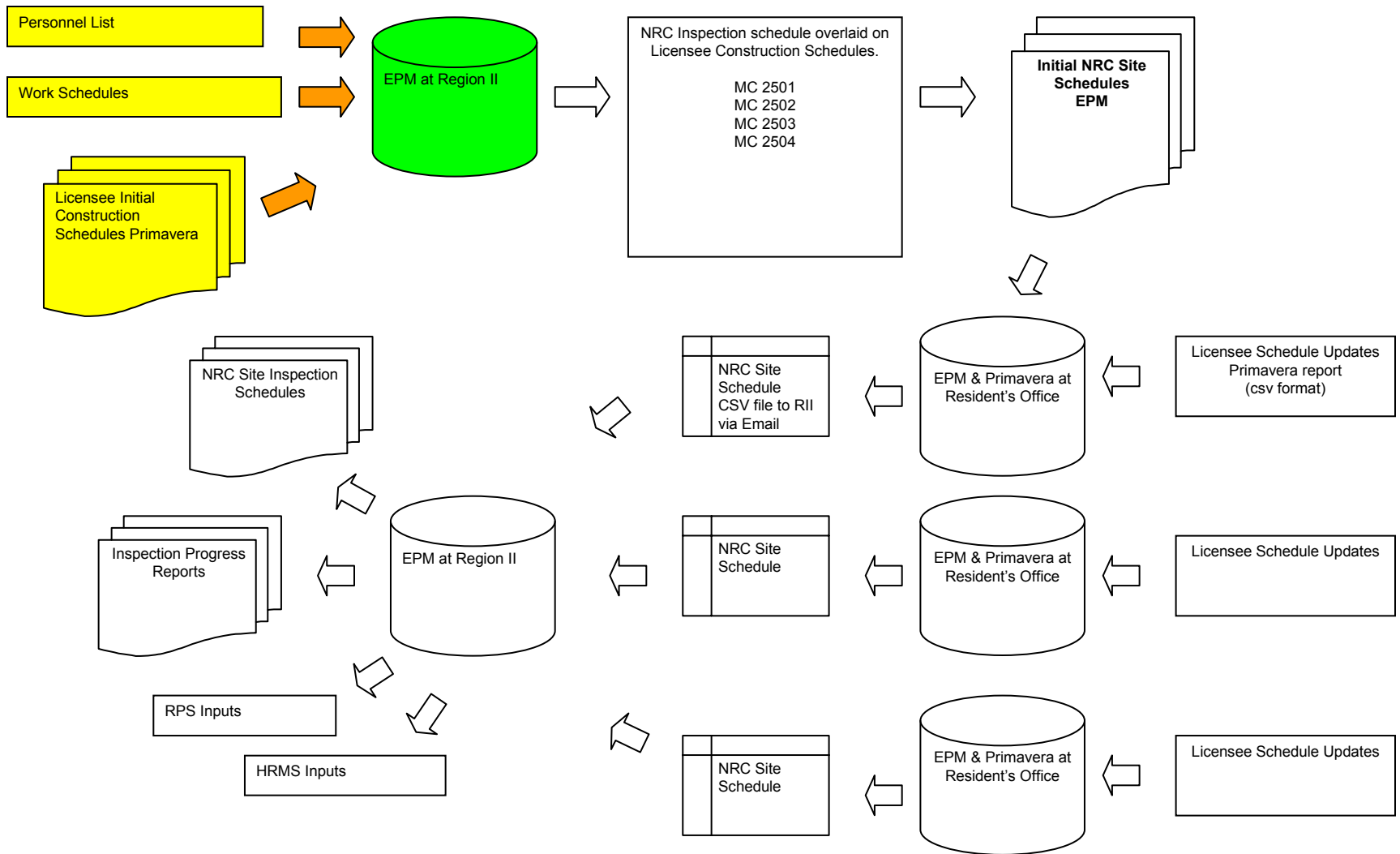
Prima

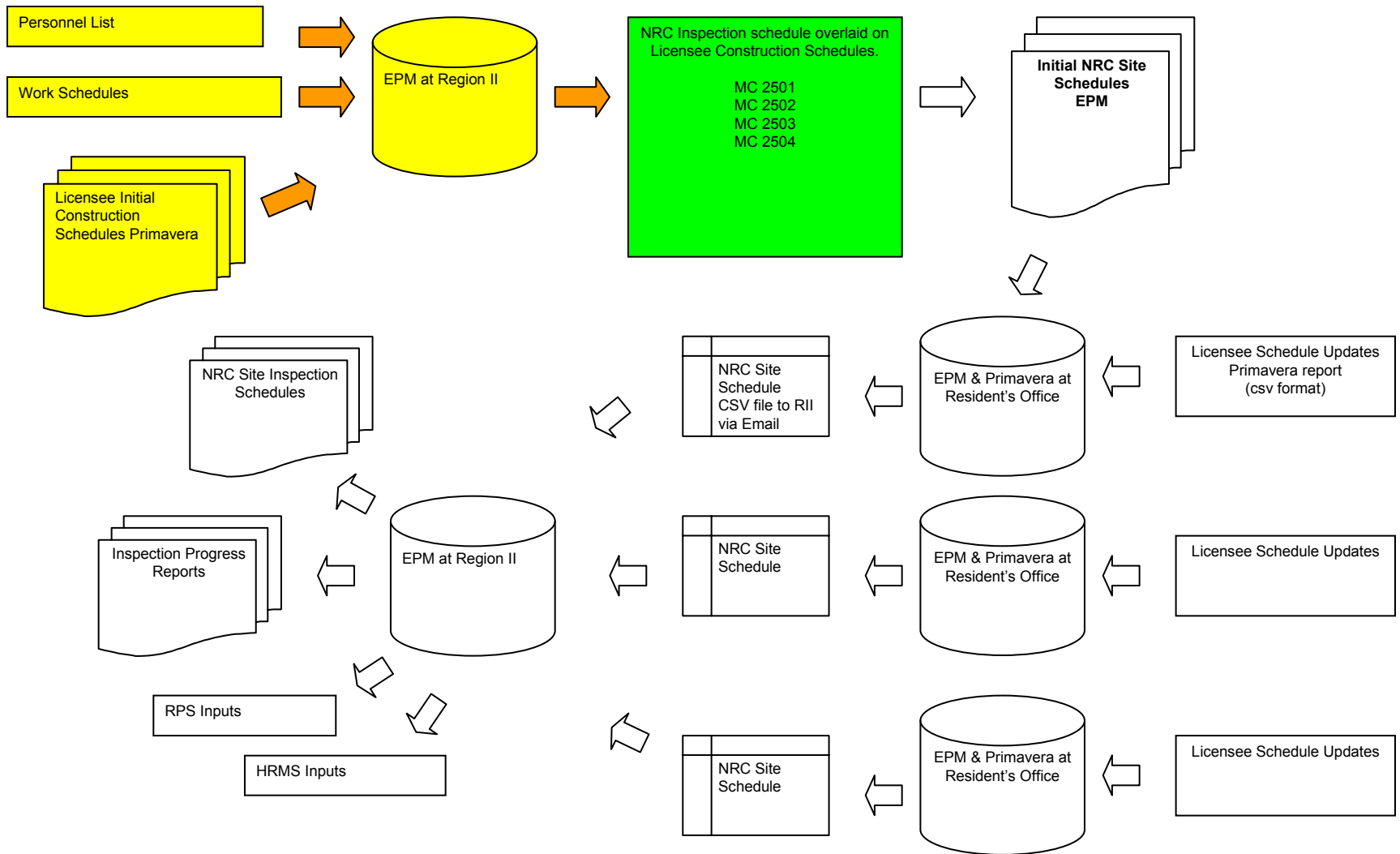
Primavera activity code (i.e.

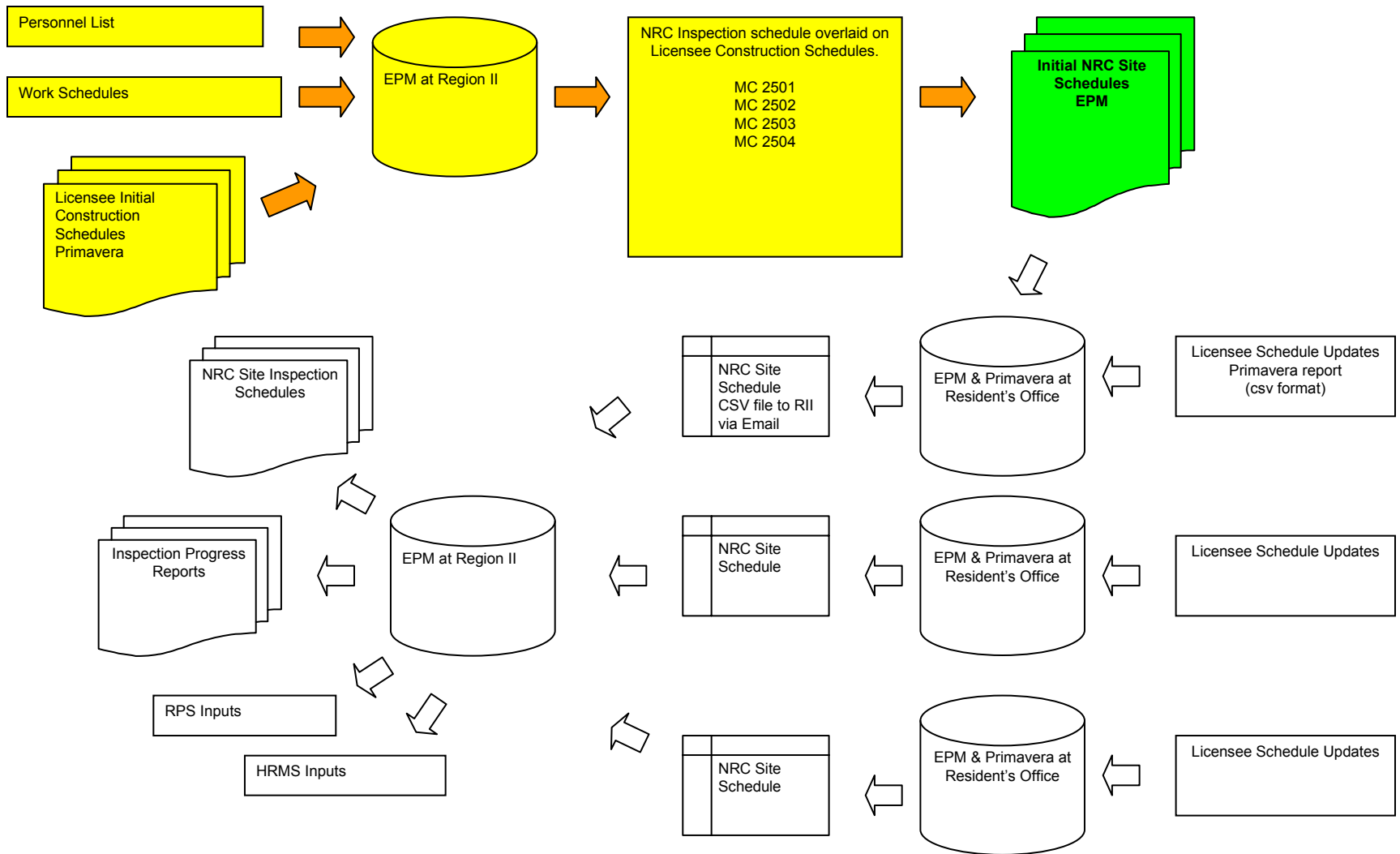
Primavera dates

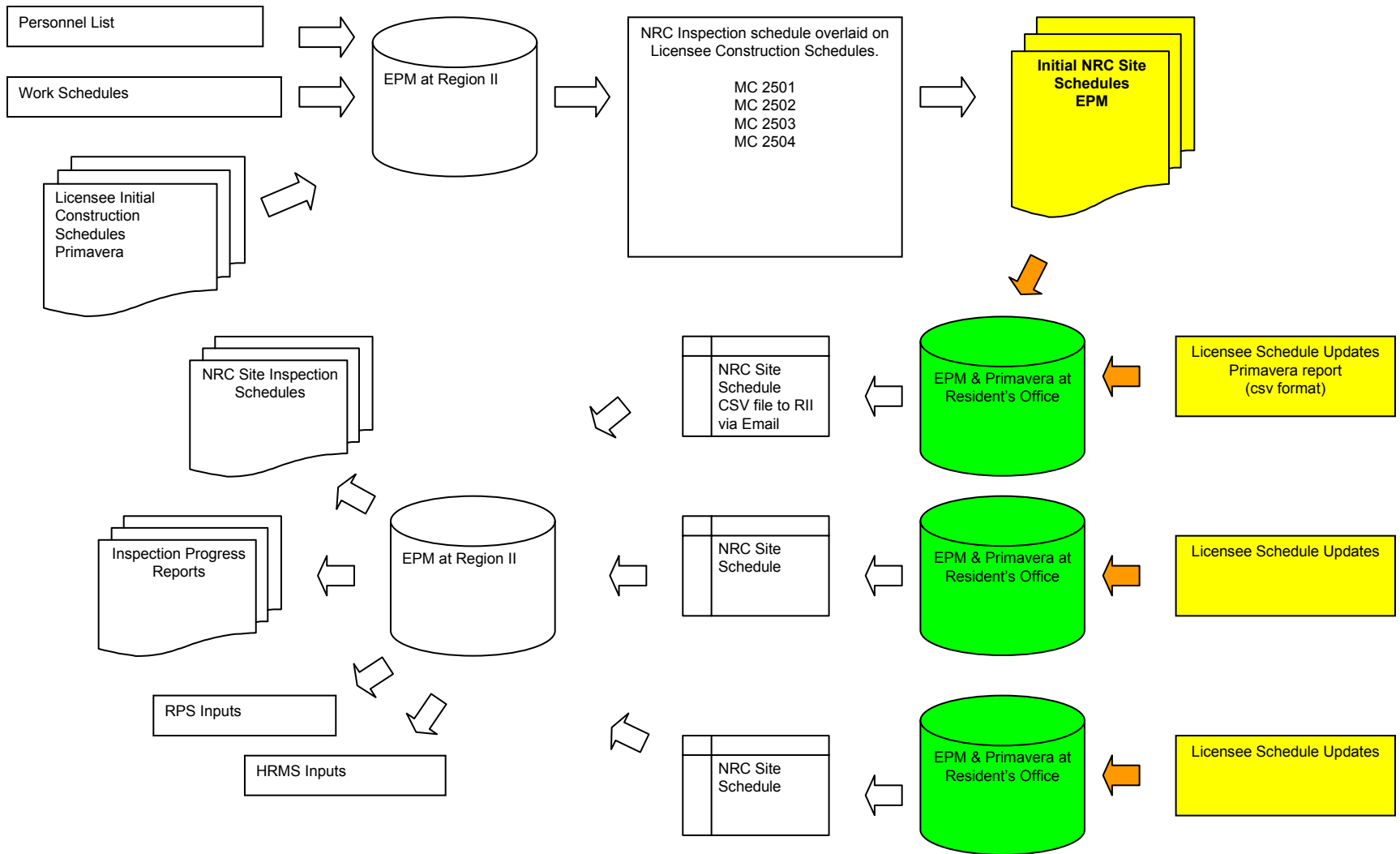
ActivityID	ActivityName	BinID	ActualStart	ActualFinish	Start	Finish
A1000	Activity 1	2.2.02.05a.iii.01	,,	,,	07/11/2023	07/17/2023
A1010	Activity 2	2.2.02.05a.iii.02	,,	,,	07/11/2023	07/17/2023
A1020	Activity 3	2.2.02.05a.iii.03	06/02/2008	07/18/2008	06/02/2008	07/18/2008

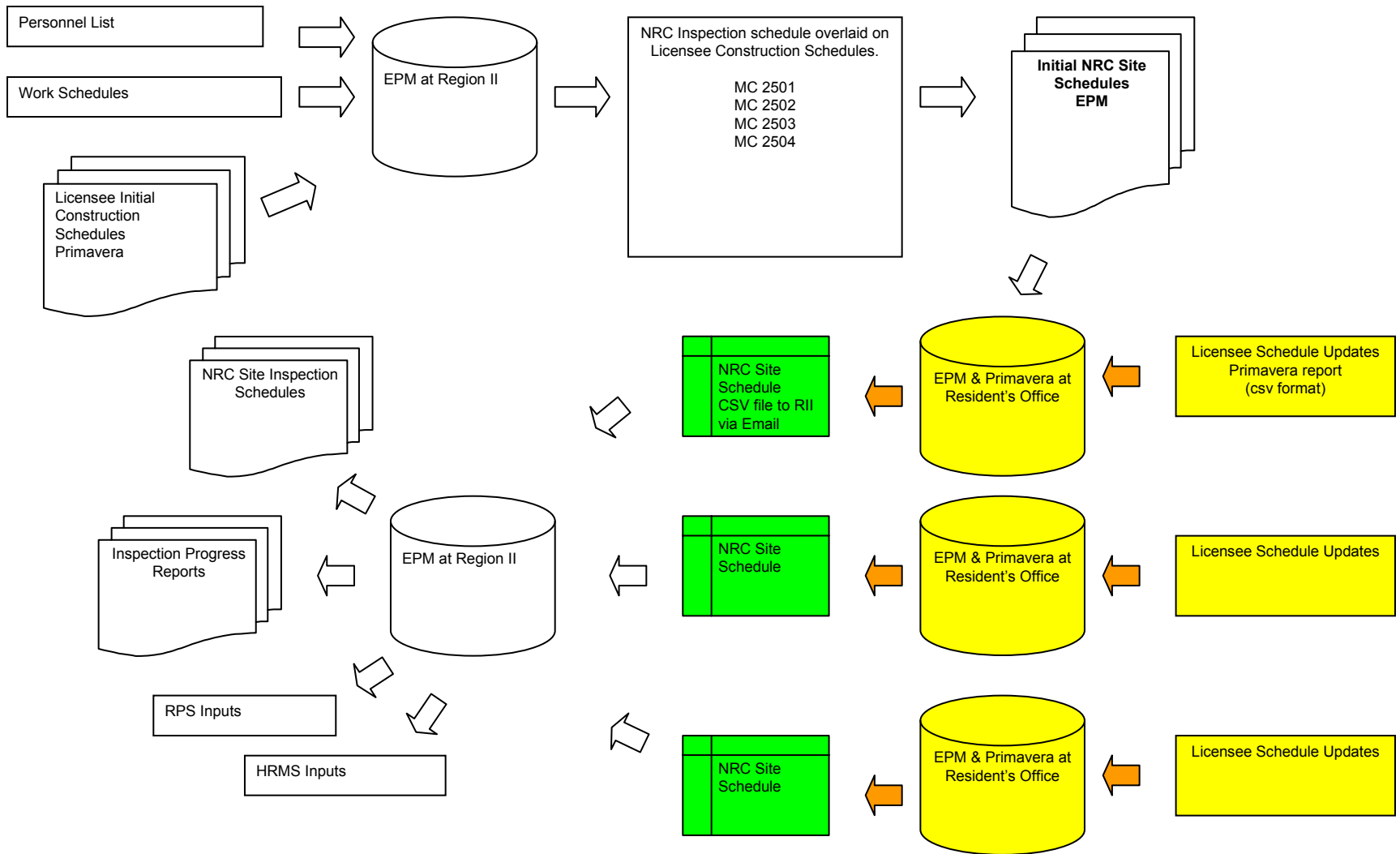


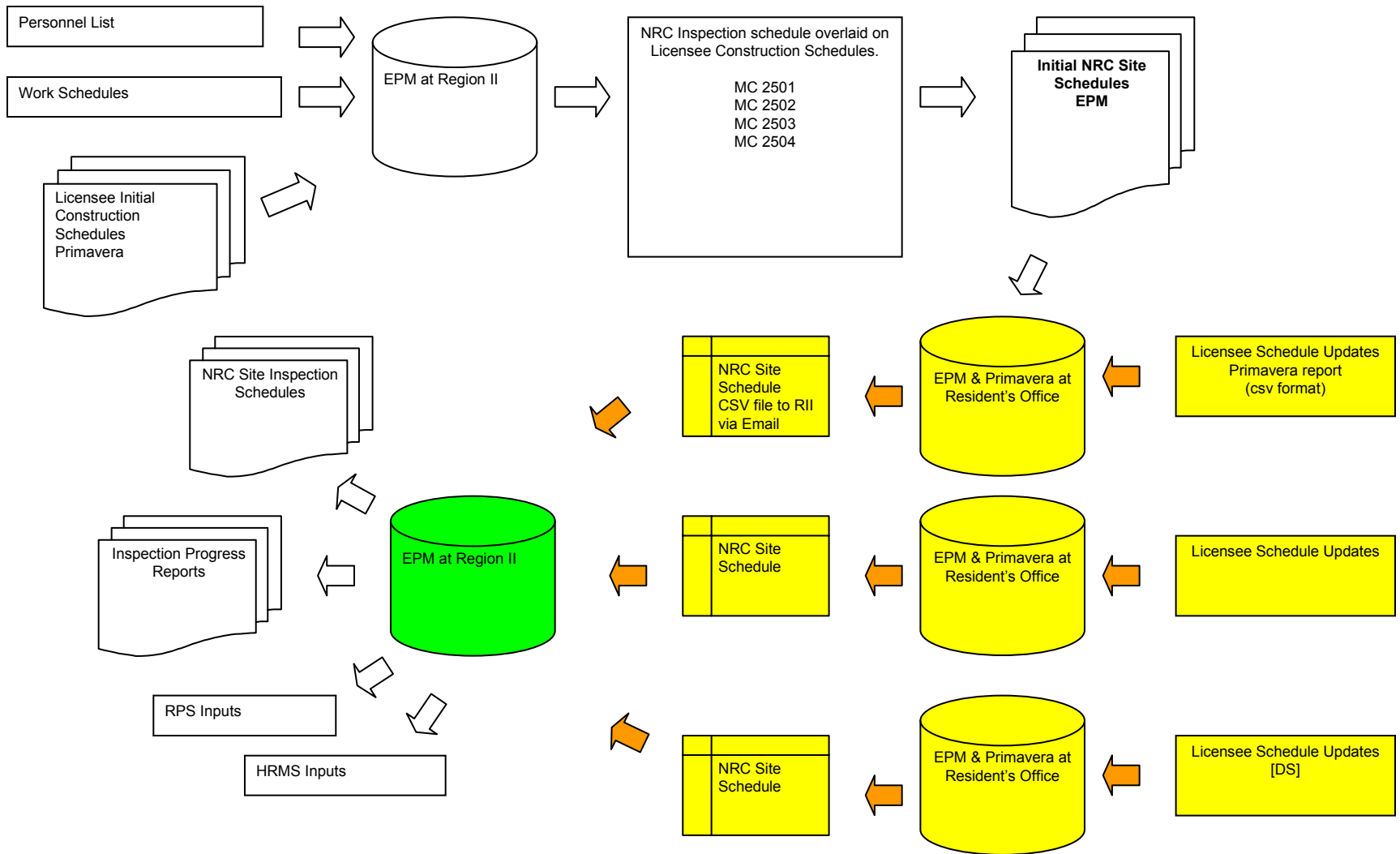


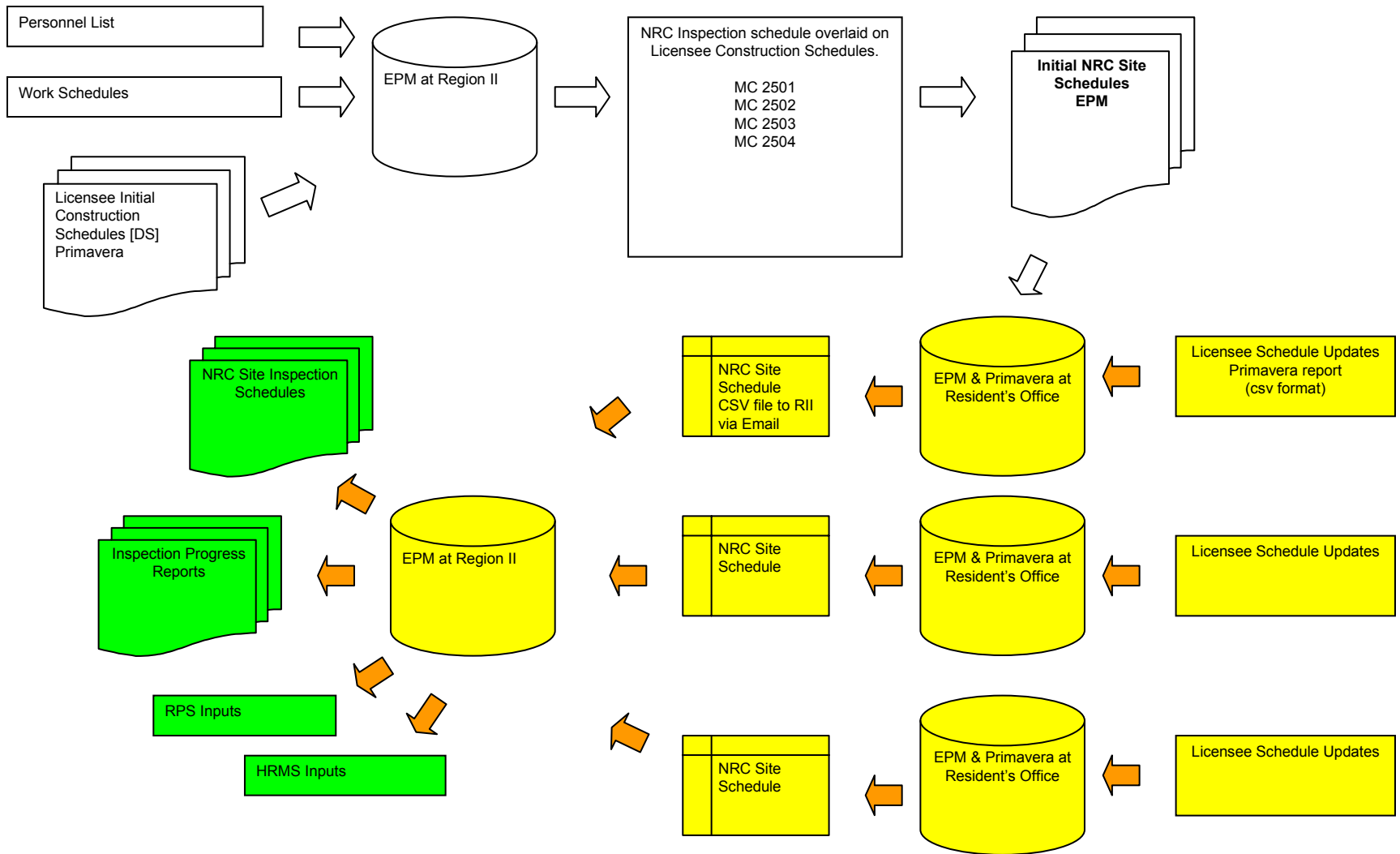














Conclusion

- Support of ITAAC common code scheme is key to NRC / industry success
- Industry must be an active participant in the solution
- Communication and agreement must be early and often



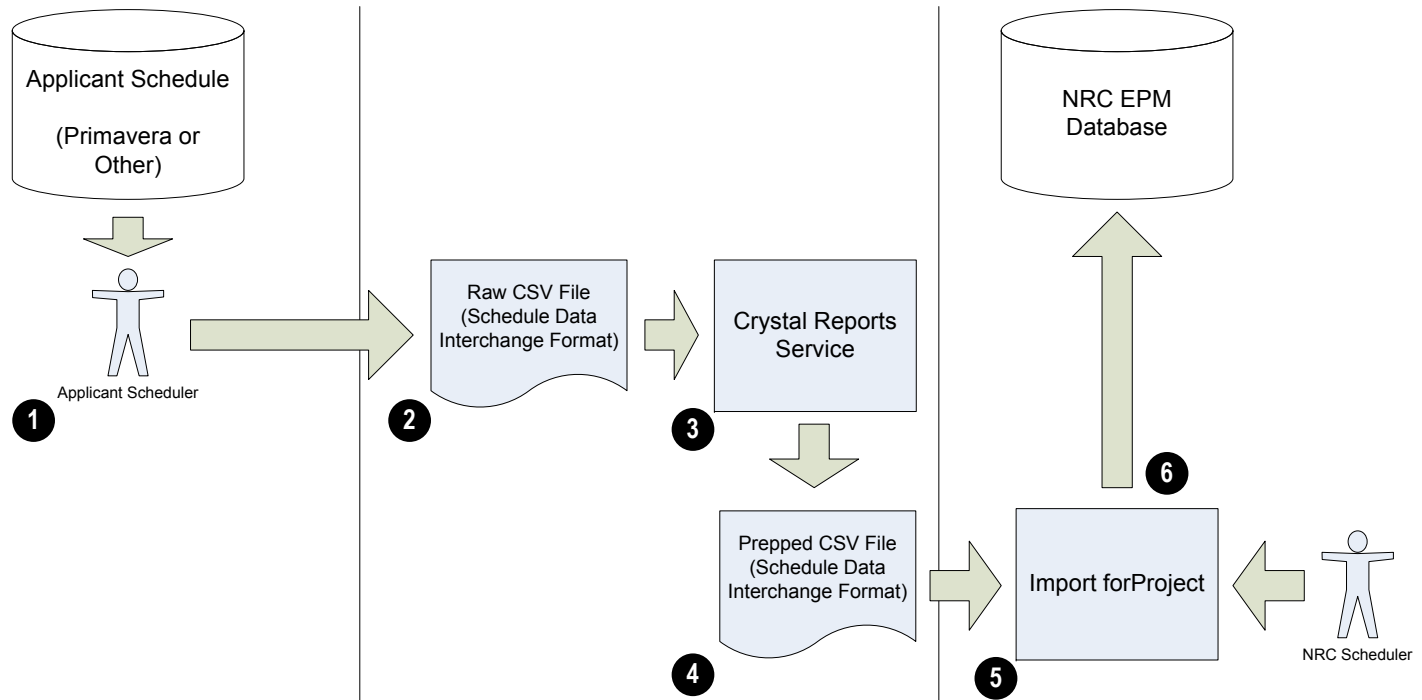
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Input/Feedback/Questions

Presented by: George Khouri, (404)562-3049
Wren Fowler, (404)562-0565



1. Applicant Scheduler extracts schedule data to a CSV file using an agreed Data Interchange Format which contains:

- Activity ID
- Activity Name
- ITAAC/Component Identifier
- Actual Start
- Actual Finish
- Start
- Finish

(If the Applicant is using Primavera, this is a simple report)

2. Applicant sends raw CSV file to NRC where it is placed on a server

3. An automated Crystal Reports service picks up the file and prepares the data for import

- Removes invalid characters
- Translates date formats
- Removes leading spaces
- Etc

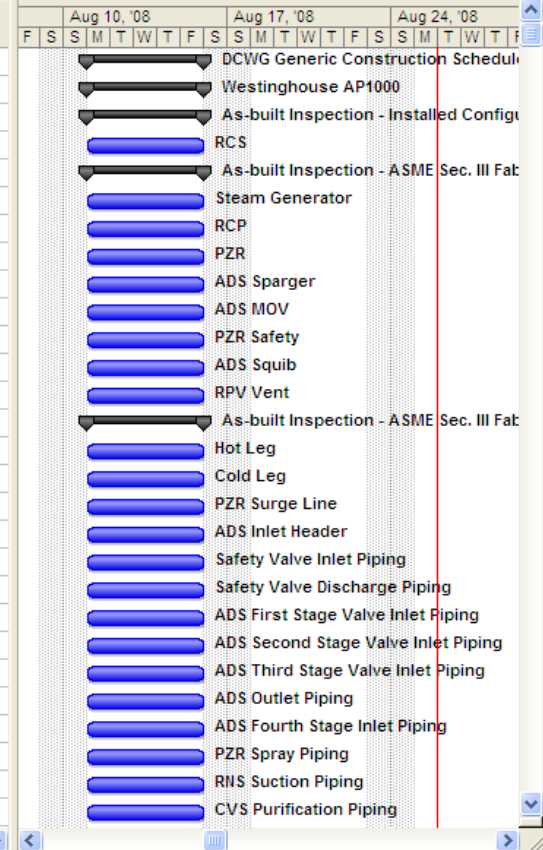
4. The prepared CSV file is placed into a specific folder on the server

5. An NRC Inspection Scheduler run Import forProject which automatically updates the NRC ITAAC schedule

6. The Inspection Scheduler may review the changes to the schedule before publishing to the EPM database

As-built Inspection - Installed Configuration

	ITAAC Family	ITAAC / IROFS Activity Code	Task Name	Start	Finish	Duration	Primavera Activity ID
1			DCWG Generic Construction Schedules	08/11/2008	08/15/2008	5 days?	
2			Westinghouse AP1000	08/11/2008	08/15/2008	5 days?	
3	14A	2.1.02.01	As-built Inspection - Installed Configuration	08/11/2008	08/15/2008	5 days?	
4	14A	2.1.02.01.01	RCS	08/11/2008	08/15/2008	5 days?	
5	06F	2.1.02.02a	As-built Inspection - ASME Sec. III Fabrication	08/11/2008	08/15/2008	5 days?	
6	06F	2.1.02.02a.01	Steam Generator	08/11/2008	08/15/2008	5 days?	
7	06F	2.1.02.02a.02	RCP	08/11/2008	08/15/2008	5 days?	
8	06F	2.1.02.02a.03	PZR	08/11/2008	08/15/2008	5 days?	
9	06F	2.1.02.02a.04	ADS Sparger	08/11/2008	08/15/2008	5 days?	
10	06F	2.1.02.02a.05	ADS MOV	08/11/2008	08/15/2008	5 days?	
11	06F	2.1.02.02a.06	PZR Safety	08/11/2008	08/15/2008	5 days?	
12	06F	2.1.02.02a.07	ADS Squib	08/11/2008	08/15/2008	5 days?	
13	06F	2.1.02.02a.08	RPV Vent	08/11/2008	08/15/2008	5 days?	
14	03F	2.1.02.02b	As-built Inspection - ASME Sec. III Fabrication	08/11/2008	08/15/2008	5 days?	
15	03F	2.1.02.02b.01	Hot Leg	08/11/2008	08/15/2008	5 days?	
16	03F	2.1.02.02b.02	Cold Leg	08/11/2008	08/15/2008	5 days?	
17	03F	2.1.02.02b.03	PZR Surge Line	08/11/2008	08/15/2008	5 days?	
18	03F	2.1.02.02b.04	ADS Inlet Header	08/11/2008	08/15/2008	5 days?	
19	03F	2.1.02.02b.05	Safety Valve Inlet Piping	08/11/2008	08/15/2008	5 days?	
20	03F	2.1.02.02b.06	Safety Valve Discharge Piping	08/11/2008	08/15/2008	5 days?	
21	03F	2.1.02.02b.07	ADS First Stage Valve Inlet Piping	08/11/2008	08/15/2008	5 days?	
22	03F	2.1.02.02b.08	ADS Second Stage Valve Inlet Piping	08/11/2008	08/15/2008	5 days?	
23	03F	2.1.02.02b.09	ADS Third Stage Valve Inlet Piping	08/11/2008	08/15/2008	5 days?	
24	03F	2.1.02.02b.10	ADS Outlet Piping	08/11/2008	08/15/2008	5 days?	
25	03F	2.1.02.02b.11	ADS Fourth Stage Inlet Piping	08/11/2008	08/15/2008	5 days?	
26	03F	2.1.02.02b.12	PZR Spray Piping	08/11/2008	08/15/2008	5 days?	
27	03F	2.1.02.02b.13	RNS Suction Piping	08/11/2008	08/15/2008	5 days?	
28	03F	2.1.02.02b.14	CVS Purification Piping	08/11/2008	08/15/2008	5 days?	



AP1000 - Westinghouse Schedule										2000		2001	
ITAAC Family	ITAAC	Task Name	Start	Finish	Duration	Primavera Activity ID	Activity ID (Merged)	ITAAC Activity ID	1st Half	2nd Half	1st Half	2nd	
		AP1000 - Westinghouse Schedule	07/28/2000	07/28/2000	1 day								
01A		As Built Inspections - Foundations & Buildings	07/28/2000	07/28/2000	1 day								
	TBD	ITAAC - Inspection of the as-built annex building wall and floor thick	07/28/2000	07/28/2000	1 day			E00C133ITAC1070					
	TBD	ITAAC - An inspection will be performed of the TSC floor space.	07/28/2000	07/28/2000	1 day			E00C133ITAC3101					
	TBD	ITAAC - An inspection will be performed of the location of the TSC.	07/28/2000	07/28/2000	1 day			E00C133ITAC3105					
	TBD	ITAAC - An inspection of the nuclear island structures, annex build	07/28/2000	07/28/2000	1 day			E00C133ITAC3301					
	TBD	ITAAC - Inspection of the as-built site grade will be conducted	07/28/2000	07/28/2000	1 day			E00C133ITAC3302b					
	TBD	ITAAC - An inspection will be performed of the as-built configurati	07/28/2000	07/28/2000	1 day			E00C133ITAC3302f					
	TBD	ITAAC - Inspection of the as-built nuclear island structures wall and	07/28/2000	07/28/2000	1 day			E00C133ITAC3303					
	TBD	ITAAC - Inspection of the as-built radwaste building wall thickness	07/28/2000	07/28/2000	1 day			E00C133ITAC3304b					
	TBD	ITAAC - Inspection of the as-built radwaste building wall thickness	07/28/2000	07/28/2000	1 day			E00C133ITAC3304c					
	TBD	ITAAC - Inspection of the radwaste building packaged waste stora	07/28/2000	07/28/2000	1 day			E00C133ITAC3306b					
	TBD	ITAAC - An inspection of the as-built containment building internal	07/28/2000	07/28/2000	1 day			E00C133ITAC3309					
	TBD	ITAAC - An inspection of the as-built turbine generator will be perf	07/28/2000	07/28/2000	1 day			E00C133ITAC3312					
	TBD	ITAAC - An inspection of the separation of the NI from the annex b	07/28/2000	07/28/2000	1 day			E00C133ITAC3313					
	TBD	ITAAC - An inspection of the as-built concrete thickness will be pe	07/28/2000	07/28/2000	1 day			E00IC133ITAC3302a2					
01E		Qualifications Criteria - Foundations & Buildings	07/28/2000	07/28/2000	1 day								
	TBD	ITAAC - Type test, analysis, combination of type test & analysis wil	07/28/2000	07/28/2000	1 day			E00ITAC2140					
01F		Design & Fabrication Requirements - Foundations & Buildings	07/28/2000	07/28/2000	1 day								
	TBD	ITAAC - Inspection of the NI structures will be performed. Deviat	07/28/2000	07/28/2000	1 day			E00ITAC2150					
	TBD	ITAAC - inspection of the auxiliary building rooms will be performe	07/28/2000	07/28/2000	1 day			E00ITAC2160					
	TBD	Inspection of the boundaries between the following rooms which	07/28/2000	07/28/2000	1 day			E00ITAC2170					
	TBD	An inspection will be performed of the as-built radiologically contr	07/28/2000	07/28/2000	1 day			E00ITAC2180					
02C		Construction Testing - Structural Concrete	07/28/2000	07/28/2000	1 day								
	TBD	An inspection of the as-built exterior walls and the basemat of the	07/28/2000	07/28/2000	1 day			E00ITAC2190					
03A		As Built Inspections - Piping	07/28/2000	07/28/2000	1 day								
	TBD	ITAAC - Inspections of each forth-stage ADS valve will be conducte	07/28/2000	07/28/2000	1 day			E00ITAC2200					
	TBD	ITAAC - Inspections of each ADS energizer will be conducted to det	07/28/2000	07/28/2000	1 day			E00ITAC2210					

Output Example.csv - Notepad

File Edit Format View Help

```
SuccessorActivityID,PredecessorActivityID,ActivityName,ActualStart,ActualFinish,start,Finish
E00C133ITAC1070,A1000,walkdown,,08/21/2008,08/27/2008
E00C133ITAC1070,A1010,more stuff,,08/21/2008,08/27/2008
E00C133ITAC3101,A1000,walkdown,,08/21/2008,08/27/2008
E00C133ITAC3105,A1010,more stuff,,08/21/2008,08/27/2008
E00C133ITAC3301,A1000,walkdown,,08/21/2008,08/27/2008
```

TEST.csv - Notepad

File Edit Format View Help

```
ActivityID,TaskName,BINID,ActualStart,ActualFinish,start,Finish,Milestone,Duration,LastUpdate,MergedID
A1000,walkdown,E00C133ITAC1070,NA,NA,08/21/2008,08/27/2008,No,7,08/22/2008,A1000.E00C133ITAC1070
A1010,more stuff,E00C133ITAC1070,NA,NA,08/21/2008,08/27/2008,No,7,08/22/2008,A1010.E00C133ITAC1070
A1000,walkdown,E00C133ITAC3101,NA,NA,08/21/2008,08/27/2008,No,7,08/22/2008,A1000.E00C133ITAC3101
A1010,more stuff,E00C133ITAC3105,NA,NA,08/21/2008,08/27/2008,No,7,08/22/2008,A1010.E00C133ITAC3105
A1000,walkdown,E00C133ITAC3301,NA,NA,08/21/2008,08/27/2008,No,7,08/22/2008,A1000.E00C133ITAC3301
```

AP1000 - Westinghouse Schedule										2000		20	
ITAAC Family	ITAAC	Task Name	Start	Finish	Duration	Primavera Activity ID	Activity ID (Merged)	ITAAC Activity ID	1st Half	2nd Half	1st Half	2nd Half	
		AP1000 - Westinghouse Schedule	07/28/2000	08/27/2008	2953 days								
01A		As Built Inspections - Foundations & Buildings	07/28/2000	08/27/2008	2953 days								
	TBD	ITAAC - Inspection of the as-built site grade will be conducted	07/28/2000	07/28/2000	1 day			E0OC133ITAC3302b					
	TBD	ITAAC - An inspection will be performed of the as-built configuratic	07/28/2000	07/28/2000	1 day			E0OC133ITAC3302f					
	TBD	ITAAC - Inspection of the as-built nuclear island structures wall and	07/28/2000	07/28/2000	1 day			E0OC133ITAC3303					
	TBD	ITAAC - Inspection of the as-built radwaste building wall thickness	07/28/2000	07/28/2000	1 day			E0OC133ITAC3304b					
	TBD	ITAAC - Inspection of the as-built radwaste building wall thickness	07/28/2000	07/28/2000	1 day			E0OC133ITAC3304c					
	TBD	ITAAC - Inspection of the radwaste building packaged waste stora	07/28/2000	07/28/2000	1 day			E0OC133ITAC3306b					
	TBD	ITAAC - An inspection of the as-built containment building internal	07/28/2000	07/28/2000	1 day			E0OC133ITAC3309					
	TBD	ITAAC - An inspection of the as-built turbine generator will be perf	07/28/2000	07/28/2000	1 day			E0OC133ITAC3312					
	TBD	ITAAC - An inspection of the separation of the III from the annex b	07/28/2000	07/28/2000	1 day			E0OC133ITAC3313					
	TBD	ITAAC - An inspection of the as-built concrete thickness will be pe	07/28/2000	07/28/2000	1 day			E0OIC133ITAC3302a2					
	TBD	ITAAC - Inspection of the as-built annex building wall and	08/21/2008	08/27/2008	7 days			E0OC133ITAC1070					
		Walkdown	08/21/2008	08/27/2008	7 days	A1000	A1000.E00						
		more stuff	08/21/2008	08/27/2008	7 days	A1010	A1010.E00						
	TBD	ITAAC - An inspection will be performed of the TSC floor s	08/21/2008	08/27/2008	7 days			E0OC133ITAC3101					
		Walkdown	08/21/2008	08/27/2008	7 days	A1000	A1000.E00						
	TBD	ITAAC - An inspection will be performed of the location of	08/21/2008	08/27/2008	7 days			E0OC133ITAC3105					
		more stuff	08/21/2008	08/27/2008	7 days	A1010	A1010.E00						
	TBD	ITAAC - An inspection of the nuclear island structures, ann	08/21/2008	08/27/2008	7 days			E0OC133ITAC3301					
		Walkdown	08/21/2008	08/27/2008	7 days	A1000	A1000.E00						
	01E	Qualifications Criteria - Foundations & Buildings	07/28/2000	07/28/2000	1 day								
	TBD	ITAAC - Type test, analysis, combination of type test & analysis wil	07/28/2000	07/28/2000	1 day			E0OITAC2140					
	01F	Design & Fabrication Requirements - Foundations & Buildings	07/28/2000	07/28/2000	1 day								
	TBD	ITAAC - Inspection of the III structures will be performed. Deviatio	07/28/2000	07/28/2000	1 day			E0OITAC2150					
	TBD	ITAAC - inspection of the auxiliary building rooms will be performe	07/28/2000	07/28/2000	1 day			E0OITAC2160					
	TBD	Inspection of the boundaries between the following rooms which	07/28/2000	07/28/2000	1 day			E0OITAC2170					