CAIS Deficiencies vs Maintenance Backlog

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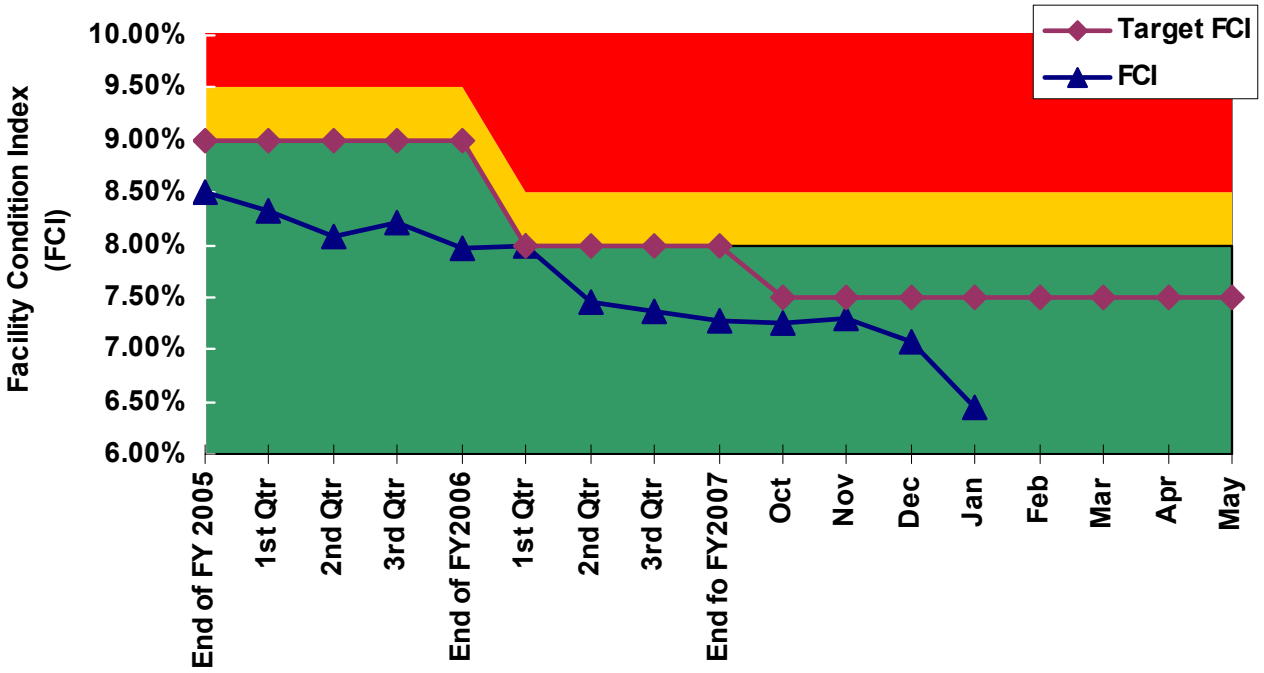
CAIS Users Group 2008

National Nuclear Security Administration

Y-12 National Security Complex

CAIS Progress

- Inspect on 2-3 year cycle, including utilities and OSFs
- Baselined in 2003; $483M
- Closed > 5,500 deficiencies; $390M
- Currently 8,500 deficiencies; $412M



Maintenance Backlog

- Management Directive
  - Wholly encompassing backlog of maintenance
  - CAIS deficiencies only entered when worked
- Migrate CAIS deficiencies to SAP (maintenance management system)
- Prioritize all deficiencies per Y-12 procedure
  - Confusion on Repair Immediately vs Priority 1
- Change mindset of planners – do not ‘flip’ to work order unless directed

The Challenge - What to do?

- 8,800 open CAIS deficiencies (Oct 2007)
- Migrate all deficiencies by mid-FY2008
- Manual entry vs. batch upload
- Format to fit SAP fields

CAIS did not migrate 1 to 1 with SAP

- Functional location
- Description (merge several fields)

❖ CAIS Flag/ID – already in SAP

UDetail - 001, 1501-01-B300, OLD ELZA EQUIP ROOM | Tracking No: 21560 - Windows Internet Exp...

https://caisweb.doe.gov/CAS/loadPage

IUDetail - 001, 1501-01-B300, O[redacted]A EQU...

Page Tools

elete | New | Next | Previous | Reset | IU Ret: | Save | Favorites | Add to Favs. | Copy | Copy All | Type Search

cking #: 21560 | Insp. ID: DAVID THURMOND | Discipline: Electrical

ume: D50 / Electrical Systems | WBS: Elec;Serv+Distrib;Low Voltage Distrib

mponent: ELEC;TRANSFORMERS,DRY TYPE / EACH

pe: Dry type transformer, nonventilated, 3 phase 480 V primary 120/208 V secondary, 15 kVA / 262213105030

sc:

cation: SOUTHWEST | Loc 1: | Loc 2:

c 3: | Loc 4: | Loc 5:

pl. Cst: $5,550 | Rpr. Cst: $0 | Complt. Cst:

: 1 | Repl. Qty: 1 | Base Cost: $4,700

icial Cst: $30,414 | Est. Cst:

nstalled: | Pre Repair Yrs: | Post Rpr Yrs:

ndition: POOR <60% | Insp. Date: 01/08/2008 | Creation Date: 01/22/2008 02:51:54

gency: REPAIR WITHIN 1 YEAR | Last Remodeled: | Last Updated: 02/12/2008 02:28:52

e Defined: | Optimum Year: 2009

mpletion Yr: | Def. Maint.: Yes | RIC Flag: No | RIC Type:

oject ID: | Locked Flag: | Last Updt By: CAIS_Y12_ADMIN | FY Baseline:

rvice: | Tracking/Work Order: 30127666

tus: | Repair Symptom:

portance: | Repair Task:

cess: | Repair Cause:

uipment ID: NO ID | Repair Purpose:

mment: TRANSFORMER IS OLD. REPLACE

Internet 100%

aintenance notification Edit Goto Extras Environment System Help

Change PM Notification: Service/Maint Notifi

Partner

ication 30127666 Y1 REPLACE TRANSFORMER

s OSNO AMR

r

Maintenance Info | History Info | Location/Costing | Tasks

bject

escription REPLACE TRANSFORMER

ubject Long Text

KVA TRANSFORMER LOCATED IN SOUTHWEST CORNER IS OLD AND NEEDS TO BE
EPLACED

ference object

nctional loc. Y-F-150101 Building 1501-01

quipment

sponsibilities

anner group 003 / 200 BOP Maint. Center

ain WorkCtr E16250 / 200 East Electrical

oint of Contac 31086 KARLA F WRIGHT

eported by 39667 Notif.date 02/06/2008 14:18:39

art/End Dates

Action box

- Assign Priority
- Assign Cost Object
- Authorize Notification

PRD (1) (010) sapypr6 INS

The Solution

- Batch upload – SAP programmer developed a program to auto upload the formatted file
- Y-12 CAIS Administrator formatted fields in excel, sent to SAP
- SAP returned spreadsheet with CAIS # & SAP #
- Excel file sent to HQ - CAIS programmer to upload SAP # into Work order field
- Submitted in batches of ~ 1000 deficiencies
  - Merged several fields, manual review and editing
  - Functional location problem for OSFs

Step 1: Format fields to fit

Microsoft Excel - sap TO SEND 2-4-08.xls

File Edit

A2 CAIS

A	B	C	D	E	F	G	H	I	J	K
Progr am	Tracki ng #	Function al Location	Description 1	Long Text	Main WORK Ctr	POC Badge	Priority	Requested Start Date	Requested Completion Date	Priority Matrix Numeric
CAIS	12008	Y-U-CW	TS&R/REPLACE PUMPS	J-107, J-108 9767-12 COMPLETE INSTALLATION	E16250	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12010	Y-U-CW	REPLACE CW VALVES	9767-12	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12011	Y-U-CW	REPLACE CW VALVES	9767-12	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12013	Y-U-CW	REPLACE CW VALVES	9767-12	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12017	Y-U-CW	TS&R/REPLACE PUMPS	9767-12	E16250	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12022	Y-U-CW	PAINT/REPLACE CORRODED PIPE F	9767-12	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12024	Y-U-CW	PAINT/REPLACE CORRODED PIPE F	9767-12	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12033	Y-U-CW	REPLACE CW VALVES	EAST OF 9202 SPECIAL EQUIPMENT REQUIRED	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12066	Y-U-CW	REPLACE CW VALVES	EAST OF 9202 SPECIAL EQUIPMENT REQUIRED	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12067	Y-U-CW	REPLACE CW VALVES	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12070	Y-U-CW	REPLACE INSTRUMENTATION FOR AR-101/102/103 (9767-11)	AR-101, AR-102, AR-103 9767-11 FLOW CONTROLLER, PANEL AND INSTRUMENTATION. ADDED AR-102 TO COST	E12490	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12073	Y-U-CW	TS&R/REPLACE PUMPS	J-106 9767-11 OUTBOARD BEARING OVERHEATING UNIT HAS A 40 HP	E16250	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12075	Y-U-CW	PAINT/REPLACE CORRODED PIPE F	9767-11 CORROSION	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12078	Y-U-CW	REPLACE CW VALVES	EAST OF 9202	E12350	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12079	Y-U-CW	REPLACE PIPE INSULATION	9767-11 REPLACE REFLECTIVE COVER	E16330	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12084	Y-U-CW	REPLACE PIPE INSULATION	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED, INSULATION FOR 12" BUTTERFLY VALVE.	E16330	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12087	Y-U-CW	REPLACE PIPE INSULATION	EAST OF 9202 SPECIAL EQUIPMENT REQUIRED. 5' OF INSULATION ON 10"	E16330	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12090	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED. 60' OF 16" PIPE.	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12091	Y-U-CW	PAINT CHILLED WATER SUPPORT	EAST OF 9202 SPECIAL EQUIPMENT REQUIRED. 1500' OF STRUCTURAL	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12093	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED. 530' OF STRUCTURAL	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12130	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED. 150' OF STRUCTURAL	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12131	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED. 60' OF STRUCTURAL STEEL.	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12132	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED, 600' OF 6" TOWER WATER PIPE.	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12133	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED, 40' OF 10" TOWER WATER PIPE.	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8
CAIS	12134	Y-U-CW	PAINT CHILLED WATER SUPPORT	SOUTH OF 9202 SPECIAL EQUIPMENT REQUIRED, 200' OF 12" TOWER WATER PIPE	E16130	33892	4 Sched as Res allow	2/13/2008	2/12/2009	8

Working

AutoShapes

NUM

Step 2: Add to SAP – Provide SN

Microsoft Excel - iw28.xls

File Edit

STVKEY | Notification

A	B	C	D	E	
Notification	Notifictn type	CAIS Tracking Number	Functional loc.	Description	Header Long Text
30130541	Y1	0000010201	Y-U-CT-02	REPLACE ENCLOSURE	OZONE RACK ENCLOSURE EXTREME
30130542	Y1	0000015131	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	BWSC #326 D-3 SS 9723-10, D RD TO
30130543	Y1	0000017813	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #2 A-4 SW SIDE, 2
30130544	Y1	0000017814	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #3 A-3 SS OF 9701
30130545	Y1	0000017815	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #4 B-4 WEST OF 9
30130546	Y1	0000017816	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #5C-2; C-3 FROM 9
30130547	Y1	0000017817	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #6 B-2; B-3 W SIDE
30130548	Y1	0000017818	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #7 B-3 FROM 9949
30130549	Y1	0000017871	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #8 B-3, A-3, B-4 AS
30130550	Y1	0000017891	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #9A3 9712 TO 1ST
30130551	Y1	0000017892	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #10 C-3 9711-5 E E
30130552	Y1	0000017893	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #11 C-3 1ST ST TC
30130553	Y1	0000017894	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #12 C-3 PERPEND
30130554	Y1	0000017895	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #14 B3 BITUMIN DI
30130555	Y1	0000017896	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #13 C-3 PARALLEL
30130556	Y1	0000017897	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #15 C-3 SW 9116 T
30130557	Y1	0000017911	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #16 C-3 PARALLEL
30130558	Y1	0000017912	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #17 C-3 CAFFIENE
30130559	Y1	0000017931	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #18 C-3 COPPER F
30130560	Y1	0000017932	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #19 C-3 N SIDE 2N
30130561	Y1	0000017933	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #20 A4 N SIDE A R
30130562	Y1	0000017951	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #21 B4 2ND ST FR
30130563	Y1	0000017971	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #22 A3/A4 A RD FR
30130564	Y1	0000017972	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #23 C-3 2ND ST FR
30130565	Y1	0000017973	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #24 B3/A3 S SIDE
30130566	Y1	0000017974	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #25 B3 B RD FROM
30130567	Y1	0000017975	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #26 B3/B4 BITUMIN
30130568	Y1	0000017976	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #27 B3 1ST ST FR
30130569	Y1	0000017977	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #28 C-3 E SIDE 97
30130570	Y1	0000017978	Y-U-ROADSGROUNDS	REPAIR SIDEWALK	TRIPPING HAZARD #29 C-3 /B3 AROU

Sheet1

AutoShapes

NUM

Step 3: Add SN# to CAIS

Microsoft Excel - y12workordersafterpatch6.xls

File Edit

A1 iiu_key_seq

iiu_key_seq	work_order_field
4962	30130793
6083	30130663
6211	30130664
6212	30130665
6213	30130666
6214	30130667
6215	30130668
6216	30130669
6219	30130670
6220	30130671
6221	30130672
6222	30130673
6224	30130674
6225	30130675
6226	30130676
6227	30130677
6228	30130678
6230	30130679
6235	30130680
6236	30130681
6241	30130682
6243	30130683
6244	30130684
6245	30130685
6247	30130686
6248	30130687
6252	30131275
7034	30130688
7035	30130689
7036	30130690
7037	30130691
7038	30130692
7039	30130693
7040	30130694
7041	30130695
7042	30130696
7043	30130697

y12workordersafterpatch6

AutoShapes

NUM

Step 4 - Prioritization

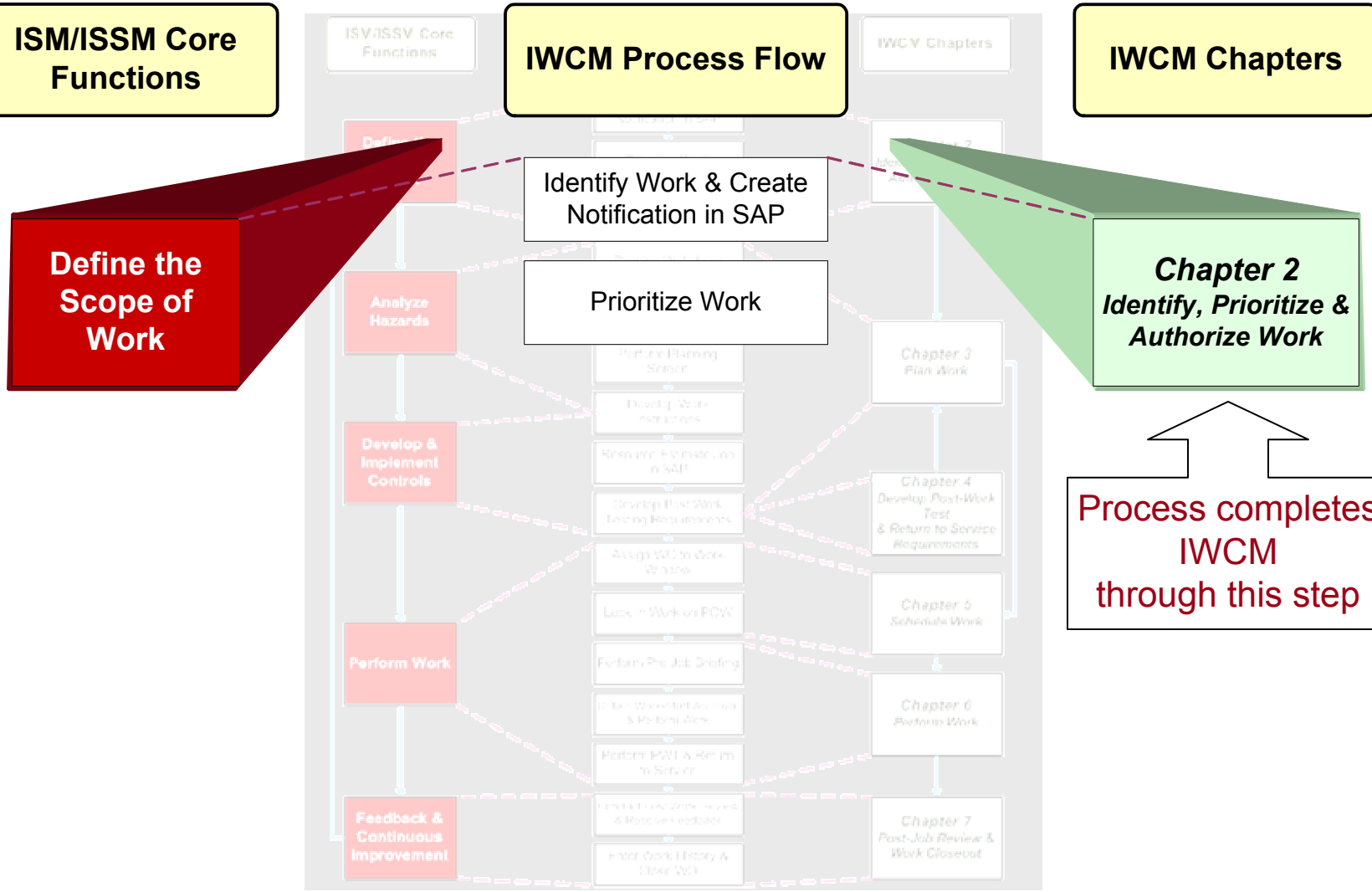
SSC Classification		System/Equipment Condition or Need Driver					
		Emergency: Immediate threat to life, health, security, or the environment	System or equipment has failed and compensatory measures are NOT available to maintain operations.	◦ System or equipment has failed and compensatory measures are available to maintain operations. ◦ Necessary PMs are overdue and preventing the use of the equipment.	◦ System or equipment can still perform its designed function but failure is imminent OR	Pre-planned Re-occurring Work that requires scheduled equipment or system outages for work to be performed	◦ "Scheduled" Safety Work ◦ "Scheduled" Security Work ◦ Minor Deficiencies OR ◦ Pre-planned Re-occurring work that do NOT require scheduled equipment or system outages for work to be performed
		100	10	8	6	4	2
Vital Safety System	10	1000	100	80	60	40	24
Passive SSC-1 or SSC-2	9	900	90	72	54	36	22
Mission Essential Active Current Requirement	8	800	80	64	48	32	16
Mission Essential No Current Requirement	7	700	70	56	42	28	14
Minor Security System/ Component	6	600	60	48	36	24	12
Balance of Plant Systems	5	500	50	40	30	20	10
Building & Structures & Support Systems	4	400	40	32	24	16	8
Mission Essential – Inactive-Warm Standby	3	300	30	24	18	12	6
Grounds / Tools / All Other	2	200	20	16	12	8	4
Mission Essential – Inactive-Cold Standby	1	100	10	8	6	4	2

Integrated Work Control Process

ISM/ISSM Core Functions

IWCM Process Flow

IWCM Chapters

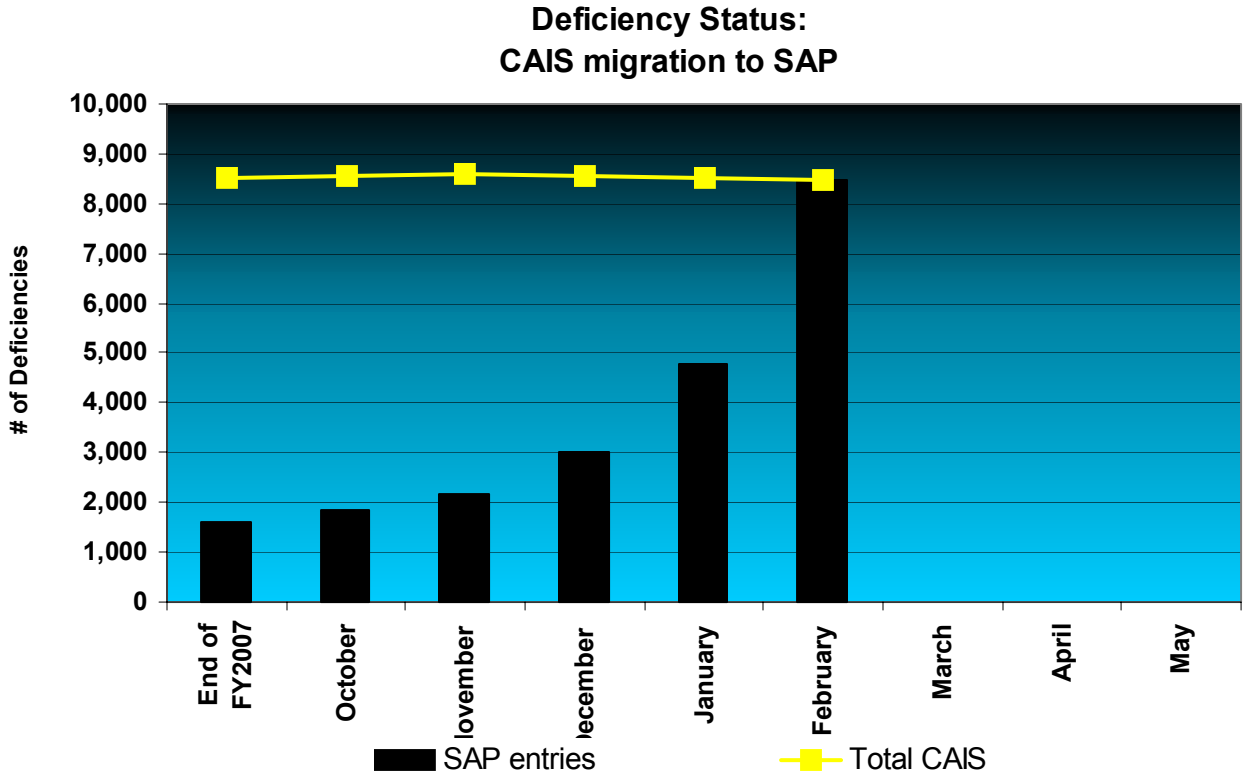


What now?

- Deficiencies are closed/added after inspection
- Process has been incorporated into procedure
- Building Managers understand process
- Working with maintenance resource group to change mindset – do not ‘flip’ to work order unless directed

Value in migration?

- Real time closure of deficiencies
- One-stop for Facility Manager
- Prioritization and ranking of ***all*** backlog



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