



**Federal Aviation
Administration**

Shaping Engineering Services for the Future

Engineering Services Efficiency Plan (ESEP)

*An Engineering Change Strategy
in Support of the ATO*

Presented to: CSA Management Team

By: ESEP Implementation Team

Date: February 8, 2008

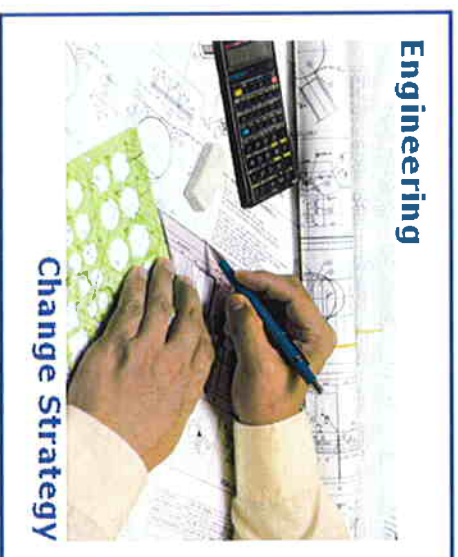
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Purpose

- Develop a more streamlined ES Services
- Get concurrence to move overview forward
- Administrator to approve implementation of the plan



Background

- **In July 2007 the VP, Tech Ops Services, ATO-W, requested that:**
 - Director, ATC Facilities, AJW-2 establish a joint Planning & Requirements (P&R) and Engineering Services (ES) Team for the purpose of developing the ESEP.
 - Team included representatives from:
 - ES community
 - ATO Service Center Planning & Requirements groups
 - ATO Transition Team
 - Contract Technical Support



Shaping Engineering Services for the Future

Primary Goals:

1. Consolidate ES into three organizational units co-located in Service Area Office (SAO) locations.
2. Optimize Business Process Efficiencies and Improve Customer Service.

Key Performance Activities

Co-locate some Engineering Service functions at Service Area Office (SAO) Locations

Integrate ES non-core functions into the Service Centers/Other LOBS

Have insource/source balance

Adjust Operating Expenses & Positions to Levels Required to Gain Additional Efficiencies

Achieve Measured Cost Savings

Improve workload and workflow processes

Increase collaboration with Service Center functions to improve customer satisfaction

Redefine F&E/Ops Engineering Position roles and responsibilities

Improve ES culture dynamics



Drivers and Assumptions

- ES is realigning from the 9 regions to 3 Service Area Office (SAO) locations, which would occur within 3 years from the start date.
- ES Construction and Installation staffs (*Resident Engineering, Technical Onsite Representatives*) are not part of the impacted community slated to relocate to one of the three SAO locations.
- Field personnel will remain dispersed and assigned to local offices.
- K-Band managers will relocate to a SAO location by Jan. 2009.
- Bargaining unit notification requirements must be met.
- Historical data (last 3 years) of CWP requirements will guide ES efforts to minimize cuts in direct core workforce and preserve the appropriate number of engineers and technicians to implement projects.
- Space is needed at SAO locations for the ES impacted community.



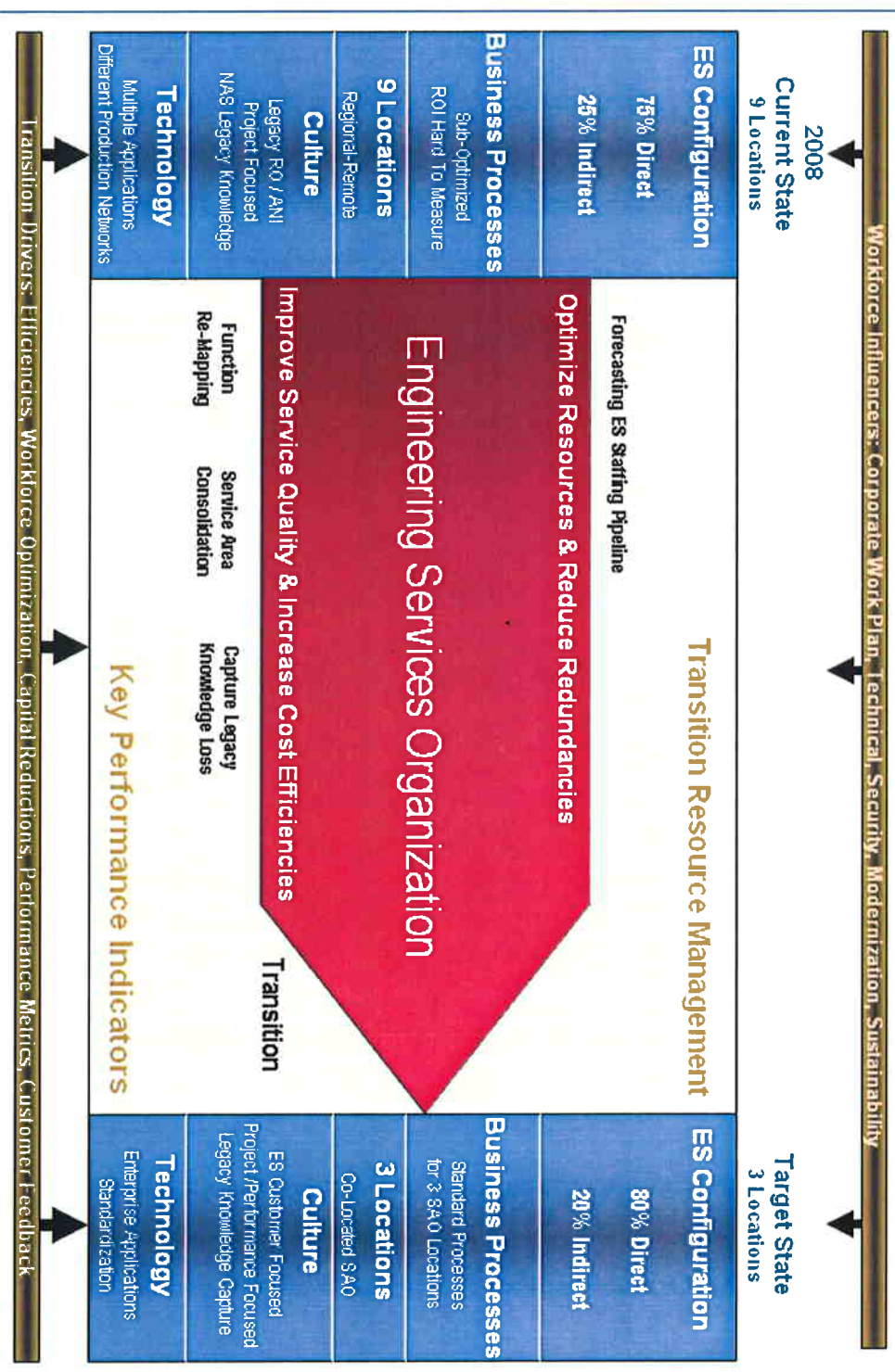
Drivers and Assumptions

- Funding must be provided to support Permanent Change of Station (PCS) moves, Critical Transition Staffing (CTS), space requirements, personnel incentives, fast-track training, preservation of ES knowledge, and workload management. Business Process Engineering will be funded.
- A significant number of ES personnel may choose to retire and/or leave when they receive directed reassignment
- Various Human Resources (HR) initiatives may be used to recruit, hire, and offer incentives to the technical workforce. VERA may be applied selectively.
- Agreements between ES and Service Centers/Lines of Business will be completed before non-core functions can be remapped to these organizations.
- Efficiencies are to be realized through realignment, technology infusion and process improvements.
- An ES team will be established to manage the implementation of ESEP, and lead sub-teams to develop & implement plans, SLA's, etc.



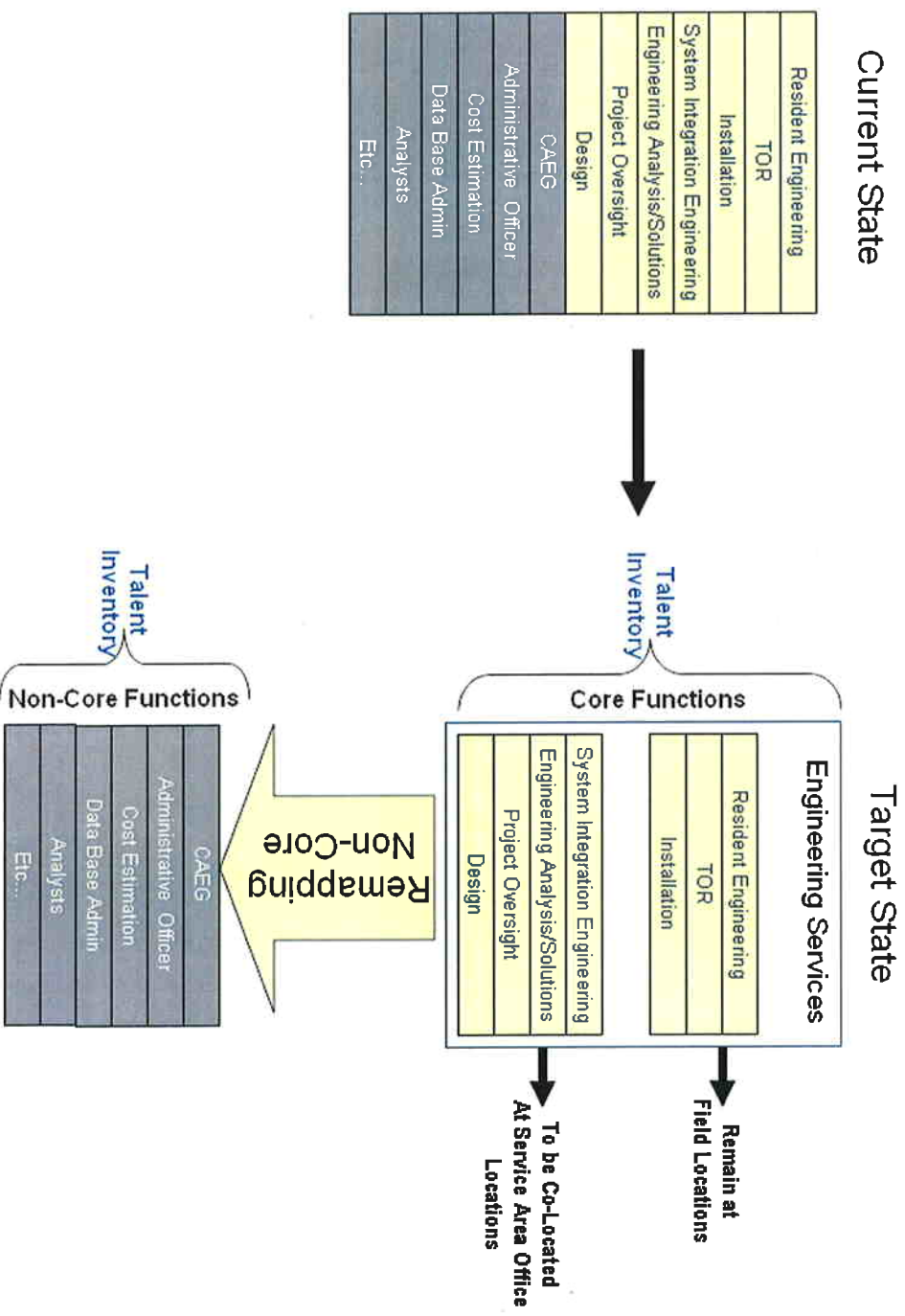
Strategy to Reach Target State

Transitioning Engineering Services



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Mapping Core & Non-Core Functions



Engineering Services Resources

Type of Resource	FY06 (to/above/d)	FY07 PPS 9-29-07 (to/above/d)	EOY FY08 Planned Target	EOY FY09 Planned Target	EOY FY10 Planned Target	Reductions	Remapping	
Direct	1,056	922	922	922	883	39	0	
Indirect	227	233	221	211	158	72	3	
F&E Engineering Total	1,283	1,155	1,143	1,133	1,041	111	3	
Direct	446	347	278	247	239	30	78	
Indirect	223	100	93	83	62	15	23	
Operations Engineering	669	447	371	330	301	45	101	
Engineering Services FTE's Resource Totals	1,952	1,602	1,514	1,463	1,342	156	104	
Contractors								
National Airspace System Implementation Support Contract (NISC) Direct	44.8							
National Airspace System Implementation Support Contract (NISC) Indirect	118.5							
NISC Total	163.3					60		
Technical Support Services Contract (TSSC) BLI Funded (core) FTEs	104.6	(10 Million Dollars Reduction)						
Technical Support Services Contract (TSSC) Project Funded (non-core) FTEs	475.1	(Funded from outside of ATO-W)						
TSSC Total	579.7							
Contractor Total	267.9							
Total Engineering Services Resource	2,220					320	104	

This chart shows cumulative levels of Engineering Services staffing including FTE's, NISC, and TSSC contract employees. The FTEs are divided by F&E and Ops, and direct and indirect. The contract employees have been distributed by those funded by ATO-W (core) and those funded externally or industrially (non-core). A significant reduction is shown from FY06 to FY07 when 150 FTEs were moved to Service Centers, Technical Operations froze hiring and began a reduction of internally funded contractors. The ESEP continues the cost savings by reducing additional contract support and FTEs. Additionally, remapping of several functions is proposed where the new owner can show reduced cost savings and increased efficiencies through BPE, technology infusion, etc.



Impacted Community*

Engineering Service Transition Impacted Personnel Matrix

Position Types	WSA	CSA	ESA
Supervisors (K-Band Mgrs./J-Band Mgrs. Construction/Installation Supervisors)	28	23	25
F&E Engineers (Includes Technicians/Specialists)	125	124	112
Ops Engineers (Includes Technicians/Specialties)	34	36	22
Admin/Analysts/AO	30	26	30
Totals:	217	209	189

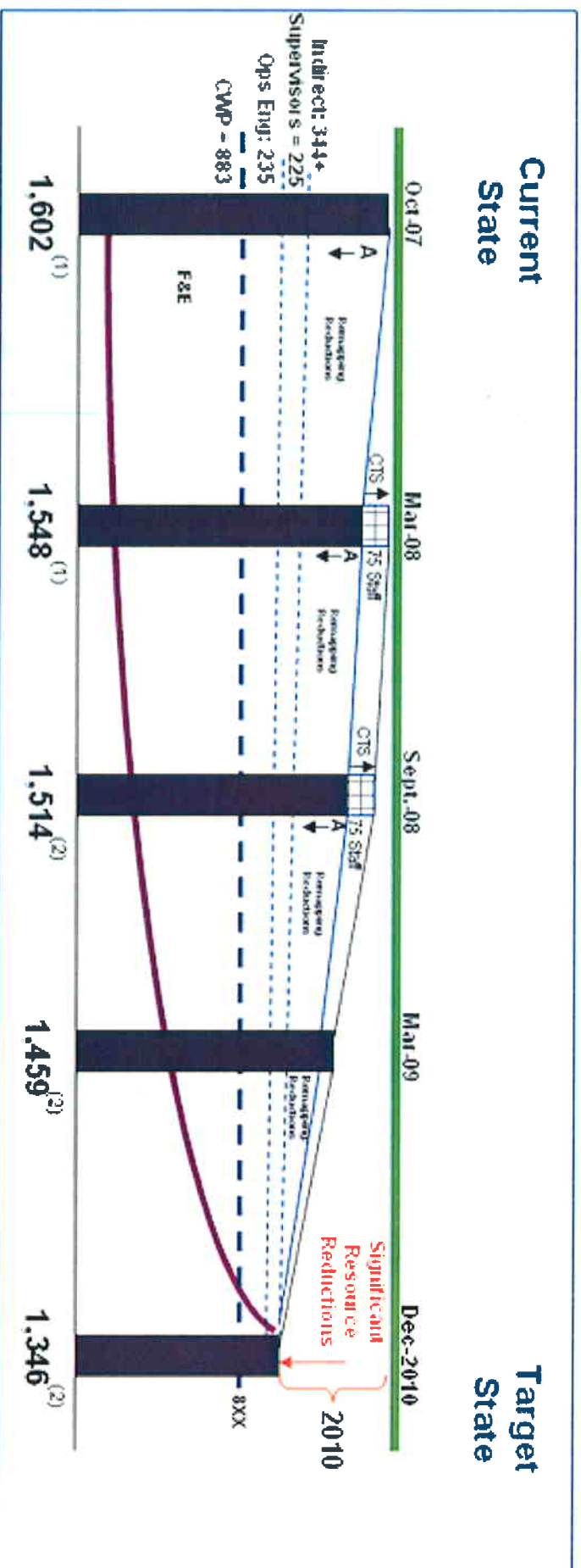
*Final decisions on the number of impacted employees would come after additional analysis of both required Federal and contractor resources needed to relocate.



Position Types	L.A.	Anchorage	Totals
Supervisors	24	4	28
F&E Engineers	95	30	125
Ops Engineers	24	10	34
Admin/Analysts/AO	25	5	30
Western Legacy Totals:	168	49	217
Position Types	Chicago	K.C.	Totals
Supervisors	15	8	23
F&E Engineers	70	54	124
Ops Engineers	22	14	36
Admin/Analysts/AO	19	7	26
Central Legacy Totals:	126	83	209
Position Types	NY	Boston	Totals
Supervisors	18	7	25
F&E Engineers	71	41	112
Ops Engineers	12	10	22
Admin/Analysts/AO	19	11	30
Eastern Totals:	120	69	189



ES Critical Transition Staffing (CTS) Requirements and Realignment Efficiencies



- (1) Core/Non-Core Positions: (Allocated to Corporate Work Plan- CWP)
- (2) Core Only: (Allocated to CWP) Estimates only – formal determination to be made following more rigorous analysis by transition group.
- Position Reductions: (Retirees, Termination, Re-assigned/mapped, etc.)
- Productivity/Efficiencies Gains: (Improved Processes, Performance Support Tools, etc.)
- Critical Transition Staffing (CTS): (Phased talent acquisition to offset anticipated loss of positions and knowledge workers)
- Realignment/Transition Activities: (Relocation, Attrition, Integrated Shared Functions, Remap non-core functions)
- A Attrition Activity



Implementation Issues

- Experienced employees will pursue and find new jobs outside Engineering Services
- Corporate Work Plan projects may be adversely impacted in terms of production costs and schedules if not managed closely
- Resources needed to fill the staffing gap may not be available
- Decreasing productivity will occur during transition
- Significant inefficiencies will result if plan is not implemented in its totality



ESEP Financials

- **The Team:**
 - Analyzed ES operations, functions, positions, and cost drivers to identify transition efficiencies and cost savings.
Defined and identified core/non core categories, reviewed ESA, CSA, WSA personnel skill-set staffing charts, used service scenario's to evaluate reduction/remapping risks, etc...
 - Designed a financial worksheet to calculate predicted efficiencies and cost savings for the Service Areas and rolled up the data into a National view.
Cost savings combined FTE & Contractor, travel, and business expense reductions.
 - Remapping will add cost savings and increase efficiencies that will be quantified during the implementation phase.
 - It should be noted the ESEP team foresees additional savings will be realized via BPE, technology infusion, etc. as the plan is implemented.



ESEP Financials

Engineering Services Master Efficiency Plan Financials

NATIONAL

ESEP Cost Category	Category Type / Activity	Start	Finish	Total SA Positions	Service Area Projected Savings
Position Reductions					
Core	Engineering 5% Efficiency	1/1/2008	12/31/2010	46	\$6,300,000
	K-Band Managers	1/1/2008	1/30/2009		\$0
	J-Band Managers	1/1/2008	12/31/2010	9	\$1,620,000
	En Route	1/1/2008	12/31/2010	12	\$1,800,000
	Network Engineering	1/1/2008	12/31/2010	15	\$2,250,000
	Ops				
	Infrastructure	1/1/2008	12/31/2010	3	\$450,000
	FMFP	1/1/2008	12/31/2010	9	\$900,000
	Non-Core				
	Cost Estimating	1/1/2008	3/1/2009	9	\$1,350,000
	CAEG	1/1/2008	12/31/2010	9	\$1,125,000
	TSSC	1/1/2008	12/31/2010	5	\$750,003
	AD	1/1/2008	12/31/2010	8	\$1,200,000
	Impacted Temps	1/1/2008	10/1/2008	5	\$750,000
	Ops. Eng. Program Mgmt.	1/1/2008	7/1/2008	3	\$540,000
	Admin	1/1/2008	12/31/2010	4	\$500,000
	Warehouse Positions	1/31/2008	7/1/2008	7	\$875,000
	Warehouse Leases	1/31/2008	7/1/2008		\$557,555
	Analysts	1/31/2008	12/31/2009	12	\$1,500,000
	Other Personnel Reductions			156	\$23,067,574
	Lease/Personnel OH	1/1/2010	12/31/2010		\$1,998,000
	Reduction	1/1/2010	12/31/2010		\$10,000,000
	TSSC BLI	1/1/2009	12/31/2010	6	\$900,000
	NISC TOM	1/1/2008	3/1/2008	60	\$6,000,000
	Project Defunding	1/1/2008	3/1/2008	65	\$18,898,000
	Total Position Reduction			222	\$41,965,574

Personnel Reductions



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ESEP Financials

Travel Reduction					
Personnel					
K-Band Meetings	1/1/2009	12/31/2010			\$25,200
J-Band Meetings	12/31/2010	12/31/2010			\$110,400
CAEG, TSSC, etc	12/31/2010	12/31/2010			\$16,800
RE Install at ARTCC	12/31/2010	12/31/2010			\$1,202,400
Overtime					\$0
Total Travel Reduction					\$1,354,800
Locality Pay Change					
Personnel					
Engineers/Techs	1/1/2010	12/31/2010			\$2,932,000
Managers	1/1/2010	12/31/2010			\$600,000
Support	1/1/2010	12/31/2010			\$192,000
-23% COLA	1/1/2010	12/31/2010			\$148,000
Total Locality Pay Change					\$4,172,000
General Business Expenses					
Contract Services					
FEDEX	1/1/2008	12/31/2010			\$72,000
ARC					
Office Supplies (1/2 FTE)	1/1/2008	12/31/2010			\$0
Copy Machine (1/2 FTE)	1/1/2008	12/31/2010			\$75,000
EOY spending					\$0
Total General Business Expenses					\$147,000
ESEP Consolidation Projected Efficiency Total					-\$47,639,365
ES Remapping Activity					
ESEP Cost Category	Category Type / Activity			Feds	Contractors
External					
Spectrum	1/1/2008	12/31/2010		26	
Admin Tel	1/1/2008	12/31/2010		13	15
CAEG	1/1/2009	12/31/2010			
Admin	1/1/2008	12/31/2010		12	
Analysts	1/1/2008	12/31/2010		3	
MASTER	1/1/2/2007	1/1/2008		50	
Total External Remapping				104	15
Internal					
Ops Engineering	1/1/2008	12/31/2010		27	
Total Internal Remapping				27	
ESEP Remapping Totals				131	15

Additional Efficiencies

Remapping Activity

Six Months To Secure Service Level Agreements



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Transition Costs 2008 thru 2010

These are anticipated costs based on recent Service Center consolidation activity and may be adjusted during plan implementation. Additionally, BPE effort with the Service Center should be supported.

- **PCS: 20.8M** Includes the approximate cost of PCS for ES employees electing to relocate to SAOs, i.e., 200 employees at a cost of \$104K each.
- **Space: 6M** Includes the estimated cost of office space at SAOs for ES employees electing to relocate, i.e., \$1M/year build out and 1M Lease at each SC Location.
- **Incentive pay: 5M** Includes the estimated cost of offering financial incentives to encourage key engineering staff to relocate, i.e., 200 engineers at a cost of \$25K each.
- **CTS: 15M** Includes the estimated cost of hiring new, entry-level engineers, i.e., 150 at a cost of \$5M per year for three year period.
- **Technology Infusion: 1M** Includes the estimated cost of adding technology (SW/HW) to sustain and improve the productivity of engineers in a reduced staffing environment.
- **Training: \$1M** Includes the cost of the development of new courses and instructional services for on site training.
- **Marketing Package .25 M** Estimated transition communication and marketing cost.

Total: 49.M



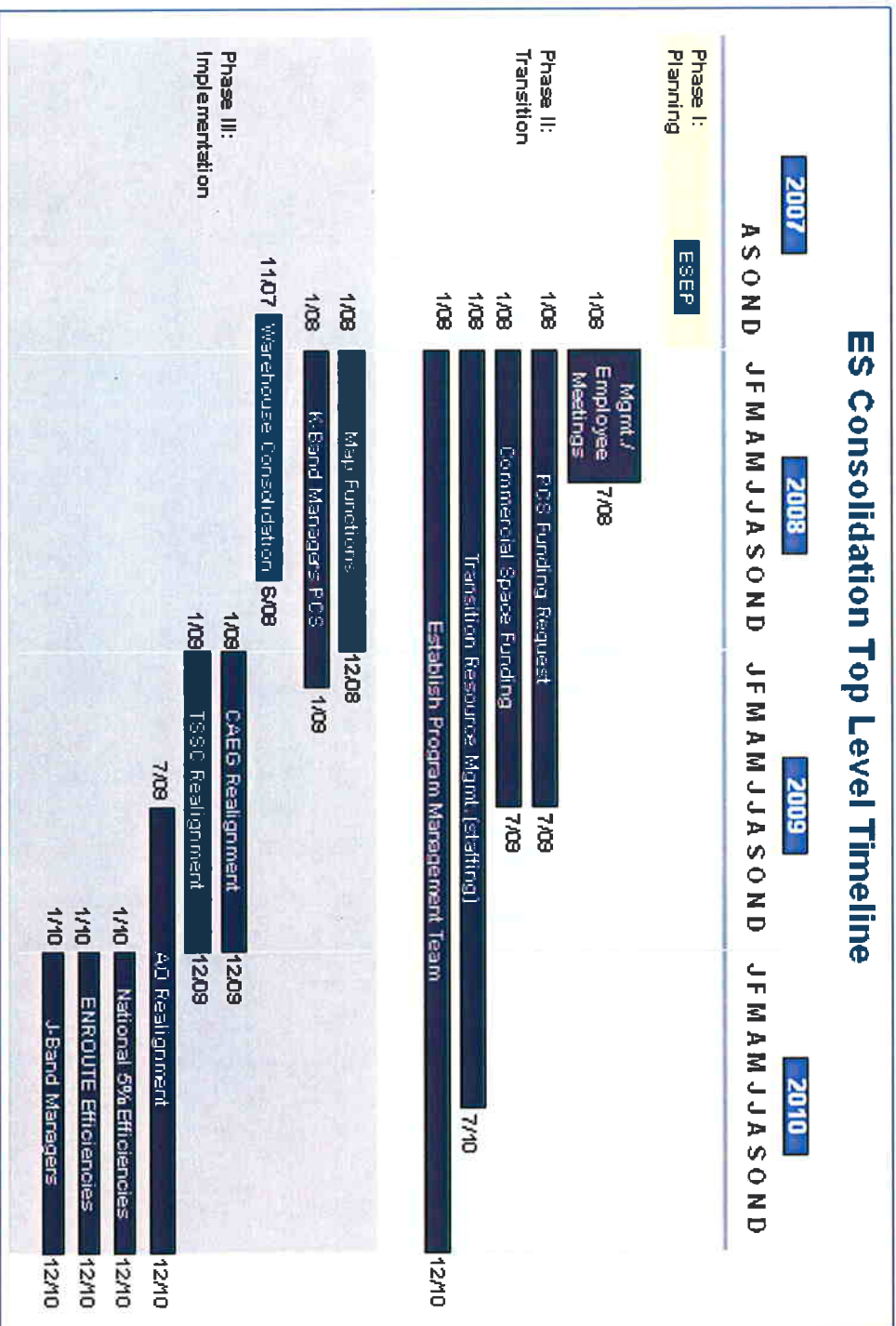
Additional Implications

- Talent Inventory:
 - Manage attrition of the F&E and Ops Engineering personnel and develop a strategy to compete for expertise in the engineering labor market.
- Capability and Capacity Assessment:
 - During the transition period ES must identify and close capability and competence gaps in the onboard engineering workforce to improve individual performance and organizational capability and effectiveness.
- Workload and Performance Management:
 - Central to a performance-based organization is the understanding of position workload requirements.
 - * *Development of workforce workload and planning metrics is essential to a successful realignment effort.*



ESEEP Timeline

ES Consolidation Top Level Timeline



Alternative Approach to ESEP

- The team reviewed alternative approaches to this plan including an attrition approach. This was not adopted for the following reasons:
 - It would not achieve the realignment of the ES staff located at 6 regional offices into 3 locations.
 - Based on retirement eligibility dates, distribution of personnel in the six regions that are targeted to move to one of the three SOA locations would very likely remain in the region well past 2017.
 - Attrition would be unpredictable resulting in ES fragmentation.
 - **Financially, fewer cost reductions and savings would be achieved over a much longer timeline.**



ES Early Retirement Chart

Impacted Community **Early Retirement** Eligibility Grid

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
WSA	27	4	7	3	7	7	5	7	7	7	11	6
CSA	26	4	6	7	5	7	5	5	3	7	8	9
ESA	25	5	3	4	4	3	6	3	4	4	8	9

WSA: 98

CSA: 92

ESA: 78

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ESEEP Team Recommendation

- That the *ESEEP* be implemented as a **comprehensive plan that includes:**
 - ES position realignment and reduction
 - Contractor position reductions
 - Cost savings
 - Efficiencies

