

# Six Sigma Black Belt Final Project Presentation

Grants Management  
By Felicia Sherman

# Define

Problem Statement

CT Flowdown

SIPOC

# Problem Statement

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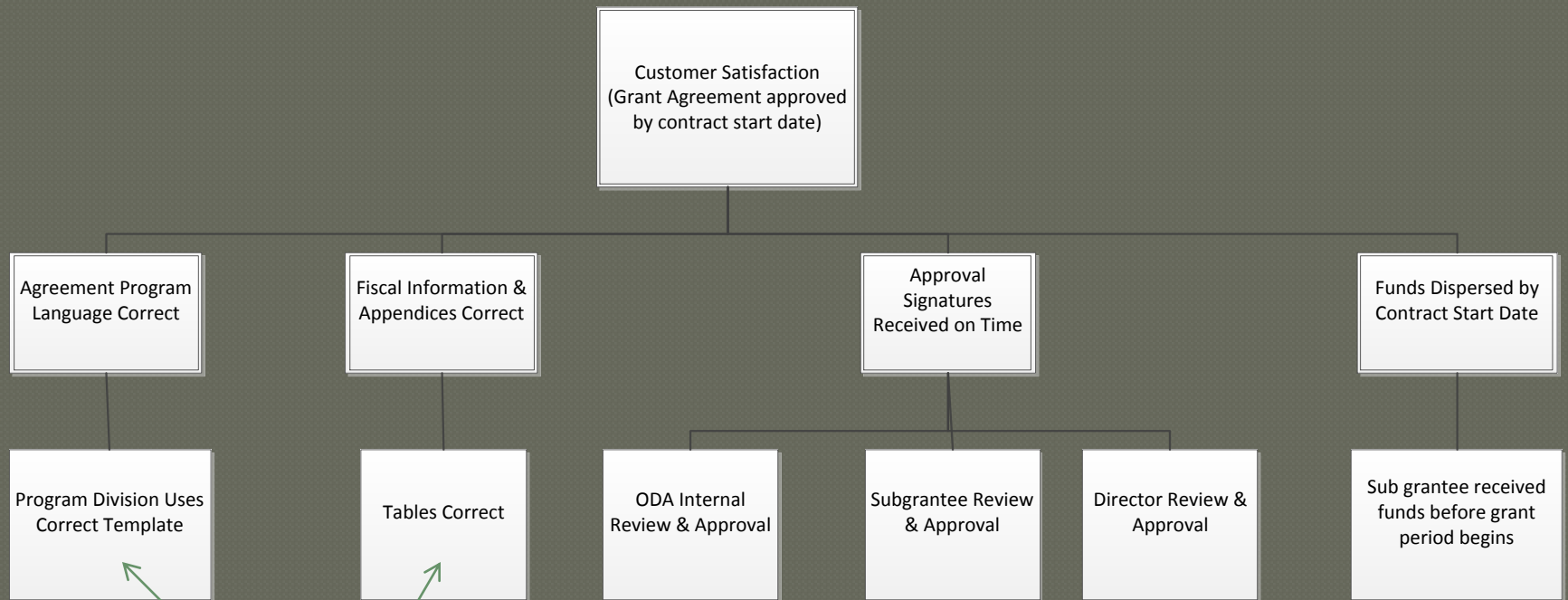
- ODA's current grants management procedures take up to 55 business days to process a grant agreement from notice of grant award to distribution of funds
- The grants process needs to be streamlined to improve process flows and decrease total process time to free staff resources for other projects

# Project Results and Findings

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- Total internal process is expected to take <35 days
  - Average completion time is 37 days
- Difficult to pinpoint most significant process delays due to no formal tracking mechanism for full process (including external processing time)
  - Able to track pieces of process through document properties tracking in Word
  - On average, each division meets (and beats) timelines for draft and document reviews

# CT Flowdown



Majority of errors occur affecting process timeline

# SIPOC

## SIPOC Diagram

Grants Management Approval Process

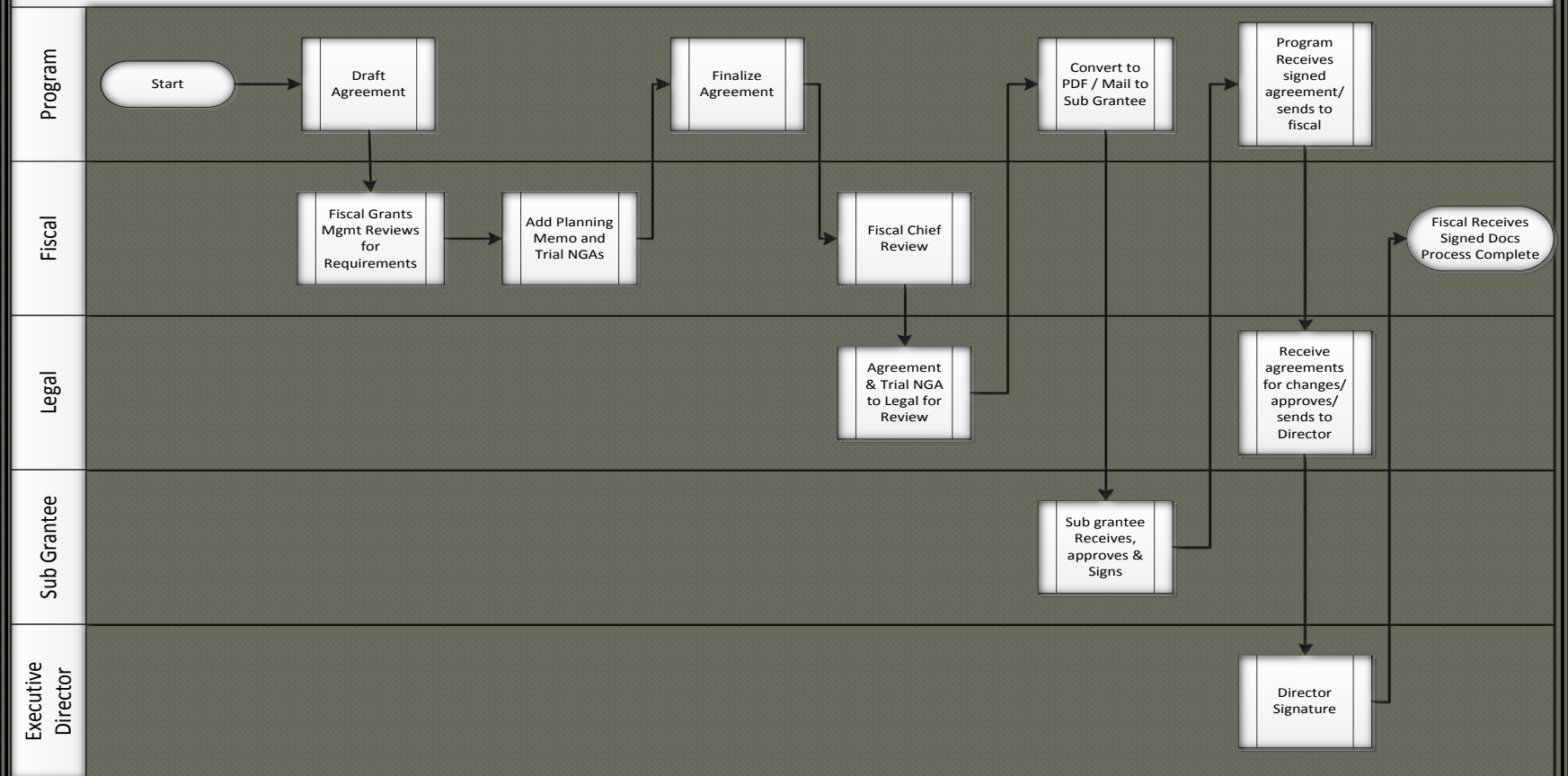
Suppliers	Input	Process	Output	Customers
Project Manager Fiscal Grants Manager	Draft Agreement Template Add Fiscal Tables	<b>Develop Agreement Template</b>	Electronic Draft Agreement Final Draft Template	Fiscal Grants Manager Project Manager
Project Manager/Chief Legal Chief	Final Formatted Template	<b>Review/Concurrence</b>	Program Concurrence Fiscal Concurrence Legal Concurrence	Fiscal Chief Legal Chief Fiscal Grants Manager
Fiscal	Template with revisions	<b>Final Form Drafted &amp; Mailed</b>	Final PDF Form	Project Manager/Sub Grantee
Sub Grantee/Fiscal	PDF Form	<b>Director Signs/Approval to Distribute Funds</b>	NGA	Fiscal/Sub Grantee

Internal

External

# High Level Process Map

## Grant Agreement Process



Measure

Current Performance Levels



# Limitations of Data Collection

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- No formal tracking mechanism in place to track when process actually begins
- Limited data set of <30 data points
- Missing data points
- No formal tracking mechanisms in place to evaluate full process from start to finish
- Used document properties to track beginning dates for each phase
- Used signed dates in agreement to track ending dates

# Y is a Function of X

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- Y = Process Time
- Critical X's
  - Days in Program Division
  - Days in Legal Review
  - Days in Fiscal Processing
  - Days until Sub grantee Signs & Returns Final Agreement

# Current Performance Levels

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- Total Process Time  $\leq 55$  days
  - Internal Agreement Prep Time  $\leq 37$  days
  - External Process (Sub Grantee Review, Sign, Return) estimated at  $> 20$  days

# C&E Matrix

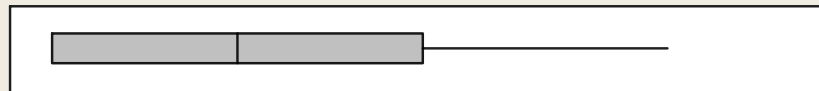
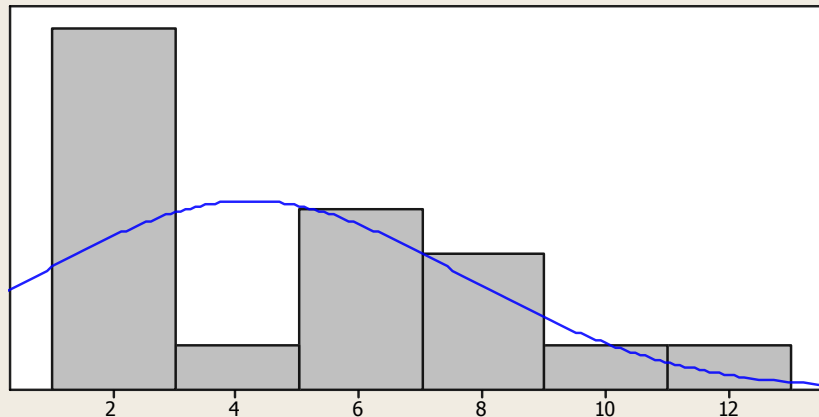
Cause & Effect Matrix											
Rating of Importance to Customer		3	7	3	3	3	10	10	10		
#	KPIV	Electronic form	Final Draft with all fiscal info	Program Concurrence	Fiscal Concurrence	Legal Concurrence	Distribution to Sub Grantee	Sub grantee Signed Final Agreement	Signed agreement from Director	Total	% Rank
1	Draft template	10	7	7	7	7	5	5	3	272	12%
2	Review electronic form/add tables	7	10	7	7	7	7	5	3	304	14%
3	Formatted form	1	5	7	7	7	3	3	3	191	9%
4	Legal Review & approval	1	1	3	3	10	3	7	7	228	10%
5	PDF Final Form	5	7	7	7	7	10	10	10	427	19%
6	Sub Grantee Signs	1	3	1	1	1	1	10	10	243	11%
7	Grant Agreement from Sub Grantee	1	1	1	1	1	3	10	7	219	10%
8	All documents combined and submitted to Director for signature (agreement + NGAs)	5	7	7	7	7	3	10	10	357	16%
Total		31	41	40	40	47	35	60	53		

Analyze

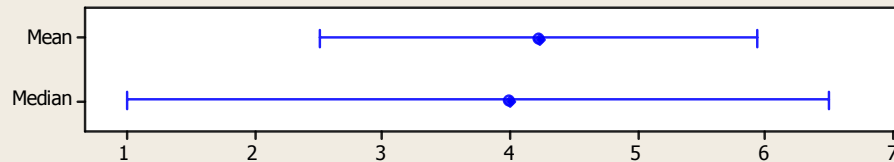
Critical X's Affecting Process  
Time

# Program Process Summary

## Summary for Program Sign-off Date



### 95% Confidence Intervals



### Anderson-Darling Normality Test

A-Squared	1.12
P-Value <	0.005

Mean	4.2222
StDev	3.4395
Variance	11.8301
Skewness	0.559034
Kurtosis	-0.957449
N	18

Minimum	1.0000
1st Quartile	1.0000
Median	4.0000
3rd Quartile	7.0000
Maximum	11.0000

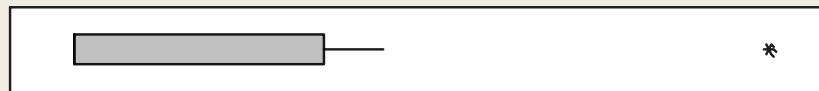
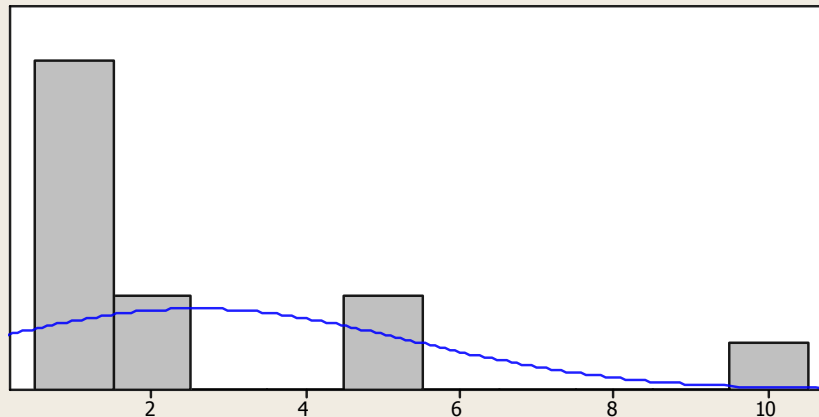
95% Confidence Interval for Mean	
2.5118	5.9326

95% Confidence Interval for Median	
1.0000	6.4820

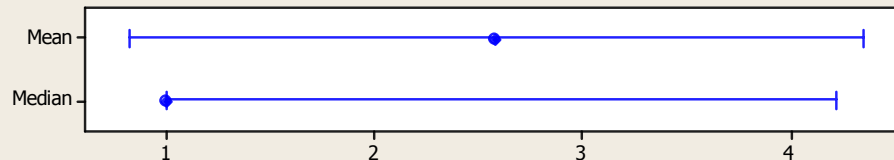
95% Confidence Interval for StDev	
2.5809	5.1563

# Fiscal Process Summary

## Summary for Fiscal Signoff



### 95% Confidence Intervals



### Anderson-Darling Normality Test

A-Squared 1.79  
P-Value < 0.005

Mean 2.5833  
StDev 2.7784  
Variance 7.7197  
Skewness 2.07522  
Kurtosis 4.26461  
N 12

Minimum 1.0000  
1st Quartile 1.0000  
Median 1.0000  
3rd Quartile 4.2500  
Maximum 10.0000

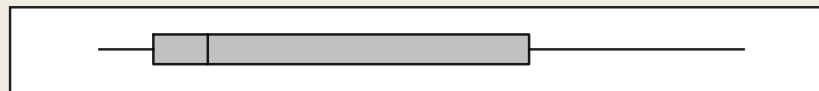
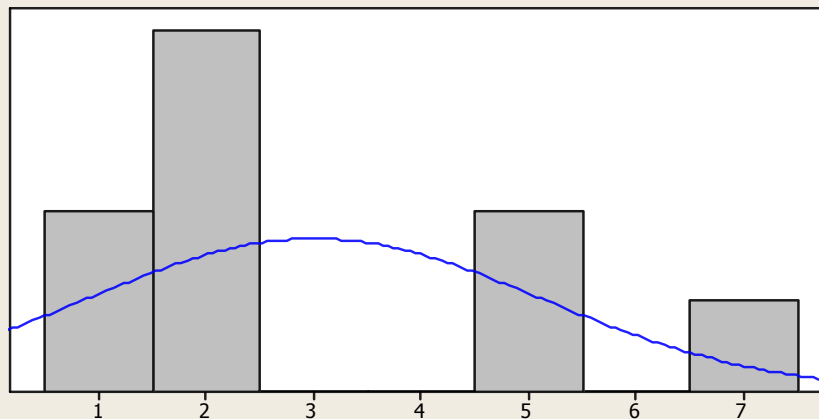
95% Confidence Interval for Mean  
0.8180 4.3487

95% Confidence Interval for Median  
1.0000 4.2106

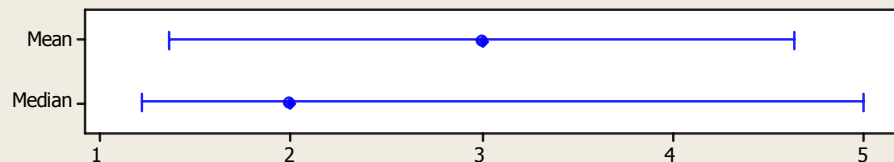
95% Confidence Interval for StDev  
1.9682 4.7174

# Legal Process Summary

## Summary for Legal Sign-off



### 95% Confidence Intervals



### Anderson-Darling Normality Test

A-Squared	0.82
P-Value	0.020

Mean	3.0000
StDev	2.1213
Variance	4.5000
Skewness	1.01015
Kurtosis	-0.28571
N	9

Minimum	1.0000
1st Quartile	1.5000
Median	2.0000
3rd Quartile	5.0000
Maximum	7.0000

95% Confidence Interval for Mean	
1.3694	4.6306

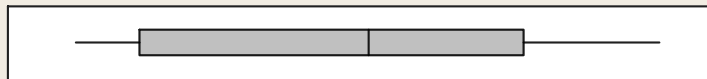
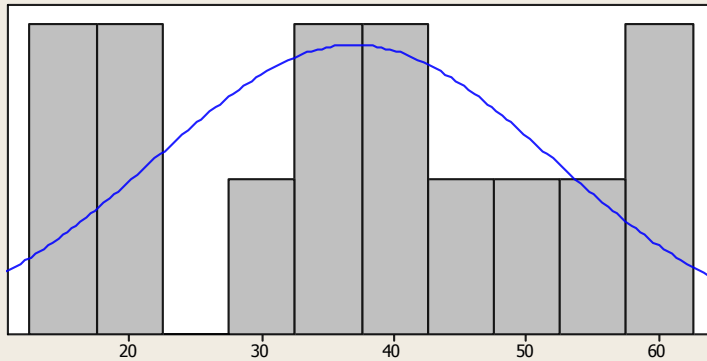
95% Confidence Interval for Median	
1.2279	5.0000

95% Confidence Interval for StDev	
1.4329	4.0640

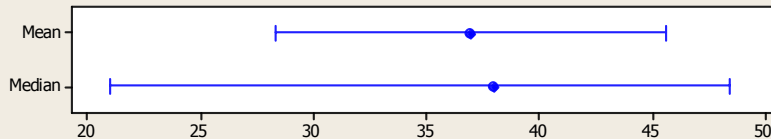


# Total Process

Summary for total



95% Confidence Intervals



Anderson-Darling Normality Test

A-Squared	0.27
P-Value	0.626

Mean	36.929
StDev	14.990
Variance	224.687
Skewness	0.07485
Kurtosis	-1.16883
N	14

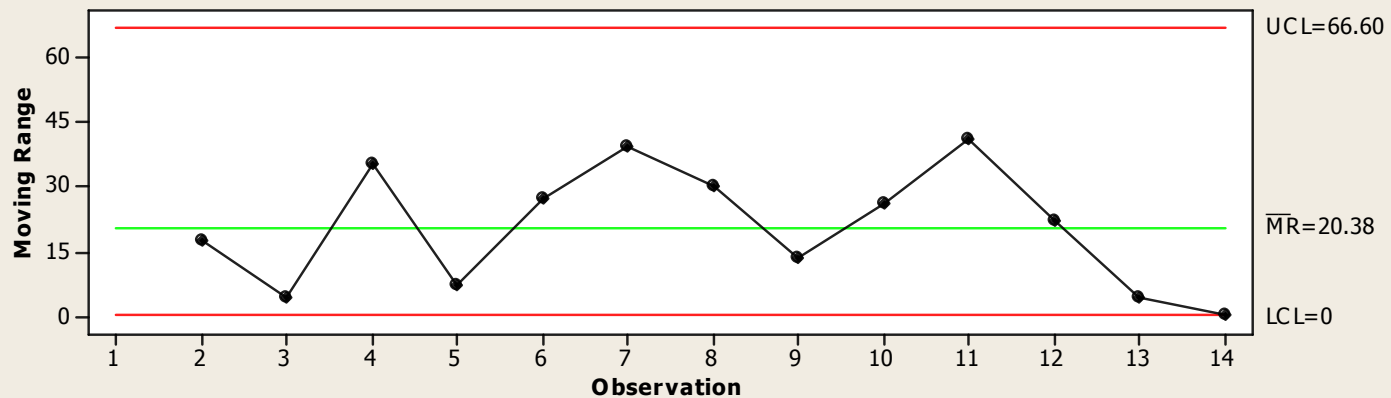
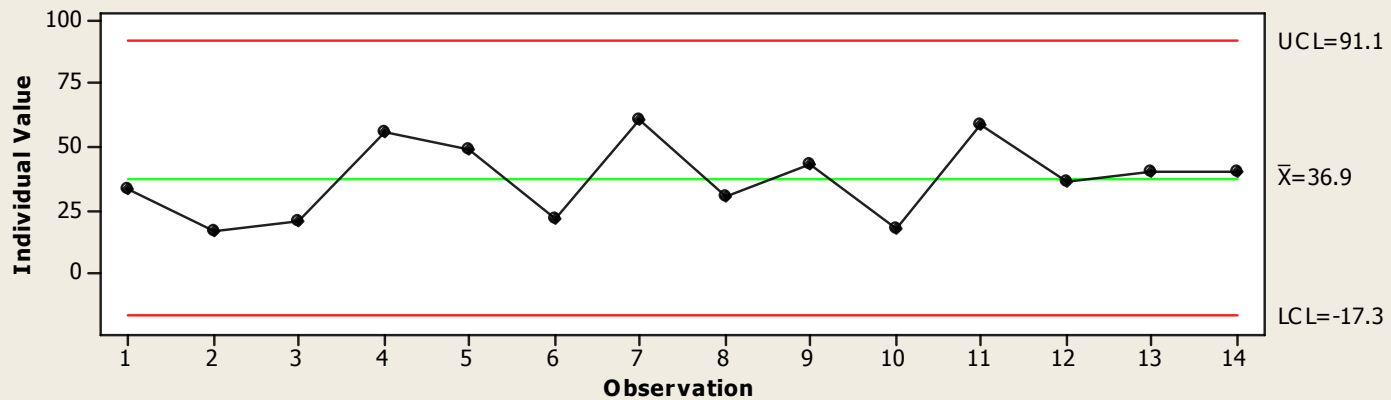
Minimum	16.000
1st Quartile	20.750
Median	38.000
3rd Quartile	49.750
Maximum	60.000

95% Confidence Interval for Mean	
28.274	45.583
95% Confidence Interval for Median	
20.949	48.360
95% Confidence Interval for StDev	
10.867	24.149

1-Sample t:  $m > 35$  days  
 $T = .48$   
 $p \text{ value} = .638$   
 95% CI: (28.27, 45.58)

# Process Control Chart

**I-MR Chart of total**



# FMEA

Key Process Step or Input	Potential Failure Mode	Potential Failure Effects	S E V	Potential Causes	O C C	Current Controls	D E T	R P N	Actions Recommended	Actions Taken
<b>Draft Template</b>	<b>Wrong Template Used</b>	<b>Slows Process</b>	<b>4</b>	<b>Not paying attention to detail</b>	<b>2</b>	<b>Delete old version</b>	<b>10</b>	<b>80</b>	<b>Better review procedures</b>	<b>Create checklist</b>
Add Tables	Wrong Tables/Dates	Slows Process	5	Wrong Schedule	3	Award Fed Requirements	1	15	Better review procedures	
Format Form	Neglect	Slows Process	4	Changes between steps	1	Communication w/sub grantee start of process	10	40	Better review procedures	
<b>Legal Review &amp; Approval</b>	<b>Backlog/Unaware document awaiting approval</b>	<b>Slows Process</b>	<b>4</b>	<b>Routing issues discovered</b>	<b>3</b>	<b>None</b>	<b>5</b>	<b>60</b>	<b>Online tracking application</b>	<b>Electronic NGA Application</b>
PDF Final Form	Edits not captured/wrong agreement to subgrantee/new Exec Order/Admin Changes	Delay	5	Mail merge	2	Another review (possibly)	2	20	Remove tailored components	
<b>Sub Grantee Signs</b>	<b>Gets lost</b>	<b>Delay</b>	<b>8</b>	<b>Forgot/Lost</b>	<b>9</b>	<b>Follow-up</b>	<b>1</b>	<b>72</b>	<b>Electronic signing of documents</b>	<b>Electronic NGA Application</b>
Combine all Documents and Submt to Director	Missed in attachment	Delay	10	Grantee did not send back/misplaced	2	Checklist	1	20	Use checklist	

# Improve

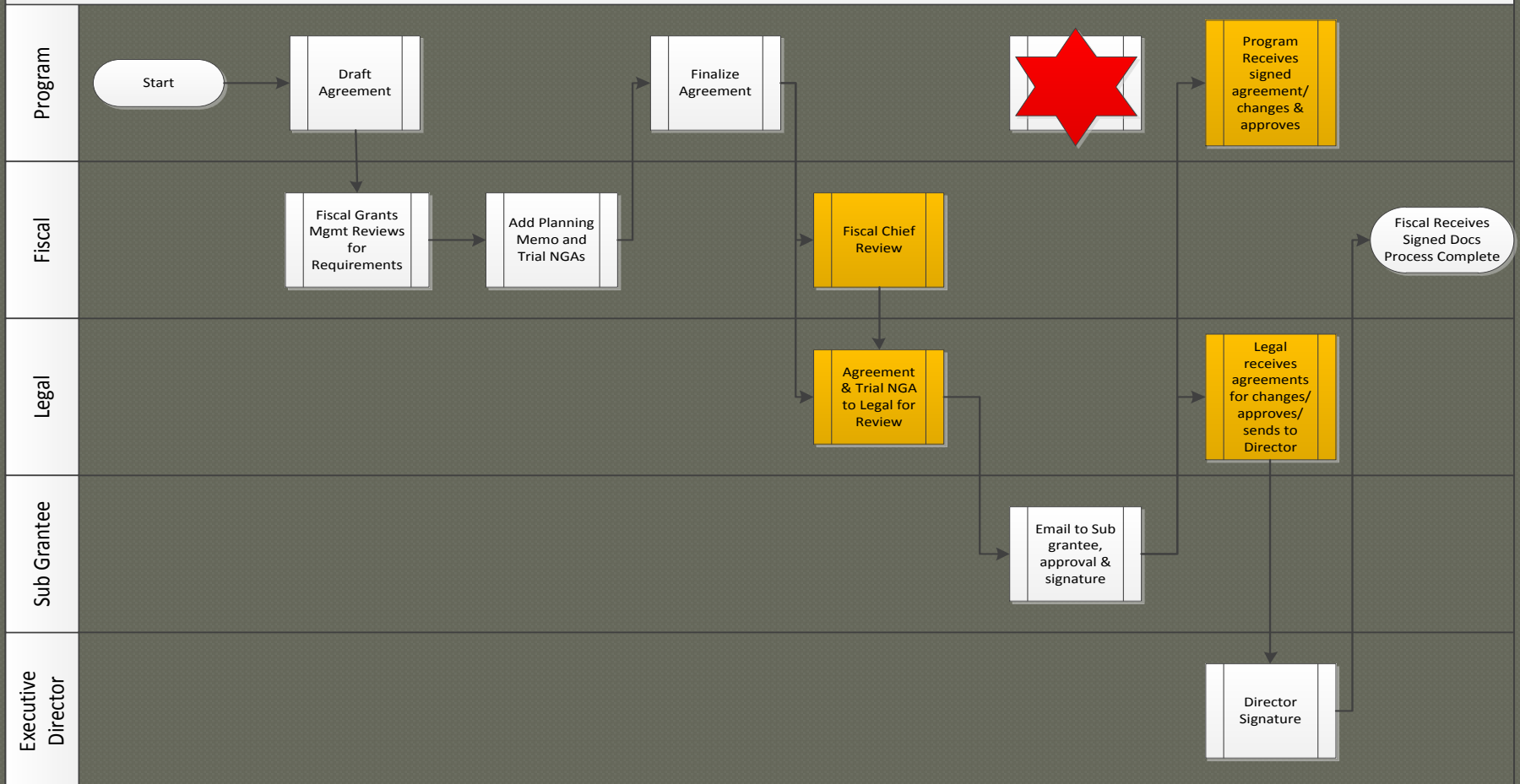
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- Recommended Solution

- Electronic NGA application
  - Standardize the Process
  - Adjust settings of key process input variables (templates, appendices) to error proof final documentation
  - Will add process to collect data
  - Annual Calendar for Standard Grants
  - Electronic signing of documents

# Lean

## Grant Agreement Process



# New Targets

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- ◉ Cut process time by 5 days by eliminating hard copy transfer of documentation
  - Lead time can be reduced by electronic transfer of paperwork between divisions
  - Allow electronic signatures to eliminate snail mail process
- ◉ Cut process time by additional 5 days by streamlining review process
  - Electronic document review allows entire cross function team to review, suggest changes and approve final draft in shortened timeframe

# Control

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- Management Control System
- Training/SOP
- End of Process Quality Audit

Questions?

Thank you for your time!