

# Establishing Fluid Dynamics Scales Critical to Dynamic Interface Applications and their Impact on Handling Qualities

Quarterly Funding Status Report 3

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## Graphical Summary

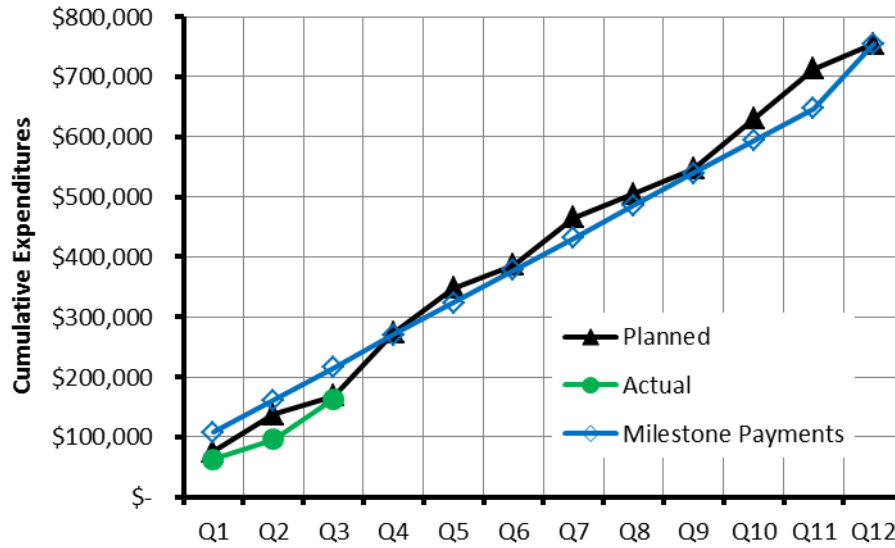


Figure 1: Planned and actual funding expenditures along with anticipated milestone payments (please note that milestone payments have been updated from Quarterly Funding Status Report 1 to match the payments in the contract)

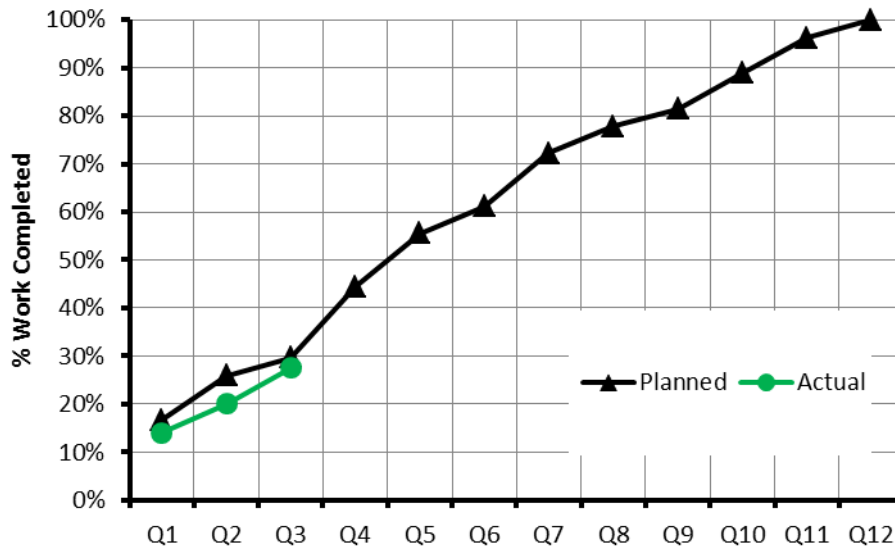


Figure 2: Planned and actual percentage of work completed

## Detailed Breakdown

Table 1: Planned funding expenditures with task duration in gray

Task	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1. Extended Technology and Requirements Review	\$ 44,845												\$ 44,845
2. Definition of Disturbance Field Fluid Dynamics Scales Relevant to Naval Rotorcraft Operations	\$ 31,325	\$ 31,325											\$ 62,649
3. Generation of Synthetic Disturbance Fields		\$ 30,775	\$ 30,775	\$ 30,775									\$ 92,325
4. Definition of Aeromechanics and HQ Metrics				\$ 46,781	\$ 46,781								\$ 93,561
5. Generic FD Model Assembly				\$ 27,199	\$ 27,199								\$ 54,397
6. Fundamental Helicopter Response						\$ 39,324	\$ 39,324						\$ 78,648
7. Fundamental Tiltrotor Response							\$ 39,324	\$ 39,324					\$ 78,648
8. Helicopter Flight Dynamics Response									\$ 41,872	\$ 41,872	\$ 41,872		\$ 125,616
9. Tiltrotor Response										\$ 41,504	\$ 41,504	\$ 41,504	\$ 124,513
<b>Subtotal</b>	\$ 76,170	\$ 62,100	\$ 30,775	\$ 104,754	\$ 73,979	\$ 39,324	\$ 78,648	\$ 39,324	\$ 41,872	\$ 83,376	\$ 83,376	\$ 41,504	\$ 755,202
<b>Cumulative</b>	\$ 76,170	\$ 138,269	\$ 169,044	\$ 273,798	\$ 347,777	\$ 387,101	\$ 465,749	\$ 505,073	\$ 546,945	\$ 630,321	\$ 713,698	\$ 755,202	

Table 2: Actual funding expenditures with task duration in gray

Task	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1. Extended Technology and Requirements Review	\$ 36,869	\$ 4,096.52											\$ 40,965
2. Definition of Disturbance Field Fluid Dynamics Scales Relevant to Naval Rotorcraft Operations	\$ 25,753	\$24,489.11	\$ 2,575.30										\$ 52,817
3. Generation of Synthetic Disturbance Fields		\$ 4,662.88	\$64,890.74										\$ 69,554
4. Definition of Aeromechanics and HQ Metrics													\$ -
5. Generic FD Model Assembly													\$ -
6. Fundamental Helicopter Response													\$ -
7. Fundamental Tiltrotor Response													\$ -
8. Helicopter Flight Dynamics Response													\$ -
9. Tiltrotor Response													\$ -
<b>Subtotal</b>	\$ 62,622	\$33,248.51	\$67,466.04	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 163,336
<b>Cumulative</b>	\$ 62,622	\$ 95,870	\$ 163,336	\$163,336	\$163,336	\$163,336	\$163,336	\$163,336	\$163,336	\$163,336	\$163,336	\$163,336	

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*Table 3: Milestone Payments (please note that milestone payments have been updated from Quarterly Funding Status Report 1 to match the payments in the contract)*

Milestone	Description	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Total
1	Kickoff briefing and Slides	\$ 53,943												\$ 53,943
2	1st quarterly technical status report	\$ 53,943												\$ 53,943
3	2nd quarterly technical status report		\$ 53,943											\$ 53,943
4	3rd quarterly technical status report			\$ 53,943										\$ 53,943
5	4th quarterly technical status report & 1st annual (FY) report				\$ 53,943									\$ 53,943
6	5th quarterly technical status report					\$ 53,943								\$ 53,943
7	6th quarterly technical status report						\$ 53,943							\$ 53,943
8	7th quarterly technical status report							\$ 53,943						\$ 53,943
9	8th quarterly technical status report & 2nd annual (FY) report								\$ 53,943					\$ 53,943
10	9th quarterly technical status report									\$ 53,943				\$ 53,943
11	10th quarterly technical status report										\$ 53,943			\$ 53,943
12	11th quarterly technical status report											\$ 53,943		\$ 53,943
13	Draft final report												\$ 53,943	\$ 53,943
14	Final report												\$ 53,943	\$ 53,943
	<b>Subtotal</b>	\$ 107,886	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 53,943	\$ 107,886	\$ 755,202
	<b>Cumulative</b>	\$ 107,886	\$ 161,829	\$ 215,772	\$ 269,715	\$ 323,658	\$ 377,601	\$ 431,544	\$ 485,487	\$ 539,430	\$ 593,373	\$ 647,316	\$ 755,202	

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Table 4: Planned completion schedule with task duration in gray

Task	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Task Total
1. Extended Technology and Requirements Review	100%												100%
2. Definition of Disturbance Field Fluid Dynamics Scales Relevant to Naval Rotorcraft Operations	50%	50%											100%
3. Generation of Synthetic Disturbance Fields		33%	33%	33%									100%
4. Definition of Aeromechanics and HQ Metrics				50%	50%								100%
5. Generic FD Model Assembly				50%	50%								100%
6. Fundamental Helicopter Response						50%	50%						100%
7. Fundamental Tiltrotor Response							50%	50%					100%
8. Helicopter Flight Dynamics Response									33%	33%	33%		100%
9. Tiltrotor Response										33%	33%	33%	100%
% effort	16.67%	9.26%	3.70%	14.81%	11.11%	5.56%	11.11%	5.56%	3.70%	7.41%	7.41%	3.70%	100%
Cumulative	16.67%	25.93%	29.63%	44.44%	55.56%	61.11%	72.22%	77.78%	81.48%	88.89%	96.30%	100.00%	

Table 5: Actual percentage of work completed with task duration in gray

Task	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Task Total
1. Extended Technology and Requirements Review	90%	10%											100%
2. Definition of Disturbance Field Fluid Dynamics Scales Relevant to Naval Rotorcraft Operations	50%	45%	5%										100%
3. Generation of Synthetic Disturbance Fields		5%	70%										75%
4. Definition of Aeromechanics and HQ Metrics													0%
5. Generic FD Model Assembly													0%
6. Fundamental Helicopter Response													0%
7. Fundamental Tiltrotor Response													0%
8. Helicopter Flight Dynamics Response													0%
9. Tiltrotor Response													0%
% effort	14.00%	6.00%	7.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28%
Cumulative	14.00%	20.00%	27.53%	27.53%	27.53%	27.53%	27.53%	27.53%	27.53%	27.53%	27.53%	27.53%	

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