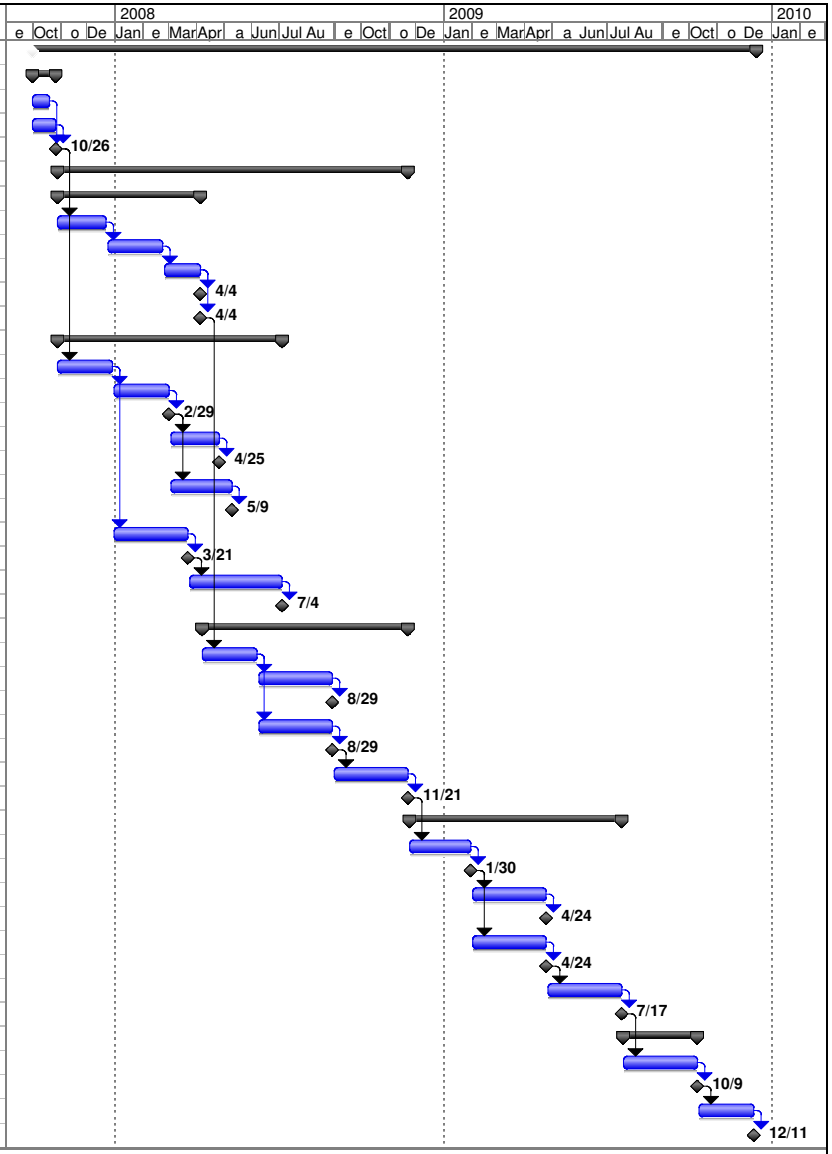
ID	Task Name	Duration	Start	Finish	Predecessors
1	**NANOFLUIDS ADDITIVES FOR HEAT EXCHANGER (HE)**	576 days	Mon 10/1/07	Mon 12/14/09	
2	**Phase I:Review HE fluid technology and IP landscape**	**20 days**	**Mon 10/1/07**	**Fri 10/26/07**	
3	Current research work on nanofluids	15 days	Mon 10/1/07	Fri 10/19/07	
4	Research patented by others	20 days	Mon 10/1/07	Fri 10/26/07	
5	Determine patent concept & methodology	0 days	Fri 10/26/07	Fri 10/26/07	3,4
6	**Phase II Development of CNT-based nanofluid**	**280 days**	**Mon 10/29/07**	**Fri 11/21/08**	
7	**Experimental setup**	**115 days**	**Mon 10/29/07**	**Fri 4/4/08**	
8	Design for nanofluid experiment & HE setting	40 days	Mon 10/29/07	Fri 12/21/07	5
9	Procument	45 days	Mon 12/24/07	Fri 2/22/08	8
10	Rig setup	30 days	Mon 2/25/08	Fri 4/4/08	9
11	Setup ready to commence nanofluid research	0 days	Fri 4/4/08	Fri 4/4/08	10
12	Setup for HE testing completed	0 days	Fri 4/4/08	Fri 4/4/08	10
13	**Modification of CNT-based additive(growth & production)**	**180 days**	**Mon 10/29/07**	**Fri 7/4/08**	
14	Procument of base material	45 days	Mon 10/29/07	Fri 12/28/07	5
15	Stronger CNT to withstand against turbulence development	45 days	Mon 12/31/07	Fri 2/29/08	14
16	Stronger CNT to withstand against turbulence achieved	0 days	Fri 2/29/08	Fri 2/29/08	15
17	High surface area of CNT development	40 days	Mon 3/3/08	Fri 4/25/08	16
18	High surface area of CNT achieved	0 days	Fri 4/25/08	Fri 4/25/08	17
19	15% increase heat absorption development	50 days	Mon 3/3/08	Fri 5/9/08	16
20	15% increase heat absorption achieved	0 days	Fri 5/9/08	Fri 5/9/08	19
21	Neutral surface charges for CNT agglomeration prevention development	60 days	Mon 12/31/07	Fri 3/21/08	14
22	Neutral surface charges for CNT agglomeration prevention achieved	0 days	Fri 3/21/08	Fri 3/21/08	21
23	CNT ability to withstand against rust development	75 days	Mon 3/24/08	Fri 7/4/08	22
24	CNT ability to withstand against rust achieved	0 days	Fri 7/4/08	Fri 7/4/08	23
25	**Nanofluid development (preparation & testing)**	**165 days**	**Mon 4/7/08**	**Fri 11/21/08**	
26	Procument of base material	45 days	Mon 4/7/08	Fri 6/6/08	12
27	10% thermal conductivity improvement development	60 days	Mon 6/9/08	Fri 8/29/08	26
28	10% thermal conductivity improvement achieved	0 days	Fri 8/29/08	Fri 8/29/08	27
29	20%heat transfer coefficient improvement development	60 days	Mon 6/9/08	Fri 8/29/08	26
30	20%heat transfer coefficient improvement achieved	0 days	Fri 8/29/08	Fri 8/29/08	29
31	Nanofluid able to maintain good flow properties developent	60 days	Mon 9/1/08	Fri 11/21/08	30
32	Nanofluid able to maintain good flow properties achieved	0 days	Fri 11/21/08	Fri 11/21/08	31
33	**Phase III Optimization of Formulation**	**170 days**	**Mon 11/24/08**	**Fri 7/17/09**	
34	Reproduction of 2 best nanofluid sample	50 days	Mon 11/24/08	Fri 1/30/09	32
35	Reproduction of 2 best nanofluid sample achieved	0 days	Fri 1/30/09	Fri 1/30/09	34
36	Ability to withstand mechanical testing	60 days	Mon 2/2/09	Fri 4/24/09	35
37	Ability to withstand mechanical testing achieved	0 days	Fri 4/24/09	Fri 4/24/09	36
38	Ability to withstand rheology testing	60 days	Mon 2/2/09	Fri 4/24/09	35
39	Ability to withstand rheology testing achieved	0 days	Fri 4/24/09	Fri 4/24/09	38
40	Nanofluid stability development	60 days	Mon 4/27/09	Fri 7/17/09	39
41	Nanofluid stability achieved	0 days	Fri 7/17/09	Fri 7/17/09	40
42	**Phase IV Field test**	**60 days**	**Mon 7/20/09**	**Fri 10/9/09**	
43	Formulation testing	60 days	Mon 7/20/09	Fri 10/9/09	41
44	Field test complete	0 days	Fri 10/9/09	Fri 10/9/09	43
45	**NanoC prepare final report**	45 days	Mon 10/12/09	Fri 12/11/09	44
46	**Submitt Report to OYL**	0 days	Fri 12/11/09	Fri 12/11/09	45



Project: CNT NANOFLUIDS 27-7 R1
Date: Fri 7/27/07

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone