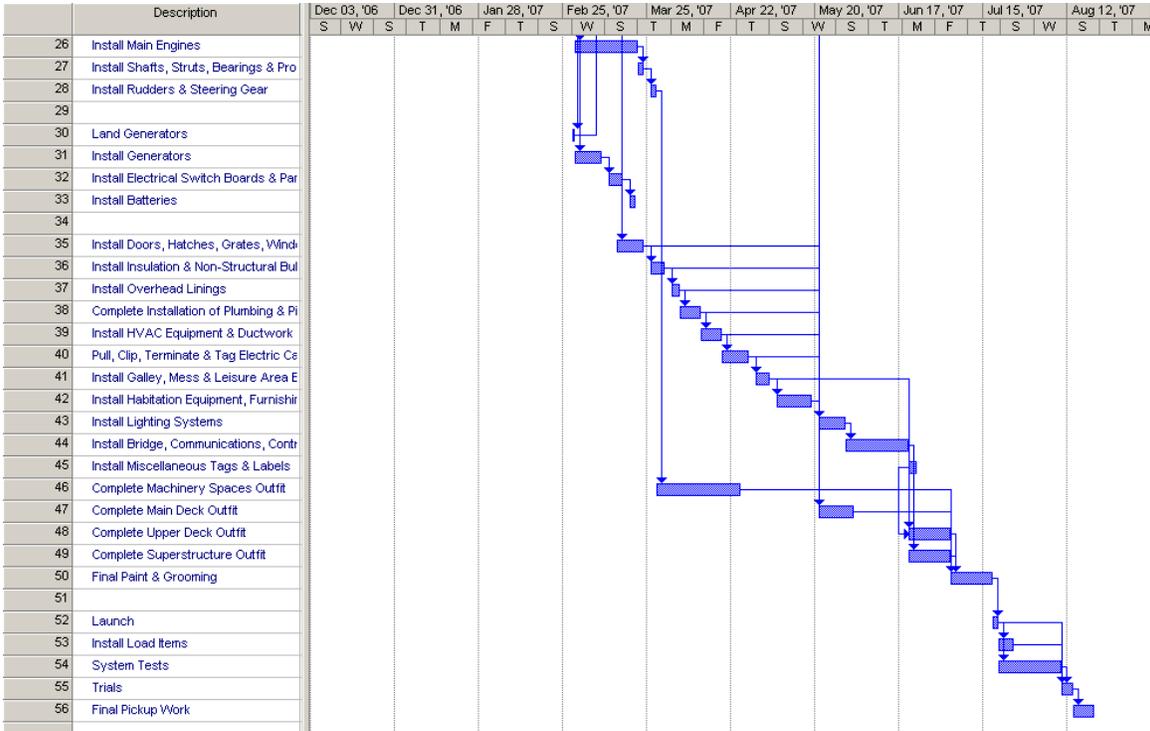
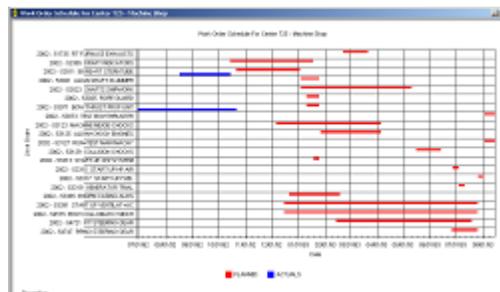
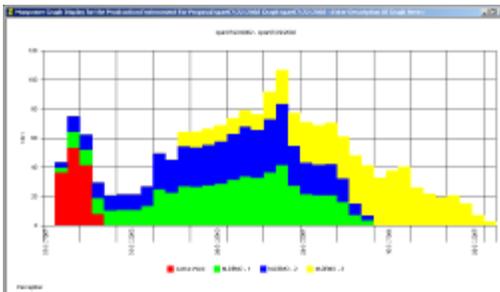


SHIPYARD PLANNING AND COST-SCHEDULE CONTROL SERVICES

To complement its shipyard production planning and control systems, *SPAR* offers turnkey services for planning, scheduling and cost/schedule management reporting. Experienced *SPAR* consultants can schedule customer projects and generate projected manpower requirements, including a breakdown by major trades.



SPAR can assist in the development of improved production work packages to exploit the benefits of modern build strategies, including provisions for modular construction, pre-outfitted hull blocks, equipment and multi-system modules, zone outfit and batch manufacturing (group technology) for shop work centers.

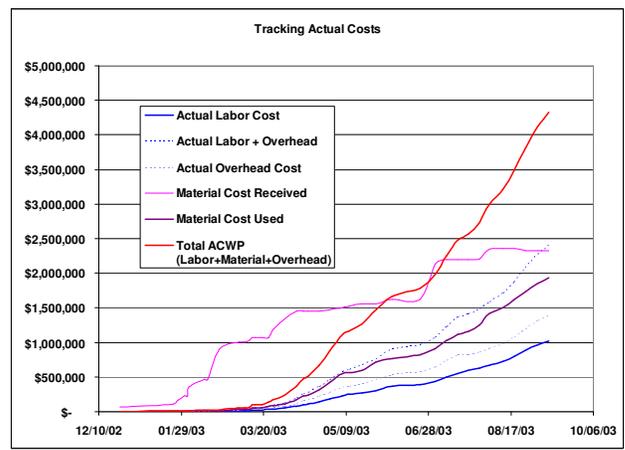
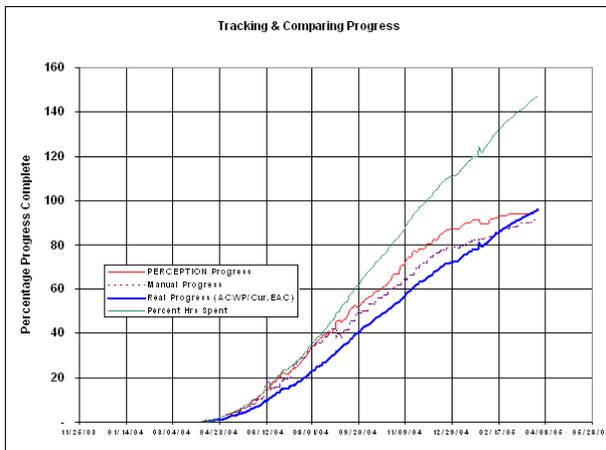


With the guidance provided by *SPAR's* expert planning staff, a customer can expect to minimize the complexities and uncertainties of planning projects. Every aspect of a project is considered and integrated into an executable plan. Production shop and ship work schedules are fully integrated

with procurement delivery schedules and with schedules of design and engineering services supporting production. Crucial schedules of ship owner's and classification review activities that directly affect technical and production schedules are also included.

The integrated schedules are further developed to accommodate limited available resources, such as trade manpower, drydock schedules, etc. Existing shipyard work backlog may be included in this resource scheduling procedure.

From the initial concept to the finished project, our staff provides the necessary information for project control by integrating all the component costs and schedules. Regular progress and cost/schedule performance reports will clearly indicate where management needs to focus its attention to avoid and minimize problems before they become critical. Tracking and forecasting both labor and material costs is an important management function to prevent bad surprises at the end of a contract.



PROG02 - SWBS Group Progress Report

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Chesapeake Marine Industries Page 1 of 1

SWBS Group Progress Report (PROG02)

Contract: TSHIP CONTRACT - T-SHIP Series Contract - Production

Project: 0 to / / Group: 0 to / /

Group	Description	Percent Progress				Current Labor Hours				Final Hours			
		Planned	Actual	Ahead	Ahead	BCWS	BCWP	Actual Hours	Schedule Ahead	Budget	EAC	ETC	Savings
Project	2002	Effective Date: 01/05/1993				Seven Bulk Carriers (Detail Work Orders)							
		65.37	67.93	2.56	1.38	663,105	689,077	660,525	25,972	1,014,393	984,555	324,030	25,838
0	STEELWORK	88.10	95.34	7.24	6.27	414,871	446,988	430,538	34,117	470,923	474,632	24,094	-3,709
1	ACCOMMODATIONS OUTFIT	14.07	26.00	11.93	5.80	7,769	14,358	16,020	6,589	55,222	58,120	42,100	-2,898
2	CARGO SYSTEMS OUTFIT	30.60	64.47	33.87	3.64	28,548	36,370	26,925	7,822	56,418	44,712	17,387	11,705
3	MECHANICAL SYSTEMS OUTFIT	33.91	32.92	-0.99	-0.27	28,072	27,265	20,641	-807	82,784	73,453	82,812	9,331
4	PIPING SYSTEMS	52.19	48.02	-4.17	-1.80	43,027	39,601	26,504	-3,425	82,450	62,160	35,656	20,290
5	MACHINERY SYSTEMS	48.60	39.12	-9.48	-2.50	13,590	10,913	7,712	-2,647	27,899	23,832	16,120	4,067
6	ELECTRICAL SYSTEMS	33.67	8.95	-24.72	-8.96	19,536	5,195	4,821	-14,341	58,027	55,591	50,770	2,436
7	PRODUCTION SERVICES	55.23	62.95	7.72	5.21	71,024	80,951	81,089	9,905	128,601	131,270	50,181	-2,669
8	OWNER CHANGES	51.85	16.71	-35.14	-24.66	12,686	4,089	4,282	-8,596	24,466	32,702	28,420	-8,236
9	DESIGN & DRAWING	86.99	77.66	-9.33	-7.27	24,013	21,436	21,993	-2,576	27,503	28,084	6,091	-481
Group Totals for Project - 2002		65.37	67.94	2.57	2.55	663,105	689,165	660,525	26,060	1,014,393	984,555	324,030	25,838

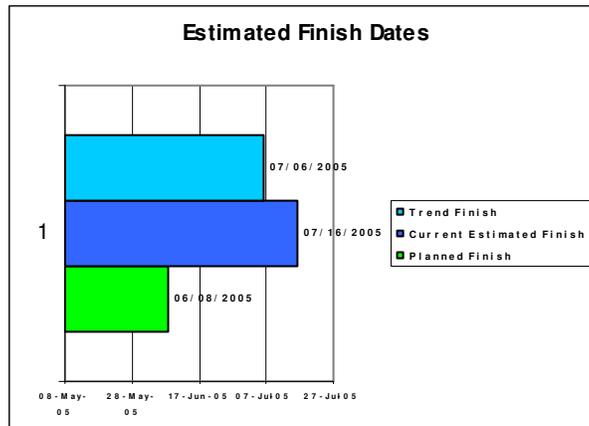
Steel Zones Report

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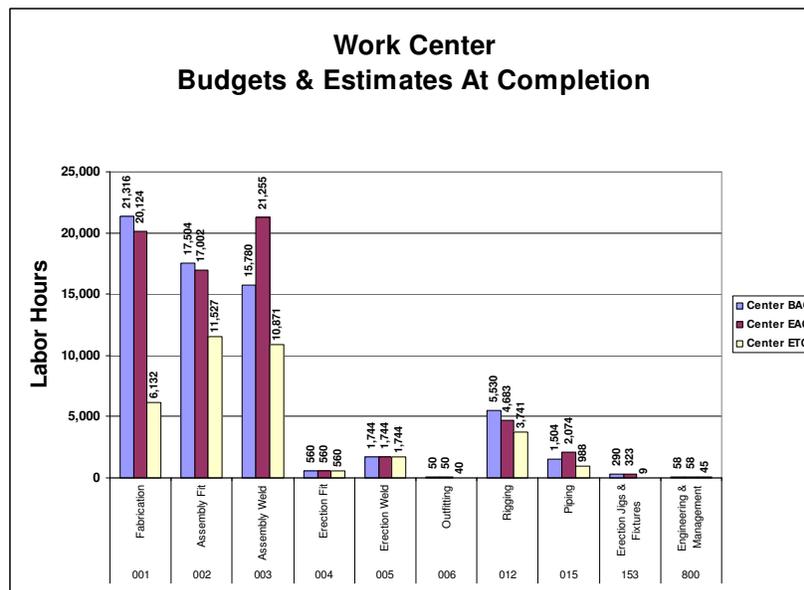
WORK-PAC Steel Report - By Zone
By SWBS Accounts
Project 9823 Hull 9823

Page 1 of 1

Zone	Weight	Cut And Form			Sub-Assembly			Assembly			Erection			On-Ship Weldout			Totals		
		Budget Mtrs/Ton	Actual Progress	Projected Mtrs/Ton	Budget Mtrs/Ton	Actual Progress	Projected Mtrs/Ton	Budget Mtrs/Ton	Actual Progress	Projected Mtrs/Ton	Budget Mtrs/Ton	Actual Progress	Projected Mtrs/Ton	Budget Mtrs/Ton	Actual Progress	Projected Mtrs/Ton	Budget Mtrs/Ton	Actual Progress	Projected Mtrs/Ton
1	148.00	29.51	0.20	29.51	35.44	0.00	35.44	104.17	0.00	104.17	42.56	0.00	42.56	85.12	0.00	85.12	296.80	0.00	296.80
2	886.20	14.10	66.27	12.20	32.37	68.19	31.37	47.91	52.69	53.41	15.48	30.77	15.17	20.08	26.43	18.57	129.94	0.00	130.72
3	686.20	13.75	93.87	13.88	33.52	92.30	31.39	51.01	85.19	58.85	16.65	56.06	14.95	20.58	49.73	17.75	135.51	0.00	136.82
4	413.80	13.08	45.67	13.39	0.00	0.00	0.00	61.94	40.68	72.34	19.12	18.56	19.06	26.61	10.77	26.36	120.75	0.00	131.15
Totals	1,934.20	12.31	61.43	11.84	21.49	72.09	20.58	46.39	52.85	52.13	15.44	30.73	14.85	21.94	23.01	20.62	117.57	48.79	120.02



SPAR consultants have in-depth experience with planning and ship production problems, and they are comfortable dealing with senior management, production superintendents, foremen and other production managers. Their recommendations for improving planning and cost/schedule control are based on common sense, simplified methods, and effective procedures.



Call SPAR to learn more about this valuable service.