
Cabras Units #3 and #4

Performance Management Contract

**Cost/Benefit Analysis and Performance
Review**

Cabras 3 & 4 PMC

PERFORMANCE MEASURES

- EAF Requirements per Contract Year Met, except during:
 - Contract Year 2006 – completion of CIPs extended Outage Hours
 - Contract Year 2007 – lowered % availability due to Cabras 4 Fire Incident

- Heat Rate Performance Test Results Indicate improving performance (heat rate curves improve from 2005)
 - Annual Performance Test Curves have been improving over 2005 Performance Test Curve

- O&M Budget has not been exceeded (up to 2008 values)

Cabras 3 & 4 PMC

CIPs / PIPs Completed

- Installation of Bearing Temperature Monitoring System
 - 2007 Cabras 4 Outage: Crankcase Fire Incident due to problems with Lube Oil Condition and possible damages to the main bearing and # 11 journal
 - CIP will improve monitoring and provide automatic emergency shutdown in case of very high bearing temperatures
- Installation of Reverse Osmosis System* – eliminated dependence on Cabras 1&2 for water supply
- Seawater Pipeline Upgrade* – eliminated corrosion and decreased leak problems
- Alpha-Lubricator Retrofit* - reduced cylinder oil consumption
- Installation of Emergency Generator
- Shock Absorber Modification – increase runtime between failures

* Completed through a financing agreement with Doosan (18 monthly payments to accommodate budget limitations)

Cabras 3 & 4 PMC Expenses & Fees

- O&M Expenses have not exceeded budget

	FY 2005	FY 2006	FY 2007	FY 2008
Total O&M Expenses (Actual)	\$ 936,692	\$ 1,426,858	\$ 1,573,839	\$ 1,656,572
CIP/PIP Expenses	\$ 1,427,603	\$ 3,604,220	\$ 182,514	\$ 979,842
Fixed Management Fees	\$ 615,000	\$ 1,334,045	\$ 1,295,408	\$ 1,416,595
Approved O&M Budget	\$ 1,037,664	\$ 1,426,860	\$ 1,728,200	\$ 1,737,260

PMC Cost/Benefit Evaluation

- Effect on Availability
 - Pre-PMC period vs. 1st PMC Period
 - Additional Cost per Increase in % EAF

- Benefits from Current PMC

- Benefits Expected from NEW PMC

EAF and EFOR during PMC Period

CONTRACT YEAR	Cabras Unit # 3			Cabras Unit # 4			PMC Guarantee	PUC Standard
	#3 FOH	#3 EFOR	#3 EAF	#4 FOH	#4 EFOR	#4 EAF		
2005	133.24	1.55%	92.30%	157.95	2.02%	91.23%	91%	76%
2006	154.14	2.12%	87.20%	163.03	3.50%	84.44%	92%	76%
2007	179.69	2.14%	95.60%	3,969.50	45.82%	51.15%	93%	90%
2008	160.35	1.93%	93.90%	165.37	3.24%	93.81%	93%	90%
AVERAGE		1.93%	92.25%		13.64%	80.16%		

Significant Events:

- 2006: Completed CIPs that decreased cylinder oil consumption and eliminated seawater pipeline leaks (July-August 2006) which increased outage days.
 - EAF would have been 93.78% for Cab3 and 87.18% for Cab4
- 2007, 2008: Cabras 4 Crankcase Explosion (May 17, 2007)
 - Repairs completed on October 30, 2007

IMPROVEMENT AREAS:

- Include EFOR in evaluation process
- Increase EAF Standard to 91%

EAF and EFOR Prior to PMC

YEAR	Cabras Unit # 3		Cabras Unit # 4	
	#3 EFOR	#3 EAF	#4 EFOR	#4 EAF
2001	4.13%	87.05%	12.56%	62.46%
2002	90.35%	9.38%	8.70%	56.92%
2003	82.63%	6.21%	0.91%	25.96%
2004	1.90%	76.26%	1.29%	75.89%
AVERAGE	44.72%	44.75%	5.86%	55.32%

Significant Events:

Cabras Unit 3

- Crankcase explosion and fire on 02/06/2002
 - Outage from FEB 2002 to SEPT 2003,
 - Unit start-up on OCT 2003, running-in and commissioning completed in JAN 2004
- Upgrade from type E to type D on the ABB VTR 713 turbochargers

Cabras Unit 4

- Upgrade from type E to type D on the ABB VTR 713 turbochargers

Additional Cost (\$) per % Increase in EAF

	FY 2001	FY 2002	FY 2003	FY 2004	Pre-PMC
O&M Expenses	\$ 3,737,625	\$ 1,043,479	\$ 1,257,060	\$ 727,907	\$ 6,766,071
CIP / PIPs	\$ 198	\$ 349	\$ 1,197,594		\$ 1,198,141
Labor (GPA)	\$ 2,084,989	\$ 1,557,455	\$ 1,893,463	\$ 1,290,573	\$ 6,826,480
TOTAL	\$ 5,822,812	\$ 2,601,283	\$ 4,348,117	\$ 2,018,480	\$ 14,790,692

EAF Cab3	87.05%	9.38%	6.21%	76.26%	44.75%
EAF Cab4	62.46%	56.92%	25.96%	75.89%	55.32%
PLANT EAF	74.75%	33.15%	16.08%	76.08%	50.04%

	FY 2005	FY 2006	FY 2007	FY 2008	PMC Period
O&M Expenses	\$ 936,692	\$ 1,426,858	\$ 1,573,839	\$ 1,656,572	\$ 5,593,961
CIP / PIPs	\$ 1,427,603	\$ 3,604,220	\$ 182,514	\$ 979,842	\$ 6,194,179
Fixed Mgmt Fees	\$ 615,000	\$ 1,334,045	\$ 1,295,408	\$ 1,416,595	\$ 4,661,047
Labor (GPA)	\$ 1,192,480	\$ 1,259,314	\$ 1,268,412	\$ 1,426,004	\$ 5,146,210
TOTAL	\$ 4,171,775	\$ 7,624,437	\$ 4,320,173	\$ 5,479,013	\$ 21,595,398

EAF Cab3	92.30%	87.20%	95.60%	93.90%	92.25%
EAF Cab4	91.23%	84.44%	51.15%	93.81%	80.16%
PLANT EAF	91.77%	85.82%	73.38%	93.86%	86.21%

(1) Cost Difference, including CIP/PIPs \$ 6,804,706

(2) Cost Difference, without CIP/PIPs \$ 1,808,668

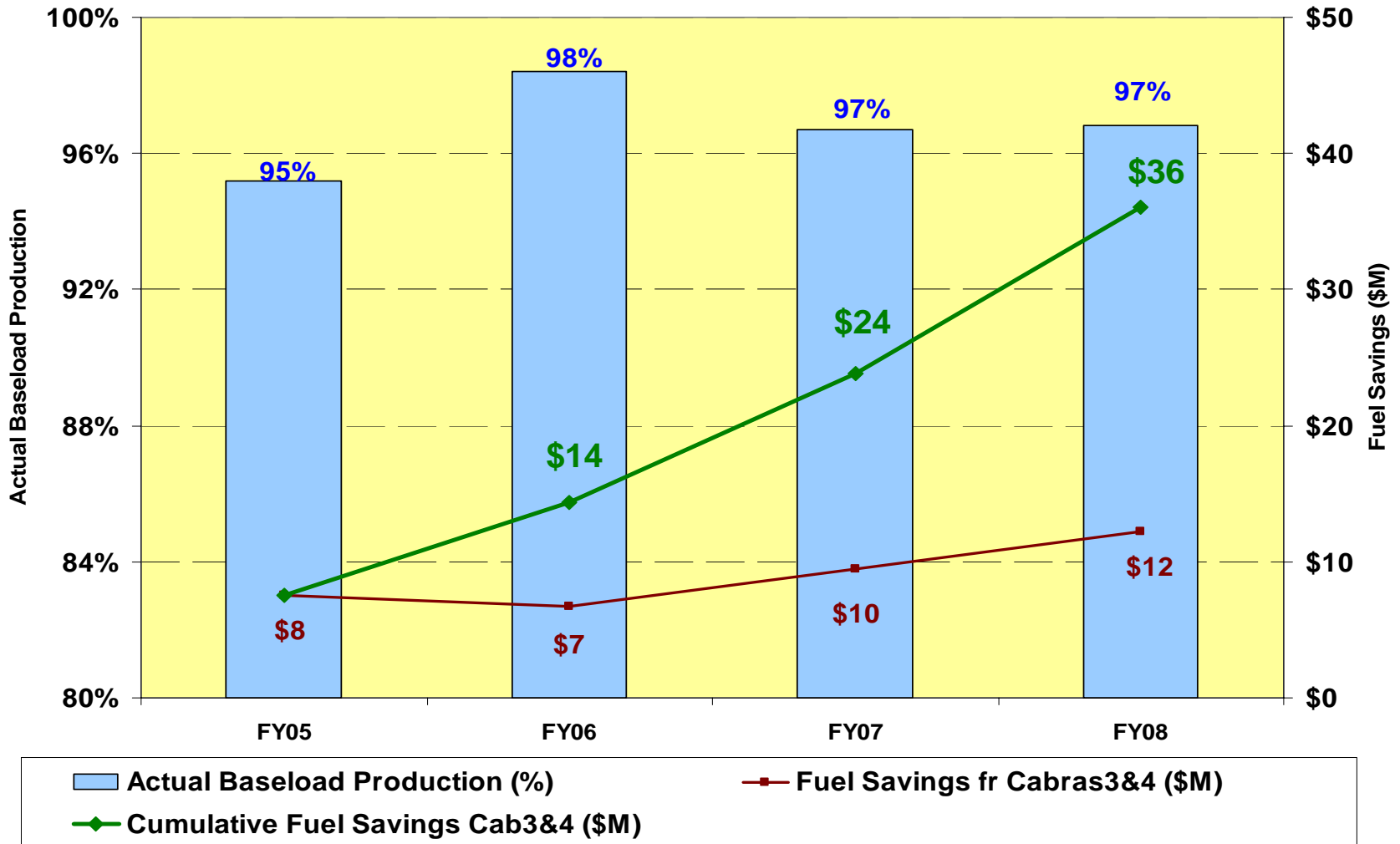
(3) Increase in EAF 36%

(1) ÷ (3) Add'l Cost per % Increase in EAF (with CIP/PIPs) \$ 188,131.20

(2) ÷ (3) Add'l Cost (\$) per % Increase in EAF (no CIP/PIPs) \$ 50,004.63

Fuel Savings from Increased Cabras 3&4 Use

Fuel Savings from Increased Cabras 3&4 Use
(relative to 83% Baseload Use pre-CCU period)



Effect of PMC: CIPs and PIPs Completed

IMPROVED CIP / PIP COMPLETION DUE TO:

- Faster Procurement Process
- Financing Agreements between GPA and PMC

FY	No. of Projects	Estimated Costs
2005	17	\$ 1,701,359.38
2006	13	\$ 2,667,519.84
2007	5	\$ 620,514.76
2008	5	\$ 1,162,957.00
2009	12	\$ 2,318,555.00

Benefits Derived from Current PMC

- Increased Availability, Decreased forced outages
 - Savings from Fuel Use

- Management Staff Provided by PMC
 - General Manager
 - Operations Manager, Maintenance Manager, Elect./I&C Manager, Engineering Manager
 - Administrative Manager & Assistant
 - Availability increased despite decrease in plant staff from 38 to 27 (Vacancies and Apprentices Excluded)

- CIP/PIP Completion
 - Faster Procurement of Materials and Services

- Staff Training
 - Pre-PMC Training Expenses = \$389,633 during Fiscal Years 1998 and 1999; none from 2000 to 2004
 - PMC Training Expenses = \$ 148,141

Additional Benefits Expected from New PMC

- Cost-effective achievement of EAF & EFOR Standards, plant reliability and efficiency
 - EFOR to be included in PMC Performance Assessment

 - Plant Engineering

 - Staff Training and Skills Assessment
 - Theoretical and Practical Training, Leadership & Management Courses
 - Skills Assessment through Skills Check-out book and other quality tools
 - Development of SOPs for Plant Operation and Maintenance

 - Increased Responsibility on Environmental Compliance

 - Completion of CIPs and PIPs

 - Improved Facility Maintenance
 - Establishment and compliance with Housekeeping Standards (to be developed with GPA Management)
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Cabras 3 & 4 PMC Improvement Areas Performance Evaluation / Guarantees

- EAF and Heat Rate shall be evaluated every six months.
 - PMC's Minimum EAF Guarantee or GPA's Minimum EAF Guarantee of 91% (whichever is higher) shall be used to evaluate the EAF Incentives/Penalties.
 - Actual Heat Rates should be within +/- 1% of Guaranteed Heat Rates except for the 1st Contract Year wherein the bandwidth shall be 2%
 - Guaranteed Heat Rate will be calculated using Heat Curve from Performance Test and actual KWH generated

- Performance Tests shall be performed yearly, 60 days before contract commencement.
 - Results of each Performance Test shall be used for the following years' evaluations, except for the first contract year, when results from the most recent Performance Test (April 2009) shall be used.

Cabras 3 & 4 PMC Improvement Areas

Environmental Compliance

Improvement in the following areas are needed to ensure compliance with Environmental Rules and Regulations, including, but not limited to the Air Pollution Control Permit, NPDES, Fuel Switching Protocol:

- Proper Monitoring and Maintenance of Equipment
- Monitoring and record-keeping for Low Sulfur Fuel use
- Oil Spill Prevention and Control, Emergency Response SOPs
- All requirements for complying with Environmental Rules and Regulations shall be the responsibility of the PMC, including payment of applicable fees, record-keeping and monitoring, maintenance of equipment and reporting.
 - GPA's Planning & Regulatory Division shall audit and monitor the records and activities of the PMC.

The PMC shall coordinate all Environmental Compliance Activities with GPA's Planning & Regulatory Division.

Cabras 3 & 4 PMC Improvement Areas

Training

- Increased the Responsibilities and Requirements for PMC :
 - Creation of Training Outline and Training Philosophy, which should include theoretical and practical training; regular and refresher courses; proposed method for addressing skill and competency gaps
 - Mapping the development of each employee's skills particular to their areas of responsibilities (Maintaining a Skills Check-out Book)
 - Maintenance Planner Training
 - Managerial Skill Development and Personnel Skill Enhancement trainings
 - Trade Theory Courses
 - Traditional, On-the-Job and Apprenticeship-style Trainings

Cabras 3 & 4 PMC Improvement Areas

Plant Engineering

- The PMC will be required to build a highly-trained, experienced and competent Plant Engineering Group through training and recruitment
- The requirement includes a proposed testing program with applicable curriculum for Slow-Speed Diesel Plants.
 - Covers Plant Electric Systems, Instrumentation & Control, and Operations and Maintenance
 - Includes Plant Management and Business Continuity Training

Cabras 3 & 4 PMC Improvement Areas

Facility Management

- Upkeep and improvement of plant facilities shall be included in the PMC requirements and evaluations.
- A Housekeeping Standard shall be established in collaboration with GPA. The PMC should be in compliance with the standard by the end of the third contract year, with the exception of projects requiring immediate action.
 - Urgent projects should be completed within the first six months of the contract. These urgent projects shall be determined jointly by GPA and the PMC during contract commencement.

Cabras 3 & 4 PMC Improvement Areas

Finance

- GPA includes a compensation structure for Capital & Expense funding, which shall use London Interbank Offered Rates (LIBOR) with additional 1% for the Effective Annual Percentage Rate.
 - This rate should not exceed 5%
- There shall be no cost-plus reimbursement of O&M Expenses
 - Overtime is up to 10% of base annual salaries only
 - Expenses exceeding approved O&M Budget shall be reimbursed only up to 50%
 - O&M Spending should include justifications and attachment of supporting documents (invoices, reports, etc.)
- Incentives & Penalties should not exceed Annual Fixed Management Fee
- CIPs and PIPs will be reimbursed with additional 5%
- All Environmental Compliance Fees associated with permits, penalties, etc. shall be paid for by the PMC

Cabras 3 & 4 PMC Improvement Areas

Operations & Maintenance

Additional Operations & Maintenance requirements:

- Monitoring and managing the use of LSFO; additional fuel costs due to excessive or unnecessary LSFO use shall be paid for by the PMC
- Transformer Maintenance
- Proper Water Quality Maintenance
- Post-completion evaluation of CIPs/PIPs to ensure that expected improvements are realized
- Coordinate Outage Planning corresponding to CIPs & PIPs with GPA
- Coordinate Outage Requirements with GPA for optimization of outage costs
- Reporting requirements will include Performance Metrics as well as:
 - Justifications in O&M Expenses reporting, CIP/PIP reporting
 - Include Inventory Status in monthly reports (Safety Stock, Critical Items, etc.)
- Evaluation will include assessment of GPA personnel's capability to replace functional duties currently outsourced to PMC

Cabras 3 & 4 PMC – Invitation for Bid

EVALUATION PROCESS

Part 1: Qualitative Proposal Scoring

Bidders are given Checklist Items for submission in the Bid. Checklist items require PMC to either describe, illustrate, enumerate certain aspects/requirements of the bid.

Bidders are required to accept GPA's Minimum Performance Guarantees.

Part 2: Priced Proposal Scoring

- BIDDERS will present proposals for Fixed Management Fee (FMF), O&M Budget (OMB) and EAFs for each of the five contract years.
- GPA established baselines for FMF, OMB , Minimum EAF Guarantee and costs associated with the Minimum EAF Guarantee
- BIDDER's proposals shall be measured based on differences from GPA baselines
- Difference from GPA's FMFs and OMBs will result to savings or additional costs
- BIDDER should MEET or EXCEED Minimum EAF Guarantee
 - Exceeding GPA's EAF Guarantee will translate to savings

IFB Schedule

3	<input checked="" type="checkbox"/> IFB Document Preparation	60 days	Mon 3/2/09	Mon 5/25/09
14	<input type="checkbox"/> IFB Review & Approval	40 days	Tue 5/19/09	Wed 7/15/09
15	Management Review	5 days	Tue 5/19/09	Tue 5/26/09
16	CCU Review/Approval	1 day	Tue 5/26/09	Tue 5/26/09
17	PUC Review/Approval	23 days	Wed 5/27/09	Fri 6/26/09
18	Final Revisions	4 days	Mon 6/29/09	Fri 7/3/09
19	Final Review	3 days	Mon 7/6/09	Wed 7/8/09
20	IFB Approval and Package for Solicitation	4 days	Thu 7/9/09	Tue 7/14/09
21	IFB Announced/Sent to Vendors	1 day	Wed 7/15/09	Wed 7/15/09
22	<input type="checkbox"/> Proposal (Technical & Price) Request	46 days	Wed 7/15/09	Fri 9/18/09
23	Vendors Review RFP and Develop & Submit Questions	24 days	Wed 7/15/09	Tue 8/18/09
24	Mandatory Pre-Bid Conference	1 day	Tue 8/4/09	Tue 8/4/09
25	Mandatory Plant Visits	2 days	Wed 8/5/09	Thu 8/6/09
26	Review and Answer Questions	34 days	Wed 7/15/09	Tue 9/1/09
27	Cut-Off Date for Receipt of Questions	0 days	Tue 8/18/09	Tue 8/18/09
28	All Answers to Questions Completed and Sent to Vendors	10 days	Wed 8/19/09	Tue 9/1/09
29	Vendors Prepare Proposals (Technical & Price)	13 days	Tue 9/1/09	Fri 9/18/09
30	Optional Plant Visits	3 days	Tue 9/1/09	Thu 9/3/09
31	Cut-off Date for Receipt of Proposals	0 days	Fri 9/18/09	Fri 9/18/09

IFB Schedule

32	☐ Evaluation and Score Proposals	10 days	Mon 9/21/09	Fri 10/2/09
33	☐ Step One - Determine Qualified Bidders	5 days	Mon 9/21/09	Fri 9/25/09
34	Technical Proposal Evaluation	5 days	Mon 9/21/09	Fri 9/25/09
35	Notification of Qualified Bidders	1 day	Fri 9/25/09	Fri 9/25/09
36	☐ Step Two - Determine Lowest Priced Bid	5 days	Mon 9/28/09	Fri 10/2/09
37	Opening & Evaluation of Price Proposals	5 days	Mon 9/28/09	Fri 10/2/09
38	☐ Management Review and Approval	5 days	Mon 10/5/09	Fri 10/9/09
39	Management Review and Approve Top Vendor	5 days	Mon 10/5/09	Fri 10/9/09
40	☐ Contract Terms Negotiation	7 days	Mon 10/12/09	Tue 10/20/09
41	Contract Review & Submit Exceptions	3 days	Mon 10/12/09	Wed 10/14/09
42	Compromises Jointly Explored	3 days	Thu 10/15/09	Mon 10/19/09
43	Recommend Contract Award	1 day	Tue 10/20/09	Tue 10/20/09
44	☐ Final Review & Approval	7 days	Tue 10/20/09	Wed 10/28/09
45	CCU Presentation & Approval	6 days	Tue 10/20/09	Tue 10/27/09
46	Contract Award Decision	1 day	Wed 10/28/09	Wed 10/28/09
47	Contract Signing	0 days	Wed 10/28/09	Wed 10/28/09
48	Contract Mobilization	42 days	Wed 10/28/09	Thu 12/31/09
49	PMC Operational Commencement	0 days	Fri 1/1/10	Fri 1/1/10

End