

# Study, Modification and Analysis of Incentive Scheme of a Large Heavy Engineering Industry

DILIP KUMAR ADHWARJEE

DR B.C.Roy Engineering College, Durgapur,  
West Bengal University of Technology, INDIA

**Abstract - Incentive is an motivational reward to all industrial workmen who are covered by Factories Act and guided by certified standing orders of the corporation. An incentive scheme may be defined as, "a system of wage payment under which the earnings of an employee, or a group of employees, or all employees in an organisation is directly related to the output of an acceptable quality and over and above a standard laid down by means of predetermined formula". The author here discusses only the financial incentive scheme.**

**Keywords - Incentive, Wage, Productivity, Credit, Debit, Standard**

## I. PROCEDURE

The workmen are broadly classified as "Direct measured (DM)", "Essential Indirect (EI)", "Indirect measured(IM)", and "Un-measured(UM)" workmen.

**Direct measured (DM) workmen:** This will cover those workmen whose output is measured in terms of "Standard Man Hour" per unit of production.

**Essential indirect (EI) workmen:** This will cover those workmen who belong to production shops and are associated with the DM workmen in their daily work. The output of EI workmen is not measured in the manner as stated for DM workmen but the standard strength of the EI workmen will be assessed by the personnel of Industrial Engineering Department and no increase in the assessed strength will be allowed unless the same is justified by the increase in effective activity on the basis of increase in the DM workmen.

**Indirect measured (IM) workmen:** The IM workmen will cover those workmen who are basically indirect namely Sweepers, Oilmen, maintenance workmen etc. Their efforts are measured by means of daily performance reports or achievement of set target.

**Un-measured (UM) workmen:** This will cover those personnel whose output has not been measured in the manner as stated above.

In the interest of production and as per discretion of the management there may be transfer of personnel from one classification to another. As and when it is possible to measure the output of individual/group belonging to EI or UM classification, they may be converted to DM or IM classification.

### 1.1 JOB STANDARD AND PRODUCTIVITY INDEX

(1) All the works performed by the DM group will be measured and suitable job standard

will be issued. The job standard may be on the basis of actual time study or compilation from standard time norms

- (2) The group wise total attendance men hours will be compiled from attendance as reported by the "Time Office" or by the head of respective department.
- (3) The Industrial Engineering Department (IED) will have the authority to check and correct the input (Attendance hours) hours and output (Standard man hours) as and when necessary. The internal audit department will also make the necessary check and corrections if any can be done.
- (4) The Productivity Index (PI) for DM workmen/group will be calculated as a ratio of the "Total Standard Man hours "earned by the group to "The Actual Attendance man hours" recorded for the group.

$$P.I.(%) = \frac{\text{CREDITHOURS}}{\text{DEBITHOURS} + \text{O.T.} - \text{NDNC}} \times 100$$

Where Credit hours = Standard man hours; Debit hours = Attendance hours; O.T = over time; and NDNC = No debit No credit

- (5) For workmen/ group belonging to classifications other than DM, productivity index will not be calculated as above but they will get incentive on the basis of weighted average P.I of the DM group to which they are attached and at the rates applicable to their respective classification, category & performance report.
- (6) The job standards are subject to adjustments in either direction with changes in working methods, equipments errors in calculations

and other factors which have influence on the time.

- (7) As and when new operations/ jobs are introduced, Management may set up interim standards instead of actual standards till the production is established on the basis of proper method.

**1.2 PRODUCTION COUNTING AND QUALITY CONTROL**

- (1) Only conformance products certified by the Inspection department will be accepted and will be considered for calculating the P.I of a group. Also rejections made in a shop / section due to faulty operations in previous shop/section shall be deducted during the subsequent month from the production of previous shop/section and no incentive is paid to the group for rejected products.

- (2) Inspectors who pass the rejected products will be penalised as follows:

% REJECTION	% DEDUCTION IN INCENTIVE
Up to 2	5
Beyond 2 and up to 5	15
Beyond 5 and up to 8	25
Beyond 8	50

- (3) Besides the deductions in the incentive payments further disciplinary action may be taken if it is found that the rejections are due to negligence on the part of Inspectors/workmen

**1.3 RATES OF INCENTIVE PAYMENT**

- (1) The rates of Incentive payment in rupees as applicable to different category and classifications of workmen for 208 attendance hours are as follows:

P.I (%)	DM+EI (usw+ss)	DM+EI (sk+hsk)	UM (usw+ss)	UM (sk+hsk)
Below 44	0	0	0	0
At 44	405	685	202.4	342.5
At 45	450	710	225	355
Per point above 45	15	25	7.5	12.5
At 49	510	810	255	405
At 50	1050	1670	525	835
Per point above 50	30	50	15	25
At 54	1170	1870	585	935
Per point above 54	42	70	21	35
At 70	1842	2990	921	1495
Per point above 70	51	85	25.5	42.5
100 and above	3372	5540	1686	2770

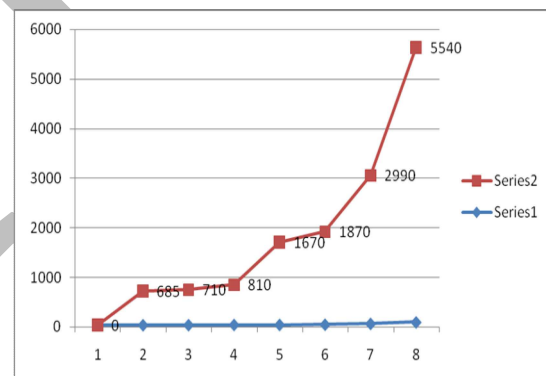
Usw = un-skilled worker; ss = semi-skilled; sk = skilled; hsk = highly skilled

- (2) EI workmen will get the same rate of Incentive as enjoyed by the direct measured workmen
- (3) The payment rate of IM personnel will vary between 50% to 80% of the payment rate of DM workmen to whom they are attached depending upon their daily performance/ fulfilment of targets
- (4) The UM personnel will get 50 % of the Incentive on the basis of overall P.I of the shop/shops to which they are attached
- (5) For all classifications of personnel the ceiling of Incentive will be at 100% P.I beyond which there will be no additional Incentives.
- (6) Each calendar month will be taken as one incentive period. The payment will normally be paid between 20 th to 22 nd of the following month. The rate of incentive will be revised every 3 yrs.

**1.4 INCENTIVE RATE GRAPH**

The incentive rates as mentioned in the above table is plotted

X = 43 44 45 49 50 54 70 100  
Y = 0 685 710 810 1670 1870 2990 5540



INCENTIVE RATE GRAPH FOR DM & EI

**1.5 MODIFICATION IN INCENTIVE RATE**

- (1) The incentive rate graph as shown above has many steps. From the past data of incentive paid to the workmen, we will be able to draw a single straight line which will be the modified incentive rate graph and we can adjust the line in such a manner that no workmen gets less incentive with respect to previous incentive scheme. One can get such a line using regression equation.

**II. CONCLUSION**

The Incentive scheme mentioned in this paper can be applied to any kind of industry. Based on this paper an Industrial engineer can develop many such schemes in any industry.

### **III. SCOPE FOR FURTHER RESEARCH**

The author has produced Incentive scheme for workmen only. However there is further scope for developing Incentive scheme for supervisors and officers

### **REFERENCES**

- [1] Hand book of Industrial Engineering : Technology & Operations Management, 3<sup>rd</sup> edition by Gavriel Salvendy
- [2] Hand book of Industrial Engineering : by Maynard
- [3] Operations Management : by Massimiliano M Schiraldi
- [4] Industrial Engineering and Production Management : by M. Mahajan
- [5] Industrial Engineering : by O.P.Khanna
- [6] Industrial Engineering : by M.I.Khan