CHAPTER - 4.

Loco Maintenance Shed.

A steel plant, for the urge of its usual production and business schedules, needs to haul a few million tonnes of materials both in terms of incoming and outgoing materials. Again, each unit of the plant requires to be fed with requisite materials in terms of internal traffic movements. The jobs are done with captive locomotives. Here in Durgapur Steel Plant, there are 43 captive locomotives to pull on these affairs. The minimum locomotive requirements per shift to achieve 1 million ton production target are detailed below.

**Locomotive Requirement**

1. Blast Furnace and Pig Casting - 8 Units.
2. Steel Melting Shop area. - 7 Units.
3. Movement of Incoming Materials. - 3 Units.
4. Exchange Yard Movement. - 4 Units.
5. Rolling Mills area. - 2 Units.
6. General Shunting. - 3 Units.
7. Standby. - 2 Units.

**Total**: 29 Units.

The units are not uniform in power, nor these need to be so. Most of the units are imported quality. The responsibility of the Loco Maintenance Shed is to make the required number of units available all through the operational processes of the plant. The shed is found reasonably sophisticated with the following power and capacity in hand.

1. Courtesy: Traffic Department, Durgapur Steel Plant.
## Capacity

1. General Maintenance capacity per shift. - 6 Units.
2. Daily Repairing capacity. - 8 Units.
3. Periodical Overhauling capacity. - 1 Unit in each 6 weeks.

### Manpower

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technical:</td>
<td></td>
</tr>
<tr>
<td>Executive</td>
<td>9</td>
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<tr>
<td>Supervisor</td>
<td>29</td>
</tr>
<tr>
<td>Others</td>
<td>242</td>
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<tr>
<td>2. Electrical:</td>
<td></td>
</tr>
<tr>
<td>Executive</td>
<td>5</td>
</tr>
<tr>
<td>Supervisor</td>
<td>17</td>
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<tr>
<td>Others</td>
<td>35</td>
</tr>
<tr>
<td>3. General:</td>
<td></td>
</tr>
<tr>
<td>Office Staff</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>396</td>
</tr>
</tbody>
</table>

With the above capacity and manpower in action, the shed needs to supply the above-mentioned loco-service and also the rail-crane service round the clock for the entire plant. To take up the responsibility, an action-plan is taken up by each of the sections in their respective fields of operation.

The Loco Maintenance Shed is reasonably equipped and thus it may be expected that the action-plans should be strictly adhered to. Still, there are innumerable cases of shortcomings from the prescribed norms (Annex- 3A, 3B, 3C, 8, 9).

In some cases of failure, the incidents have been due to acute shortage of essential spares. It has already been noted earlier that the units are mostly imported and the demands of their spares are largely imported items. The shed occasionally is to wait for a long time for their
supplies through the usual import formalities.

Simultaneously study was made to a Railway Loco Maintenance Shed, where alike DSP, imported diesel loco units are maintained. With a host of formalities to be complied with and a prolonged waiting period, importable spares are really a botheration and the Railways, unlike DSP, are trying to get ride of foreign made spares by contemplating their production at their workshops.

Out of 56 locomotives likely to be maintained by the Railway Shed at Burdwan, 48 units are imported variety which usually need imported spares for their maintenance. Due to various inconveniences faced in importing spares for their units, the Railways have been found to make attempts to manufacture the items by their own efforts. Attempts are also made by them to avail the items from indigenous sources. These attempts are mostly successful. It is rightly said that initiative, drive and sincerity in creative approaches usually pay effective results. The Railway Shed is not supplied with any sort of additional facilities, excepting that of requisite materials. A "bearing" for which the shed had to wait a long for import-formalities, is now being manufactured successfully at the shed and its workmanship, as they demand, is in no way inferior to that of the imported item. The instance might be simple, but the total implication is surely encouraging and praiseworthy.

But, the shed under DSP, in that context, is cutting really a very sorry figure when all possible means of fabricat-

1. The enquiry was made to Burdwan Diesel Loco Shed, E.Rly
2. As stated by the Asstt. Engineer incharge of the Burdwan Loco Shed.
3. The shed is regularly maintaining a chart of spares manufacturers of the country.
ing spares are always available there. A large sophisticated Engineering Maintenance Section and a well-equipped Electrical Repair Shop are found there along with other sorts of facilities to cope with all possible problems of repair and assembling. It is very discouraging to note that sincere attempts are very rare to overcome the problems of spares availability from the domestic facilities. Even, the routine maintenance affairs are seldom attempted seriously. The consequence is serious, non-availability of fit loco causes bottlenecks in the production processes of the plant as a whole, not to speak of the national losses. Most of the spares needed for the loco shed and also for the plant as a whole are still to be obtained complying with so much of import formalities. Millions of rupees in terms of foreign exchange which could have been availed elsewhere for greater necessities, are thus regularly wasted simply due to insincerity on the part of a section of irresponsible public servants. When the nation is trying hard for self-reliance in respect of all essentialities and the country is already in a big way exporting technical know-how to the greater world, it is really amazing that available facilities are not being utilised for making simple spares, causing serious concern not only by itself, but also to the production and service phases all over the plant (Annex-5).

The success of the Railway Shed in its encouraging venture to work out the spares problem categorically proves how inefficient is its counterpart in DSP. Again, in the instance of availing the spares from indigenous sources, the plant unit is surely not doing justice. Should they be a bit industrious, there might be brighter results in this particu-1. There is no system like Railways in DSP to maintain chart of spares manufacturers that may be availed at needs.
lar context. Question may easily arise as to how critical a job it is. The Railway people, who are already on the successful venture, are of the opinion that the jobs may be taken up provided some quality materials needed for these purposes (including some imported items), are supplied. In respect of the technical know-how and machine tools, it is widely believed that the country is already well advanced to ensure their supply. Under recent agreements, India is largely exporting technical assistance to various developing countries almost all over the world. Sincere drive to draw a comprehensive plan in this sort of venture is expected to derive the desired results. In respect of quality materials, the country is already well-advanced; however in the cases of a few rare items, the government is reported to be eager to grant licences for importing the materials.

There are also other reasons of loco failures. Cases are found there when the troubles are so minor in nature that these may be easily sorted out on the spot, had there been sincere efforts initiated from the concerned people and sections (Annex - 7). Brake-jamming is surely a minor type of trouble in compare to the complicated mechanism in a locomotive, but majority number of cases are found caused by it (Annex - 7). Many more minor types of troubles are found cropping up daily simply due to people not attending routine nature of maintenance jobs in time (Annex-8, 9).

1. Under recent agreement on economic co-operation programme, India is helping Sudan, Iran, Kuwait, Lanis, etc, to establish industrial organisations. MECON, EPI and Engineers India Ltd., etc, are the noted pioneers in this venture.
All these are nothing but clear instances of insincerity in discharging normal responsibilities, lacking of leadership qualities, drive and initiative on the part of those who are likely to take care of such cases. That is most essentially needed there is not the supply of snares or anything of that nature, but a clear and dynamic leadership, devotion in discharging usual responsibilities and sincere initiative to get the jobs done in time. The prevailing consequences might be altogether changed, had there been such qualities with all the concerned responsible men in the organisation.

What has been found there in the name of annual action-plan, is nothing more than a mere paper production in almost a novelistic way of expression without making any clear dimension of the jobs to be carried out in the shed and without specifying any details of individual responsibility. The plan needs to be scientific, job-oriented and individual responsibility bound, so that a clear line of operation is distinctly visible in its way of execution. It must also be amenable to be translated into action.

Industrial relations are reported to be normal there; but that doesn't mean that it is quite all right to cope with any sort of production drive. The cat will be out of the bag only when the workers will be directed to an appropriate productive line for which they have lost habit for a pretty long time. They will surely resent to the new approach and will attempt to escape by any means. Enforcing strict discipline without any sort of prejudice will gradually bring them

2. Garrett & Silver - Production Management Analysis, 1959, Ch-5.
back to the requisite form. The plan needs to be finalised in time. A system is to be introduced so as to follow through the schedules in action to get the appropriate results.


1. Under expert survey, a systematic analytical study report of all the locomotives is to be prepared to ascertain their exact conditions with thorough break up of cost involvement of normal maintenance, as well as overhauling expenses together with the details of condemnable units, being based upon reasonable grounds, spares available from the condemnable units for availing in future projects and the expected life-span of the renewed units.

2. The list will contain the conditionwise gradation of the units along with details past history in respect of failures and the steps taken up thereafter to bring them back in serviceable condition.

3. A strategy is to be chalked out to avail the spares available from condemned units for future maintenance programme.

4. A list of the requisite stores, spares, and tools, etc, needed for taking up the onwing projects, is

to be prepared categorically detailing the particulars of the items usually available from foreign sources.

5. The list is to be tallied with the stores, spares and tools, etc, already there in hand.

6. A final conclusion is to be drawn in respect of the materials and tools, etc, needed from any sources.

7. Arrangement is to be drawn to avail the items as far as practicable from indigenous sources including their manufacturing in its own capacity.

8. The services obtainable from the sister units are to be planned so as to get as much as possible from own units.

9. A detail report is to be prepared regarding the services to be hired from any other sources to cope with the ensuing programmes.

10. A list of the exclusively importable items is to be drawn which are not at all possible to be availed from any domestic source.

11. Suitable budget provision must be made so that the programmes are, in any way, not delayed.

12. Necessary steps will have to be initiated for the grant of foreign exchange for importable items.

Again, arewise pits, the provision of which is not found there at present, are to be erected so that the serviceable units are not always to be the subject of diversion to the shed even in the cases of minor nature of troubles.

The locomotives can't be examined till placed over a pit, the provision of which is now available only at the shed.
The final action-plan needs to be drawn well ahead of the exact time of execution. The grant of foreign exchange is usually a matter of time and formalities. Hence, it is quite reasonable to draw a priority order of the importable items so that the time schedules of the programmes are possibly accommodated.

The Purchase Department of the plant is to be suitably oriented so as to get timely supplies of the requisite items¹. The inspections of the procureable materials must have to be conducted jointly by the men both from Purchase Department and the exact branch of the shed being clearly briefed of the quality and specifications of each of the items².

Again, the plan is likely to be drawn in consultation with all possible individuals of the section, concerned to these affairs, to avail of the best technicalities of the operation and to create a working atmosphere all around the section³. The plan must be a clear one so that easily understandable by everyone concerned to it⁴.

The executives should, as a matter of strategy, initiate devotion in duty and drive in action⁵. Rules and enactments are rarely of any use in these cases⁶. These are the cases of common strategy and may be created in the individual only by themselves⁷. What is possible to be attained out of any such personal quality, can never be obtained from any

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¹. Unnecessary delays are reported to be made at the section.
². Garrett & Silver - Production Management Analysis, 1959, Ch - 9.
⁴. Garrett and Silver - Production Management Analysis, 1959, Ch - 5.
⁵. Robbin & Dole - "How to be effective in your job", The journal of Indian Management Association, May, 1972.
⁷. Khandalwala, Agarwal, Naik - "Boss is the most difficult person to work with", The journal of Indian Management Association, July, 1975.
other sort of acquired academic dignity.

To get the programme rightly in action, a structural reorganisation is the right necessity; and that is to be chalked out in such a way so as to match the ensuing scientific annual action-plan. There are three distinct convenient stages in this instance, viz, administrative set-up, planning set-up and the appraisal set-up.

**Administrative Set-up.**

1. The office procedure must be job-oriented. The filing system is to be sectionised and action-wise.
2. The personnel and trade union affairs are to be promptly taken up to foster convenient relations.
3. The promotion policy will be steady and uniform and concluded in consultation with the trade unions.
4. The disciplinary proceedings are to be promptly drawn to foster managerial effectiveness.
5. Management information and statistical data processing systems are to be introduced to get up-to-date informations.
6. Miscellaneous affairs should be kept completely separated from specialised sections and may be connected with the establishment section.

The office administration, as a matter of convenient policy now being practiced all over the plant, is best to be executed by the heads of the units, instead of leaving it to subordinate officers who have actually no authority, according

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to the standing policy, to deal with these affairs. It deserves no special mention here that quick, clear and correct disposal of the official jobs is the cream of administration.

Planning Set-up.

This section will have a special and a totally distinct entity due to the very nature of jobs likely to be carried out here. The gravity of its working is very important and needs special care for its manning. Every care must have to be taken in tackling all its affairs, because the mainstream of the operation of the section flows down from here. Any sort of misconception here may easily shatter the future prospect of the shed as a whole. Liaisoning the concerned affairs, which is very essential in the interest of the jobs, appears to be very tough in this unit and needs a very well-conversant man to pull them properly. The stores are to be controlled from this unit to have a distinct look into the position to chalk out the programmes. Technical development, drawing and designing, manufacturing the tools and spares, etc, are to be placed in their direct supervision. The annual action plan is also to be drawn from this unit in consultation with other concerned sections. Head of the department as well as the heads of the different units must take every care of the working of this wing to guide all future actions of the shed as whole.

Appraisal Set-up.

Everything might be going quite all right in the affairs mentioned above; but, it is essential to stage a set up to know about the actual outcome from the operational stages.

There is absolutely no system now to take care of the courses of action. Final conclusion is drawn only at the end of a financial year. But, a far greater result may be easily attained by detecting the faults in the processes of operation as they occur and getting them instantly rectified. Absolute authority of the proposed set-up will be to follow through the processes of every operation and to take adequate measures in cases of all sorts of deviations.

There is every reason now on to conclude here that the operations of the shed as a whole will thus be systematised in right direction and the real outcome will surely be far greater than at present. It may be expected that the future courses of action as devised above will pave the way to a greater productivity of the plant at large by availing better service on the part of the loco shed.

It is worth mentioning here again that availability of loco service in the major production areas, viz., Blast Furnace, Steel Melting Shop, etc., is a top necessity. Any sort of its non-availability shatters their plans and programme to a considerable degree (Annex -6). A sample survey conducted by the plant authorities in the Blast Furnace area has cleared the position in details (Annex - 4). Again how the non-availability affects the out-put of Blast Furnace Department in particular month may be obtained from another survey report (Annex- 5).

The loco-hour itself is very costly. It's loss not only affects the costing of the unit itself, it also directly affects the works-cost of the plant together with the decline

in the projected out-put. A reduction in the loss of loco-hours, will mean a reduction in the cost of out-put of the plant. It is never a negligible matter; every care must have to be taken to reduce it which will have a chain of favourable repercussions all over the plant.