

# Reminiscences

by PVN Marar

It was a rainy day, and I was passing the Powai Lake in Mumbai in a rickshaw. As I glanced upon the overflowing lake, I was thrilled and wished that all the other reservoirs supplying water to Mumbai had the same situation, so that like any Mumbaikar, I would also have enough water through the year.

Due to a traffic jam, the rickshaw was moving very slowly. While I was enjoying the scenic view of the lake, my thoughts took me back more than three decades, to when I was assigned to install a lift at a dam site. The dam was being built to hold the mighty waters of the Mahanadi River, and the project was known as the Mahanadi reservoir project.

In May 1978, I set out from Mumbai (then known as Bombay) with all the paraphernalia needed to reach Raipur, the nearest railway station to the site. I reached Raipur in the night and stayed in a hotel. Early the next morning, I managed to get a place in a taxi jeep, which took more than three hours (covering about 75 kilometers) to reach Dhamtari, a small town situated in a remote area in the state of Madhya Pradesh, now known as Chhattisgarh. From there, I hired a cycle rickshaw to cover 7 kilometers to reach the dam site, Rudri. This place was surrounded by thick forest, and later I was told that wild animals, including bears, had been seen there. You couldn't see any settlements except the residential quarters built to house the dam officials and other agencies working at the dam site. After meeting with dam officials, I got a temporary accom-

modation at the guest house facing the vast Mahanadi. Except for me, there were no other occupants in the guest house at that time. I had to eat whatever was available at a few makeshift eateries at the site. When you are hungry, anything will taste good, and the old adage "Those who toil in the sun know the need for a shade" came to my mind.

As the temperature passed 40°C, I became a little restless due to the heat and loneliness in the middle of the jungle. The elevator shaft was situated at the opposite bank of the river, and I could see the machine room from my guest house. The next morning, I again met with dam officials. Having been briefed on my immediate work plan, I set out to survey the shaft and evaluate further requirements pertaining to the installation.

To reach the elevator shaft, I had to cross the river either by walking through knee deep water or to go further down and cross it through a temporary road. As the road invariably became unserviceable during the monsoons, it was required to walk more than 1 kilometer up, as the connecting bridge to both banks was not ready.

The lift, a high-capacity unit, traveled from ground level down to the base of the dam (inspection gallery). It had four stops and a travel height of 40 meters. Through the stairs, I went down to the water-filled pit area and inspection gallery. The inspection gallery always had water accumulation due to water seepage from the dam. Therefore, an array of heavy-duty pumps was used to continuously

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work to dewater them. As the lift pit was below the level of the inspection gallery, water seepage in the pit was also a problem, and there was no option to have a dry pit as required in a normal elevator shaft. I anticipated some problems in working in the shaft, especially in the pit. If the heavy-duty pump failed even for a couple of minutes, the water level would rise in the shaft enough to drown me. The officials assured me that they had sentries to alert and rescue me in case of emergency. I must admit that I wasn't reassured. I gave the officials a list of items to be executed from their side.

The material had reached the site – unfortunately, along with a long “items to follow” list (balance material for the job) showing that the car rail and other sundries would be dispatched later. In those days, it was the policy of my company to send an erector to jobs without any assistants. The erector would have to arrange helpers and other riggers locally. I managed to get two people locally and set out to check materials as per the list to ensure that there was no material shortage. I subsequently asked the client to put up scaffolding in the shaft.

On setting the template, we realized that the hoistway was out of plumb by more than 100 millimeters, so I had to shift the template to accommodate the lift in an appropriate position. I then ordered brackets for the car and counterweight rails after verifying the reading. In those days, the brackets were not sent along with other materials. They were ordered and tailored to suit site measurements. I made an erection schedule, and a copy was sent to my office and the dam officials. Incidentally, the only method of communication was local post for lengthy communication (delivery in a week) or telegrams for short communication (24 hours if urgent).

The next activity was to establish the bracket spacing and pocket marking for rag bolts. (Hammer drills and expansion fasteners had not been introduced.) The civil contractor's people started cutting pockets in the concrete wall (indeed, a tough job). In between, they puffed *beedis* (tobacco stuffed in tendu leaves, called “country cigars”). They never used matches or a lighter to light it; instead, they rubbed two wood pieces against each other to start a fire.

As the car rail and brackets were not available, I decided to go ahead with the landing door and then machine room work. I engaged a local contractor to shift machine and other equipment into machine room. In two weeks, I finished the landing doors and machine-room work, with the exception of wiring. Requisition for main and field wires were sent to the Mumbai office, and my follow-up for car rails yielded no result. Again, the field wiring harness was made to order.

My weekly progress report to my construction manager was more like a travelogue than an activity report. I had enough spare time to think about the rain (which could occur any time) and the impending troubles ahead. During the monsoon, I was told that the lift shaft at the other bank would be inaccessible, as the downstream where I normally crossed would be flooded. I then had to walk further down and take a small boat to cross the river, or walk up 2 kilometers to reach the site. I could walk, but shifting of the material for which I was waiting would be a problem. I detailed all these worries in my report, and my boss was very happy to acknowledge.

After I had exhausted all installable material, I asked for permission to return to Mumbai, but my plea was turned down. His argument was that if I left the site, the officials working for the dam would get furious, as the completion date was already behind schedule.

Two more weeks went by, and there was still no sign of material. I frequented the Dhamtari post office by cycle rickshaw, the only mode of transport available (a round-trip distance of 14 kilometers). This was the only nearby place with facilities to make long-distance calls to my boss and send telegrams to my family to inform them that I was okay. There was no question of calling my family; I didn't have a phone in my house. In those days, phone connections were a luxury.

The monsoon arrived; the dam was swollen and slowly started overflowing. The river had flooded, and there was no chance to cross it by foot. Meanwhile, the dam construction company made a temporary rope bridge connecting both the banks: two 16-millimeter wire ropes, 3 feet apart, anchored on steel pillars on both sides 30 feet above water, with wooden planks connected with U-clamps and covered with corrugated sheets. A hand rail was provided on both sides using wire ropes. When you walked on the bridge, it swayed like a cradle.

Finally, the brackets arrived, and the shifting of heavy combination brackets was carried across the rope bridge, which was a very cumbersome task. Fortunately, I was born and brought up in Talassery, in northern Malabar, Kerala, from where most of the Indian circus artists come from. That's probably where I got my inspiration to do the stunts required in carrying these brackets across the treacherous ravine.

Fixing of the car and counterweight brackets was complete, and without waiting for the car rail to come, hoisting (“hoisting” may be the wrong word, because the rails were actually lowered) and alignment of counterweight rails were also completed. Again, I had to sit idle for want of materials. Two days passed, and I spent some time

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watching locals fishing near the “bucket,” (a tanklike concrete structure where the overflowing water fell) using a netted basket mounted on the end of long bamboos. Plenty of big fish leaped along the overflowing water from the dam and were trapped in the basket. More than a dozen would be caught in an hour. Other times, I would watch construction people making Babbitted sockets for dam shutter rope connections. I was interested in this, because the shutter raising and lowering operation was like a drum-wound hoist. It had a motor, a drum to wind the rope and limit switches, using the same principle as that for elevators.

The car rails had not yet arrived, and as nothing further could be done on the work front, I decided to deviate from the normal procedure, assembling the car frame and doing the roping. I had to take extra care to assemble the car frame in the absence of a car rail, as the plumbness and squareness solely depended upon various braces and supports from the scaffolding. In normal practice, car guide shoes (which hold the car frame in position with car rails) enables the process to be done easier. The normal practice of resting the bottom safety-plank props from the pit could not be applied here, as the assembly was done at ground level, which in this case was the top terminal landing. I had added some weights in the counterweight frame, so that I could crank the car frame slightly to relieve the weight from the scaffolding.

My construction manager (a heavily built person) visited the site, and not being from my birthplace, refused to use the rope bridge, though he tried few steps on it. I took him to the boat, and we crossed the river. When he saw the car frame and the rope around the car sheave, he was

impressed, asking me with suspicion (at the same time) how the car rail would be fitted. I told him that I had definitely planned to turn away the car frame slightly from the car rail space, so that the placing of rails and their alignment could be done without any obstruction. The only additional task would be to remove and refit the safety block. In a worst-case scenario, one of the car rails from any side adjacent to the car frame would be removed after proper marking on both sides of the rail, on two brackets attached to the rail. Next, the dismantled rail would be suspended on a rope and slowly engaged with the already displaced car frame's upright channel, bringing back the car frame (with rail) to its original position and verifying it with the markings. My boss' gesture appeared to indicate that he was satisfied with my plan.

I fixed the governor tension pulley at the bottom and did the roping without connecting it to the car frame. If I had connected it, the shifting of the car frame would be a problem. I kept the tension pulley unit at the maximum possible height from the pit floor, ignoring the specified height shown in the layout drawing. This was done to avoid the same from submerging in water. If the pulley became submerged, the governor rope would carry the water up to the car top while in operation. My next problem was to install the selector idler pulley in the pit. In those days, the expansion concrete fasteners and concrete drills were not introduced, and hence, rag bolts had to be grouted into the pit floor. Provision for a sump was made in the pit, and dewatering was an ongoing process.

In spite of all these exercises, there was heavy water leakage from the pit floor. Thrice, I tried to grout the bolt for the idler but failed, as the concrete mixture got diluted in water. I abandoned the idea of grouting the bolt and placed three filler weights on the base of the idler pulley. This finally worked. Once I fixed the trough in the hoist-way, everything I could do with the materials available at the site had been completed.

My boss finally agreed to move me from the site, not to Mumbai, but to Bhopal. At Bhopal, I spent two months completing a three-stop lift with a rear opening. Upon returning to the dam, I received rails and other balance materials, but to my dismay, all the rails were bent. Later, I learned that the defects happened during transition due to mishandling. The shipment took more than one month to reach the site from Mumbai. (The normal time was one week to 10 days.) The loading and unloading process occurred in several places, and those doing the work apparently used the rail as a ramp to load and unload other materials. I sent a detailed report, and the reply was as I expected: I was asked to straighten the rails at the site, as the delay for new rails to come would be more than three

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months. Fortunately, the main civil contractor's chief was my acquaintance, who gave me some tips and helped me to straighten the rails back to their original form. I succeeded to bring it back almost to its original shape. What lacked could be managed by providing extra brackets and supports.

The work was completed, and lift started in slow speed. During this commissioning, on a few occasions, the governor tension pulley and selector idler pulley were submerged in water. This water was carried by the rope and selector tape up to machine room and partially deposited at the governor and selector base. The rest reached the car top. I installed a crude type of a rope wiper at the car side of the governor rope and selector tape to minimize the amount of water entering the car top.

Finally, the elevator was commissioned, though it had taken seven (minus a break of two) months. Except for Sundays, there was not a single day in which I did not visit the site. Even if I had no work to do there, I would have a cursory look at the installation.

I am not working for that lift company anymore. Last month, with some nostalgia, I received information that the lift was working. I had maintained it up to a few months back.

When I look back, sitting in my office as an elevator consultant, I feel satisfied in the way I executed the job in such an environment, but the delay caused due to logistics support cannot be excused. Elevator installation requires the involvement of various agencies: the civil work contractor, electrical contractor, riggers, interior contractors for the lift lobby, structural consultants, scaffolders and more. What we need to complete a job in time is dedication, a meeting of commitments, a proactive approach, an anticipation of problems and corrective action – a combined approach toward the goal. It is the work of a team, and the team leader is the installer. The end result and success depends on his planning. I wish to tell this story to the new generation of installation teams and my customers. I hope they will listen.

**In all fairness to readers who know this story, it is necessary to elaborate that the author, before being sent to the dam site, had just returned to Mumbai with his newly married wife. While the separation from his wife was bad enough, being alone in the middle of the jungle understandably made it worse. However, on his second stint, his boss allowed him to take his wife to the site. Perhaps the boss' visit to the site helped. Undoubtedly, many veterans from the industry would have similar stories to share, and their spouses would have complaints that they rarely saw their newly married partner.**

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