

*executive committee of
the directing council*



PAN AMERICAN
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WORLD
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PAHO BUILDING FUND AND MAINTENANCE AND REPAIR OF PAHO-OWNED BUILDINGS

Resolution XII of the XXXI Meeting of the Directing Council provided for the capitalization of the PAHO Building Fund, on a permanent basis, to meet the costs of major maintenance and repair projects of PAHO-owned buildings. The same resolution required that proposed projects, as well as a report on projects charged to the Fund, be presented to the Executive Committee each year.

By decision of the WHO Director-General, confirmed by the Executive Board, the WHO Real State Fund contributes 25% of the costs of AMRO's approved major maintenance and repair projects.

This document is a status report on current projects. In addition, the Secretariat seeks the approval of the Executive Committee for two new projects for the period June 1989-May 1990.

I. STATUS OF PROJECTS FOR THE PERIOD JUNE 1987-MAY 1988

1. Computer Room

The remodeling of the computer room in the sub-basement of the Headquarters building was approved by Resolution XIX of the 97th Meeting of the Executive Committee. The project called for a new design of the facility, new raised flooring, air conditioning and fire protection systems.

The project began in July 1987 and was completed in April 1988. The total cost was \$130,252.23, a savings of some \$4,000 from the original estimated cost of \$134,500. The PAHO Building Fund contributed \$97,689.17 (75% of the total cost) and the WHO Real Estate Fund was charged \$32,563.06 (25% of the total cost).

II. STATUS OF THE PROJECTS FOR THE PERIOD JUNE 1988-MAY 1989

1. Caulking Fins and Windows

This project was approved by Resolution XIV of the 99th Meeting of the Executive Committee. As proposed then, the intention was to remove

and replace all caulking around the fins and windows on the exterior of the building in an effort to stop water leaks and better insulate the building. It was assumed that the leaks were coming through the windows. However, once some roof repairs were made and upon further discussion with a consultant, it was determined that in fact most leaks had been due to poor roof insulation. It was also determined that most joints were well sealed and that they should not be disturbed. On the other hand, it was also recommended that the solar film which was placed on the south side windows needed replacement and that the same type of solar film be placed on all windows of the building.

However, a recent study on the impact of solar radiation on conditions of the offices in the south side of the building, carried out as part of the study on building mechanical systems (see below), has determined that in spite of having an 84% window to facade area ratio (as compared to 50% to 60% for older buildings in Washington, D.C.), the PAHO building annual energy consumption is somewhat lower than the annual energy consumption of office buildings in the area with a significantly lower window-to-facade area ratio. Therefore, it has been determined that the building is reasonably insulated for its age and that there might not even be a need to replace the solar film as it does not contribute greatly to reducing the heat in the south side offices. The most effective alternative would be to install exterior window sunscreens. Although they are very efficient in reducing solar heat gain, they are expensive (about \$110,000 to screen the south side windows), difficult to maintain, reduce visibility and affect the building's appearance. On the other hand, the problem of solar heat gain can be solved with the reconfiguration of the cooling tower (see below) at much lower cost. Therefore, there is no need to caulk all fins and windows nor to place new solar film at this time. As a consequence this project is canceled.

2. Design and Reconfiguration of the Cooling Tower

This project was approved by Resolution XIV of the 99th Meeting of the Executive Committee. It was proposed as a solution to the heat problem in the south side offices, particularly during early spring and late fall.

To implement this project, a consulting firm on building environmental, mechanical and electrical systems was contracted to examine, among other things, alternative schemes for the reconfiguration of the cooling tower. The detailed study of the situation produced six alternatives to solving the heat problem. These ranged from the modification of operational procedures, with no costs involved, to the addition of a new 100-ton chiller, at an estimated cost of \$110,000. Operations were modified but the results were not satisfactory; the temperatures in the south side continued to be above 90°F under certain conditions. Therefore, it has been decided to try the next alternative, which provides for

the operation of one of the existing chillers with the upgrading of the existing cooling tower and other controls. The cost of this project falls below the \$20,000 benchmark to qualify for funding from the PAHO Building Fund. Therefore, the costs involved will be absorbed within the normal general operating expenses allocation.

III. ESTIMATED REQUIREMENTS FOR THE PERIOD JUNE 1989-MAY 1990

The PAHO building is almost 24 years old. Its mechanical and electrical systems are approaching or have surpassed their normal working expectancy. Consequently, it was decided to conduct an in-depth survey of all building mechanical equipment rooms. The study, which was commissioned in July 1988, evaluated the present condition of the mechanical equipment and its remaining useful life expectancy and recommended criteria for a comprehensive equipment repair and replacement strategy. Included in this study was an evaluation of the existing safety systems such as fire alarm, emergency lighting, and emergency sequencing of building elevators.

The study showed that in general the building is in good repair. It indicated that the equipment maintenance in the PAHO building is very good and far superior to maintenance in comparable size office buildings in Washington, D.C. It indicated that it is not necessary to undertake the replacement of the basic heating ventilating and air conditioning (HVAC) equipment at this time. It suggested that alternatives to replace HVAC equipment be explored during 1996.

The engineering study also recommended the replacement of the air handler units and the upgrading of the existing emergency systems. Therefore, the following two projects are proposed for implementation at this time.

1. Air Handling Units and Associated Air Movement Equipment

The condition of the 12 air handling (AH) units in the building, with the exception of one, is rated poor. The life expectancy of the commercial grade AH units installed in the headquarters building is shorter than the basic heating and cooling equipment. The poor condition of the AH units is seen in the spreading corrosion of sheet metal surfaces. Unfortunately, preventive maintenance can do little to combat water leaks and the consequent oxidation of the sheet metal surfaces. As a matter of routine maintenance, most AH units' automatic steam or water control valves have been serviced, rebuilt or replaced. However, associated automatic control devices, such as thermostats, relays, pneumatic switches, etc., need to be upgraded. The estimated cost of this project is \$293,000. If approved by the Executive Committee, this project will be submitted to the WHO Real Estate Fund, in which case that fund could

provide 25% of the total cost, or \$73,250. The remainder amount of \$219,750 would be covered by the PAHO Building Fund.

2. Emergency Systems

Life-safety code requirements and emergency systems design criteria have changed substantially since the PAHO building was designed 25 years ago. There are fire, smoke and emergency system inadequacies, as related to currently accepted life-safety design principles, which need to be corrected now.

There is a need to install a back-up electrical power system for emergency lighting and exit signs, sequencing override during fire alarm or other emergencies for each of the four elevators, as well as battery-powered emergency lighting and bells. The existing fire alarm system and devices must be replaced. There is a need to install a new fire alarm panel, annunciator, wired smoke or heat detectors throughout the building, and to install a sprinkler system to cover the entire basement and sub-basement floors. Smoke detectors are also needed in the air handling units. To accomplish this part of the project, there will be a need to contract for the design of the electrical networks.

The air duct branches penetrating the walls of the mechanical equipment room above the 10th floor need fire dampers; otherwise, the fire rating integrity of the mechanical room is compromised.

The estimated cost of this project is \$326,000. If approved by the Executive Committee and the WHO Real Estate Fund, the portions financed from each fund would be \$244,500 from the PAHO Building Fund and \$81,500 from the WHO Real Estate Fund.

In view of the above considerations, the Executive Committee may wish to entertain a resolution in the following terms:

Proposed Resolution

THE 103rd MEETING OF THE EXECUTIVE COMMITTEE,

Having reviewed Document CE103/8, which reports on actions taken by the Secretariat in relation to the approved projects financed by the PAHO Building Fund,

RESOLVES:

To approve the major maintenance and repair projects for the period June 1989-May 1990 described in Document CE103/8.