

# SAFETY ON THE SKYS OF MINAS GERAIS

Cemig is concluding the installation of aerial signaling spheres on the Metropolitan Region of BH. A thousand of spheres will be installed in the entire Estate. **Page 5**

( P I C T U R E ).....

Irapé, full, opens the spillway floodgates for the first time.

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BH's Emergency Hospital receives solar heating for the Burning Injuries Unit.

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**C E M I G NEWS** YEAR XXXI – No. 2

March 2007

## ELECTRIC ENERGY

### Summer time registers economy

The 33<sup>rd</sup> edition of Brazilian summer time finished at Zero hour of Sunday, February 25<sup>th</sup>. The clocks were delayed one hour. The measure, that started to come into operation at the zero hour of last November 5<sup>th</sup>, included the Estates of Minas Gerais, Rio Grande do Sul, Paraná, São Paulo, Rio de Janeiro, Espírito Santo, Goiás, Mato Grosso do Sul and the Federal Area (Distrito Federal). On the whole, summer time last 112 days, 13 days less than last summer.

The reduction of the period was due to a request of Electoral Justice that the beginning of summer time was postponed because of the difficulty, at short-term, in delaying the clocks of the electronic ballot-boxes that were used last year's elections. According to Cemig's preliminary evaluations, the main objective of summer time, that is the reduction of maximum demand of the electrical system, has been achieved.

On the Company's concession area a 3.8% reduction on the maximum demand has been observed, corresponding to 230 MW what equals to almost the double of the installed power of *Igarapé Térmica* (131 MW), located on the Metropolitan Region of Belo Horizonte, or the capacity of four generators of Três Marias' (MG) Hydroelectric Power Station, both Cemig's.

A reduction of the total energy consumption of 0.6%, that is, 32 MW average, that represents about 86 thousand MWh, enough energy to supply two cities together for a month, such as Sete Lagoas and Uberaba, was expected up to the end of summer time. Summer time contributed, effectively, to the flattening of the load curve of the national electrical system and Cemig's, reducing their maximum demands in the period that they are, generally, submitted to more critical operational conditions.

A smaller maximum load of the systems of generation, transmission and energy distribution allows better supply conditions, in terms of service continuity and quality to the different areas of the system; an increase on system's operation safety, enabled by disturbance risks reduction caused by the shutdown of transmission lines, due to atmospheric discharge that happens in this period, mainly, in the Southeast; increase of the operational flexibility, allowing the maximization of system's equipment maintenances; increase of the electrical system equipment's life span; reduction of the need of fuel expenses to thermal generation for top services, mainly on region that have loads strongly influenced by temperatures; reduction on additional investments on the electrical system for top services and cost reduction on the final cost of electrical energy for all customers.

## **BENEFITS**

### ***Low Income Tariff*** (Tarifa de Baixa Renda...)

#### **Deadline for re-registration is postponed**

The consumers that fit in the category of *Low Income Tariff* had to re-register themselves until February 28<sup>th</sup> in order to continue to receive the benefit. However, by determination of Aneel – National Agency of Energy, the deadline has been postponed, on a scheduled manner, according to the monthly consumption. The beneficiaries that are between the consumption range of 161 and 220 kWh have until May 31<sup>st</sup> to guarantee the right to the social tariff. Who consumes between 80 and 160 kWh, the deadline ends at September 30<sup>th</sup>.

In accordance with the manager of Invoicing and Tax Collection's Coordination – RC/FA, Sérgio Freesz, 80 thousand people are still only self-declared on the condition of low income. It is necessary, therefore, that they prove this condition to Cemig showing the registry on the Government's program *Family Grant*. According to Aneel's resolution, the self-declarations will not be accepted anymore from the deadline dates.

In order to not to lose the benefit, the customers should do the re-registration calling *Talk to Cemig* – 0800 310 196, and have at hand the *Social Number – NIS*, the *FamilyGrant Card*, the electricity bill and the CPF. If the customer does belong to the *Family Grant* program, the *Talk to Cemig* will inform the name and address of the mentors that he/she should look for.

### **Low income customer's profile** (Perfil do cliente...)

Sérgio Freesz explains that there are two types of customers that belong to the *Low Income Tariff*. One is a monophasic residential customer with a monthly average consumption below 80 kWh. This group totals more than 1.8 million people. The other one is the consumer with a monthly average consumption between 80 and 220 kWh that represents an approximate of 450 thousand people. These are customers that need to be registered on the *Family Grant* program to receive the benefit. 2.3 million of the 6.3 million Cemig's customers are classified as *Low Income Tariff* group.

### **TRE praises energy** (TRE elogia monitramento...) **supervision on the election of 2006**

Cemig receive a letter of Regional Electoral Court of Minas Gerais – TRE, on February 7<sup>th</sup>, emphasizing the Company's performance on the 2006 elections. According to the president of TRE-MG, High court judge Nilo Schalcher Ventura, the partnership established with Cemig was vital for the success of the electoral process.

Foreseen on *Disaster Plan*, actions have been taken in order to guarantee the good performance of the electrical system at the voting and counting places, with a mobilization of 1.5 thousand employees. Besides that, a *situation room* was set up at Cemig's Metropolitan Operation Center, to monitor the energy at the thousand voting places and at the 256 places of concentration, transmission and counting of the votes of 346 electoral zones installed on the Estate.

Infovias company, Telecommunications Operator of Cemig Group, took also part in the plan and arranged a communication channel, via the Internet, between TRE-MG and Cemig.

## ENERGY

(PICTURE)  
Distribution network  
inspections

### Plan guaranteed the Capital a tranquil Carnival (Plano garante....)

The Management of Distribution Operation Center – *DC/OC* prepared an alert plan to guarantee the energy Supply during the Carnival in Metropolitan Region of Belo Horizonte. The plan had the objective to assure the good performance of the electrical system, mainly, in the regions where balls and popular parties were held.

90 teams of electricians were available 24 hours per day. To answer emergency cases, the Company put under alert 41 teams with 82 electricians.

Cemig ran inspections throughout the distribution networks that service the places of popular parties. The clubs where traditionally Carnival balls are held, had their installations also inspected. No irregularity was registered. The Regions with a great number of country houses, such as *Brumadinho*, *Sete Lagoas* and *Serra do Cipó*, were also checked and some actions were taken to guarantee the energy supply during the period.

### New tension detectors provide more safety for the electricians (Novos detectors...)

(PICTURE)  
New tension detectors

(PICTURE)  
Isolated scaffoldings

“From a Beetle to a Mercedes”. This is how the engineer of Management of Engineering and Filed Service Coordination – *OM/EC*, Hélio Domingos Carvalho, explains the acquisition of 464 tension detectors, safety tools vital for the electricians work. The new equipment will replace the old, obsolete and weary ones.

The electricians use the tension detector at any interference on the electrical system, to inspect the presence of energy on distribution aerial network (conductors) or on transmission sub-station and line. In this way, they can work on *alive line* (network on) or on *dead line* (network off).

According to Hélio Carvalho, the acquired equipment offers more safety because they work by means of technology by contact instead of induction, as the old ones. For him, this is fundamental difference, because the models that work by induction detect an energy presence but cannot specify where it is. “If you approximate this detector of a lamp post with three conductor wires, you cannot know which of them is energized”, he explains. On the other hand, the detector by contact is accurate and reliable, since it only checks the tension if it touches the desirable place.

The engineer points out that the new models are automatic, light and they have a steel-plated carcass against humidity and dust, what lessens the need of maintenance. Besides that, they are in accordance with the international standards of quality and safety. “The technology by contact will contribute to eliminate risks of serious or fatal accidents caused by fault of the current equipment”, he emphasizes.

The entire process, from the research to the installation, was done by the Superintendence of Engineering and Coordination of Distribution’s Operation and Maintenance – *OM*. According to Hélio Carvalho, the equipment will not be completely exchanged yet. “*OM* has done the initial installation and it is the managements’ responsibility to continue the work”. The tension detectors by contact, that demanded R\$ 232 thousand of investment, will be delivered to all managements of field service and operation and maintenance of the Distribution and Commercialization Management – *DDC*.

### **Isolated scaffoldings (Andaimes...)**

Besides the tension detectors by contact, *OM* acquired seven isolated scaffoldings for services on *alive line* of medium tension at sub-stations. This will speed the work up that was carried on with scaffoldings borrowed from the Distribution's teams.

The electricians will also be able to use these structures at places where the aerial baskets and isolated platforms are unfeasible, such as alleys, slums, streets that difficult to align the trucks and rural areas, and for services of high complexity.

## SAFETY

### Minas receives spheres of aerial signaling (Minas ganha...)

The managements of Maintenance's Engineering – *TR/MN*, of Engineering and Coordination of Distribution's Operation and Maintenance – *OM* and of Transports' Management and Coordination – *GE/CT* (*hangar*) are concluding the installation of signaling spheres on the lightning conductor cables (the highest ones) of their lines of transmission and distribution of the Metropolitan Region of Belo Horizonte. The operation, which objective is to meet the demands that still exist, will install about a thousand units in the entire Estate and will be done with the aid of a helicopter.

The signaling of the transmission and distribution lines not only make the traffic easier but also protect people who go along, live or perform activities on the surroundings of these structures. It is also a sign that, in that region, there are aerial cables and structures, foreseen to the aviation pilot route details to be followed by the aircraft, guaranteeing the flight's safety.

In accordance with *TR/MN*'s engineer, Dimas Carneiro de Miranda, the use of the helicopter has the purpose of giving a bigger agility to the task and to allow the installation of a bigger number of this safety equipment on a shorter time. He observes that “the sphere is really a warning sign necessary, mainly, in the crossroads between the lines and the space in which they cross over highways, railways and rivers”.

Summed up to the 313 units put on the transmission lines and to the 209 distribution lines in 2006, the a thousand of spheres that will be installed this year complete the checked demand and guarantee the operational safety to the aerial inspection in Minas.

#### ( P I C T U R E )

Helicopter is used on the operation

### Investment updates oil treatment (Investimento....)

The Management of Maintenance's Laboratories and Services – *GT/LS* received on January 11<sup>th</sup> the new *Mobile Unit of Oil Treatment*. The new Cemig's investment aims to update the process of insulating oil treatment in maintenances of power transformers at power stations and sub-stations.

The machine used for the oil treatment is micro-processed, automatized, and has special protections, that allow the maintenance to be done with the transformer energized in the electrical system, reducing the operational costs and with a minimum impact on the environment.

According to the engineer of *GT/LS*'s Generation's Mechanical Maintenance, Elton Cotta de Oliveira, the new regulations (*Variable Quota - PV*) of the electrical sector demands more severity in regard of the equipment's shut down planning to do the maintenance. Elton points out that this new methodology favors the Company thanks to the possibility of doing the treatment with the equipment energized, that avoid income loss.

As for the environment, the engineer emphasizes that the use of the new *Mobile Unit of Oil Treatment* eliminates, almost totally, the need of using bauxite, raw material that is disposed after treating the oil. “With just one load of 1.2 thousand kilos of bauxite, it can be recovered, approximately, 1.5 million liters of oil, while on the previous process, for the same volume of treated oil, it would be consumed, approximately, 150 tons of raw material”, he explains.

#### ( P I C T U R E )

New *Mobile Unit of Oil Treatment*

## HYDROELECTRIC POWER STATION

### **For the first time, Irapé opens spillway** (Pela primeira vez...)

The intense rains in the region of *Alto Jequitinhonha* since last October accelerated the filling of Irapé's Power Station reservoir foreseen only for the rainy period of 2007/2008. In this way, Cemig had to open, on February 6<sup>th</sup>, the power station's spillway (*photo*).

According to the engineering of the Management of Hydro-energetic Planning – *GT/PH*, Valéria Almeida, in consequence of the rain water accumulation within three months, the reservoir's useful volume increased from 10% to 95%. A rise of, approximately, 32 meters on the water level. For now floodgate 1 has been opened. If necessary, on the sequence, we will open floodgate 2 and, at last, the back floodgate", explains Valéria. The operation depends on the continuity of the rain on the next days.

### **Warning to the population** (Aviso à...)

Cemig communicated the riverside communities and counties close o the dam about the opening of the spillway. The residents were warned to take precautions with material goods installed on the riverbank, such as pumps and boats; and also regard the leisure and domestic activities, such as swimming and washing clothes in the river.

### **More income** (Mais receita)

With the rains, there was an increase of energy generation of Irapé. Since December, the power station functions most of time with the three machines. In this way, the income of *Finance Compensation – CF* increased, improving the municipal income of the seven counties embraced by the reservoir. From next year, they should receive about R\$25 million from *Value-Added Tax on Sales and Services – (ICMS)*.

## HYDROELECTRIC POWER STATION

### **Booklet registers re-settled children's games** (Cartilha registra...)

*Kick the can, True or False, Pass the Ring* and other re-settled children's games in Irapé are registered on the booklet *Na rua, na chuva, na fazenda - In the street, in the rain, in the farm -*, that has 24 pages illustrated by boys and girls of the region. The publishing is a result of a partnership among Cemig, psychologists, social workers and sociologists that worked to minimize the transfer effect of the families affected by the reservoir of Irapé's Power Station.

Organized by psychologist Renata Carvalho, during the work done at Santa Rita community, in the county of José Gonçalves de Minas, the objective of the booklet is to preserve and continue the local customs. On February 2<sup>nd</sup>, the booklet was given to the members of the re-settlements' associations *União do Povo e Amigos para Sempre – People Together and Forever Friends* – represented on Irapé's reallocation program. Children and residents of other associations' farms, in Itamarandiba county – São Bartolomeu, Conjunto Cachoeira e Cachoeira II – receive also the publication.

#### ( P I C T U R E )

Booklet is distributed to associations' representatives

### **Reference Center receives visitors** (Centro de Referência...)

This year, Irapé's Reference and Memory Center received its first visitors. Two groups, one of residents and tourists of Grão Mogol and another one from employees of the Management of Services and Commercial Relations of *Montes Claros – DO/MC*, had access to *maquettes*, photos, videos, cultural maps, utensils and objects that register the life of Vale do Jequitinhonha's man, besides of getting to know the archeological work developed in the region.

Located in the surroundings of the power station's power-house, the Reference Center houses the collection gathered on the actions done during the work, as part of the *Preservation Program of Irapé's Cultural Heritage*. Among the actions, there are the inventory of the moveable properties and real estate, and the oral register and musicality of the regional folklore and knowledge.

#### ( P I C T U R E )

Visitors at Irapé's Reference and Memory Center

### **Raw Fish hosts tournament** (Peixe cru...)

Cemig promoted, February this year, the first championship of field football with the communities of Irapé's region (*photo*). The games were held on the field *Peixe Cru – Raw Fish* -, a village built to house 24 families affected by the power station's reservoir.

The championship had the participation of teams of Poço Dantas, Caçaritiba and Cerâmica Cordeiro/Barreiro, that won the first place, wining the house team 4-3. The event was an opportunity to integrate the re-settled people from *Peixe Cru* with the residents and neighbors and companies of the region.

## ENVIRONMENT

### INFOVIAS COLUMN

#### Company celebrates eight years of success (Empresa comemora...)

On January 15<sup>th</sup>, Infovias Company celebrated eight years of a successful history. Present at 22 cities of Minas Gerais, the company is the favorite partner of the main fixed and mobile telecommunications operators that need a specialized network supplier capable of transporting its services and bringing them to the customers with the highest standards of market's quality and reliability.

The modern company's network has advanced technological resources that guarantee not only the demanded quality and reliability of its services, but also provide a diverse range of telecommunications' services, since cable TV and Internet access until transport of great part of data and voice communication's digital circuits, including to Cemig.

Create to make use of the synergy existing between the telecommunications' networks and the electrical energy transmission and distribution's infra-structure, Infovias company's network is present in 22 cities of the regions Center, Southeast, East, West and *Triângulo Mineiro* and it is already preparing itself to reach 23 more counties, incorporating also important centers of regions North and South of the Estate. Because of all that, the Company has reached a record growth in the market, with a gross invoicing of R\$70,5 million last year.

( P I C T U R E ) Infovias' team

#### Employees take part in fishing biology course (Empregados participam...)

A group of 25 students, formed by Cemig's environment professional, biology and agronomical engineering students of *Universidade Estadual de Montes Claros – Unimontes* and *Universidade Federal de Minas Gerais – UFMG*, take part in a course of *Fishing Biology and Fish Procreation of San Francisco's River Basin*. Annually held, the event took place from January 15<sup>th</sup> to 19<sup>th</sup>, at the Station of Hydro-biology and Fish Breeding – *EPT* of Development Company of San Francisco's and Paranaíba Valleys – *Codevasf*, in Três Marias.

Promoted by Cemig in partnership with *Codevasf*, the course has run by a team of UFMG's post-graduation students, *Codevasf*'s fishing engineers and biologists, under the supervision of professor and chief-researcher of *Codevasf*'s station in Três Marias, Yoshimi Sato.

The Environment analyst of Programs and Environmental Actions' Management – *GA/PA*, Renato Júnio Constâncio, began the course with the lecturer *Cemig and its relationship with the environment*. After that, the participants learnt techniques of fishing biology, trophic ecology and artificial and induced reproduction. Besides promoting the relationship among the students, the event allowed the exchange of experiences between the taken procedures at *EPT* and at Cemig's fish breeding stations.

After the lectures, some practices were done to complement the studies. Cemig's professionals also got important information about fish biology co-related to the hydroelectric power stations' operation. At the end of the course, the participants visited the premises of Três Marias' Hydroelectric Power Station.

( P I C T U R E - the bigger one )

Participant learns new techniques

( P I C T U R E – left )

Event promotes integration among professionals...

( P I C T U R E – right )

... and allows exchange of experience

## ENVIRONMENT

### Artificial reproduction preserves Amazon catfish - *jaú* (Reprodução artificial...)

With the objective of preserve the Amazon catfish – *jaú* – (*Zungaro jahu*), Cemig's Fish Breeding Station, located at the Environmental Unit of Volta Grande, has worked with this species for three years. During this time, several research projects have been developed with this species that is endangered, with emphasis on the *jaú*'s artificial reproduction.

In partnership with *Pontifícia Universidade Católica de Minas Gerais – PUC* and *Universidade Federal de Minas Gerais – UFMG*, technicians of Programs and Environmental Actions' Management – *GA/PA* produced an atlas of the initial development of the species. From this work, it was possible to determine the necessary conditions to carry on *jaú*'s artificial reproduction. Besides that, the initial phases of the embryonic and larval development, allowing the identification and preservation of the natural reproduction areas.

#### Protocol

Cemig's technicians have also been developing a protocol of semen creation and preservation for the species. According *GA/PA*'s biologist, João de Magalhães Lopes, this protocol is already allowing the conservation of *jaú*'s frozen semen in Volta Grande, in order to fecundate females captured in nature or existing in the reproducers' breeding stock of the Fish Breeding Station.

Nowadays, protocols of the species' breeding in captivity are being developed in partnership with *Universidade Federal do Triângulo Mineiro – UFTM* and *Universidade Federal de Lavras – UFLA*. On these protocols there are studies of food, *habitat* and factors of *jaú*'s preferable water quality in the beginning of its development.

João de Magalhães Lopes emphasis that these information will allow that Volta Grande's Fish Breeding Station to produce the species at enough quantity to develop an efficient program of re-colonization at hydrological basins where there are Cemig's power stations, contributing therefore, to the species preservation in Minas Gerais.

( P I C T U R E ) *Jaú*, endangered species

### San Francisco: supervision benefits riverside counties

The Management of Hydro-energetic Planning – *GT/PH* is studying a more efficient and easier way to supply climatologic and hydrologic data to the control stations of San Francisco's river basin and the operational data of Três Marias' Hydroelectric Power Station to the National Agency of Water – *ANA* and to the National Civil Defense Department.

On January 30<sup>th</sup>, *GT/PH* took part in a meeting with San Francisco Hydro Electric Company – *Chesf*, *ANA*, National Agency of Electrical Energy – *Aneel*, National Operator of Electrical System – *Onis* and National Civil Defense Department to discuss the way of an integrated supervision and the hand over of information.

The main objective is to organize a system of warning and assistance to the locals that suffer with the floods. *GT/PH* will supply information of all stations that Cemig has in the basin up to the boundary with Bahia, besides the operational data of Três Marias's *UHE*.

Cemig has installed measurement stations below the reservoir to assist the floods' supervision. *GT/PH* is already sending daily bulletins to *ANA* and to San Francisco's River Basin Committee until the automatic data system is concluded.

According to the engineering of the Management of Hydro-energetic Planning – *GT/PH*, Valéria Almeida Lopes de Faria, this integration will strengthen the work that Cemig has been developing in the counties located in the vicinities of its reservoirs.

( P I C T U R E ) Três Marias' Hydroelectric Power Station

## CORPORATIVE CUSTOMER

### Electronic billing eases services (Boleto eletrônico...)

( I M A G E )

The corporative customers of free or encouraged medium and high tension can pay their electricity bills with more comfort and easiness. Cemig has created virtual invoice and electronic billing (*photo*) that are sent by *e-mail*, so the companies can plan the payment in advance. The initiative aims to benefit 190 customers, responsible for 30% of Cemig's monthly invoicing.

According to the agent of Commercial Processes of the Management of Invoicing and Tax Collection's Coordination – RC/FA, Miroslava Pribyl, the change has taken place, mainly, because many customers complained of the delays of the electricity bills that arrived by mail. "We had lots of problems with documents' deviation. As the term for payment is only seven days, the invoices were not delivered in time", explains Miroslava.

"The problem has been solved with the electronic billing", she emphasizes. Even more, according to her, as the companies receive the invoice by *e-mail*, the invoice analysis is done simultaneously by the technical, finance and commercial areas.

The new process has also brought advantages to Cemig that reduced, considerably, paper consumption as well as mail expenses. 900 bills per month are already being invoiced virtually. Miroslava points out that there is no more postponement of expiration of the term due to document deviation and that the work has become easier. "There is no more hurry to send the printed invoice since now it is only used as a fiscal document", she explains. "The most important thing of all is that, from the creation of the virtual billing, the ratio of complaints has been reduced to zero", she points out.

## GASMIG COLUMN

### Distribution network of natural gas starts to be expanded (Rede de distribuição de gás...)

Gasmig begins this month the expansion work of the distribution network of natural gas (*map*) *Lateral Line Serra Verde – Industrial District II* (Santa Luzia). There will be 6.5 kilometers of gas piping that will service, initially, three new customers: Serra Negra Gas Station (Ipiranga), Luziense Gas Station (BR) and Café 3 Corações.

The enterprise will be done by *non-destructive method* (directional hole), a more modern concept for gas pipeline construction that avoids the damage of public routes, besides of causing smaller inconveniences to the population. *TDS – Directional Crossing and Engineering Services* is the contractor responsible for the gas pipeline's installation that has an approximate cost of R\$1.3 million.

It is part of Gasmig's communication plan, in the entire phase of installation and operation of its gas pipelines, to have meetings with the local leaderships. The meetings aim to establish a good relationship with the public offices and community leaders of the counties where the gas pipeline passes, in a way the population is informed about the enterprise.

The project was presented on January 31<sup>st</sup> by Gasmig's engineers. Other contacts were made by communication professionals on the surroundings of the gas pipeline route and on its vicinities. The team delivered at shops and residences leaflets with the map with the section of the work, the 24 hour phone number (0800 310197) and an informative.

( P I C T U R E ) Meeting with community leaders and public offices

## ELETRIFICATION

### Solar system benefits João XXIII Hospital

The economy of energy was not the only motivation for Cemig to invest R\$105 thousand on the installation of a solar heating system for bathing at João XXIII Emergency Hospital (*HPS*) in Belo Horizonte. Besides of reducing the expenses with electric showers in 77MW/year and 40 kW at rush time, the equipment decreased by half the period of time of the treatment, that the hospital serves, on victims from severe burns.

Who gives this information is the engineer of Energy Source Solutions of the Management of Income Protection and Use of Energy Coordination – *RC/PR*, Fernando Queiroz Almeida. According to him, *Project 40.101 of Energy Efficiency*, approved by National Agency of Energy – *Aneel*, cycle 2004/2005, besides of promoting a better life quality to the patients, it allows better conditions of work to the medical staff and the infirmary professionals.

In accordance with the coordinator of *HPS*'s Burning Injuries Treatment Unit, Ilmeu Dias, since the system's installation in the end of last January there were no more complaints of water shortage at the right temperature on patients', nurses' and staff's part. He explains that a bath of a burnt patient is a complex operation that needs medical staff accompaniment.

The patient with a great extension of burns feels a lot of cold because he/she loses his/her natural protection, the skin. Therefore, the water temperature has to be adjusted according to each patient. Bath with soap and running water is recommended as an important antiseptic on the treatment because it avoids infections and, consequently, reduces the possibility of sequels. Without the bath specialists cannot examine the patient what jeopardizes the entire treatment.

*HPS*'s Burning Injuries Treatment Unit has 42 beds. Each patient remains at the hospital at periods that vary from 20 days to two months and the average cost with a patient with severe burning injuries can reach R\$2.7 thousand per day, and, therefore, the longer he/she remains hospitalized the higher is the cost to the hospital. "The guarantee of a daily bath, sometimes two, reduces the infection in reasonable time", explains Ilmeu.

( P I C T U R E – top f the article, right column)

Better life quality for patients and professionals heating system

( P I C T U R E – end of the article)

Cemig invests R\$105 thousand on solar

## EFFICIENTIA BRIEFFING

### Opened the enrolment for course in safety (Aberta inscrições...)

Efficientia is running the course *NR-10 – Basics on Safety in Electricity Installations and Services* which objective is to enable companies to fulfill the Ministry of Labor's demands, regarding to norm *NR-10*, that has as premise guarantee the workers' protection that interact with electrical installations.

It is a long-distance course and it has 40 hours. *NR-10 – Basics on Safety in Electricity Installations and Services* is another pioneering initiative of Efficientia, done in partnership with Datte – *Education and Training* – company. The engineer Benedito Belut, a specialist in evaluation and labor safety will supervise the course.

### Other courses

Efficientia offers also courses that qualify professionals to use electrical energy on an efficiently and profitable way. The courses are short and are available on the Internet, easing off the access to everybody that has a little time to get updated. Among them there are:

- How to Save Electrical Energy at Small and Medium Companies – approaches simple procedures to reduce the electricity bill from awareness and equipment replacement.
- Analysis of the Invoice of Medium Tension Energy – shows how the invoice of energy spent on the installations of each company's sector works.

- Training on Electrical Energy Management – *TGEE* – qualifies the participants on the management of his/her electrical energy expenses, according to established criteria and standards for consumers of high and medium tension.
- Creation of Energy Efficiency Program – encourages and qualifies consumers on the development of their own energy management program through an Internal Committee of Energy Conservation – *Cice*.

## ENERGY

### ( P I C T U R E )

Nova Ponte's Hydroelectric Power Station: storage of 99% of its useful volume

## Filled up reservoirs guarantee dry season without any problems

(Reservatórios cheios...)

With the rainy season Cemig's reservoirs are filled up of energy for 2007. The floods surpassed the expectations and the reservoirs had also an important role: they helped to hold the rain water, minimizing therefore, the floods in the downstream cities.

Três Marias' Hydroelectric Power Station, in San Francisco's river, kept the level in January and part of February to help to minimize the impact of the floods at riverside cities. From February 13<sup>th</sup> to 14<sup>th</sup>, Abaeté's affluent reached discharges from 200 to 1.2 thousand m<sup>3</sup>/s during, approximately, 12 hours. The reservoir Operation's technicians reduced the quantity of discharged water. The reservoir is with 88.7% of its total capacity, in other words, a little above of its **waiting volume** limit that is 86%. The **waiting volume** is used to hold the water from floods.

Queimado's Hydroelectric Power Station started to discharge, on February 16<sup>th</sup>, 150 m<sup>3</sup>/s of water. The reservoir is with 90% of its total capacity. The operation technicians evaluate that the water volume discharged is normal for Preto's river-bed. The inspection done by Cemig along the river is registering a discharge of 200 m<sup>3</sup>/s in the city of Unai that, can hold without any damages, the released discharge.

At *UHE* Fall, the level of the reservoir is 98.9% of its total capacity. The reservoir discharge is 2.3 thousand m<sup>3</sup>/s and it is discharging 2 thousand m<sup>3</sup>/s. "We are operating this reservoir as it was a dribble of water", explains the engineer of Hydro-energetic Planning, Marcelo de Deus Melo.

A similar operation is happening at Nova Ponte's *UHE*. The level of its total capacity is 98.6% and the water that gets at the power station is being discharged. São Simão's *UHE* is receiving 8 thousand m<sup>3</sup>/s of water and discharging 8.6 thousand m<sup>3</sup>/s. The level is close to 98%. "All reservoirs of Cemig are filled up. The dry season at Cemig's power stations should be quiet", concludes engineer Marcelo de Deus Melo.

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