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HARZA ENGINEERING COMPANY

CONSULTING ENGINEERS

ELECTRIC UTILITY MANAGEMENT PROJECT

P. O. BOX 11 - 1357

TEHRAN - IRAN

25p.

Date :

Reference .

وضوحیت ماموریت ها و پیشرفت کارها

Assignment Status and Progress

طرح مدیریت برق - ایران

Electric Utility Management Project - Iran

تاریخ : ژانویه ۱۹۷۳

Period: January 1973

گزارش کلی فعالیت‌های این طرح در ظرف ماه ژانویه ۱۹۷۳ (بشرح
ذیل میباشد :

A general report of the activities of this
Project for the month of January 1973 is
as follows:

شرکت برق منطقه ای جنوب شرقی

SOUTH EAST REGIONAL ELECTRIC COMPANY

پروژه ها

Projects

پروژه شماره ۱۱۱۵-۲ - حسابداری لیست حقوق

Project No. 1115.2 - Payroll Accounting

کارتهیه دستورالعمل روش‌های حسابداری لیست حقوق وسیله
سه نفر از کارمندان ایرانی ها را از آغاز گردید ، این افسراد از
دستورالعمل شرکت برق منطقه ای مازندران بعنوان راهنما
استفاده مینمایند . انتظار می‌رود که این طرح با همکاری جزئی که
از جانب مشاورین حاصل می‌آید با تمام برسد .

Development of a payroll accounting
procedures manual was initiated by three
members of the Harza Iranian staff, who are
using the manual prepared for Mazandaran
R.E.C. as a guide. It is expected that the
project can be completed with a minimum of
consultant assistance.

پروژه شماره ۱۴۱۵-۲ - برنامه مدیریت انبارها

Project No. 1415.2 - Stores Management Program

تهیه روش برنامه ریزی احتیاجات ساختمانی آغاز گردید . است
لیست مصالح برای شریک از واحد های ساختمانی تهیه گردید .
آندسته از شماره های کاتالوگ و قیمت واحد ها که مفقود شد . بود
توسط مشاوران تهیه و لیست از آنها تهیه گردید .

The construction scheduling procedure has been
started. Material lists for each construction
unit were prepared. Missing catalog numbers
and unit prices were ascertained by the
consultant and the lists completed.

شرکت برق منطقه ای خراسان

KHORASSAN REGIONAL ELECTRIC COMPANY

پروژه ها

Projects

پروژه شماره ۲۴۱۶-۱ - آزمایشات تحویل موقت -

Project No. 2416.1 - Provisional Acceptance
Tests - Shirvan Diesel Electric Station

پروژه دیزلی شیروان
بمطابق بازرسی از نحوه نصب مولد های جدید دیزلی ۱۰۰۰
کیلووات و ۵۰۰ کیلووات کلید های مربوطه و سایر وسایل کمکی و
خریداری شد . از شرکت اشکودا از این نیروگاه بازدید بعمل

A field trip was made to Shirvan by the
consultant to check the installation of the
new 1000 kw and 500 kv diesel generators and
associated switchgear and auxiliaries supplied

آمد • نظریاتی که کارمقاطعه کارنا تمام بود انجام آزمایش
تحويل موقت و بازرسی به ۸ روز دیگر موقوف گردید • لیستی
نواقص موجود تهیه و به واحد برق تسلیم گردید • دومول
مذ نور بطور موقت تحويل گرفته شد •

by the Skoda Company. Because the contractor's work was not entirely complete the provisional acceptance tests and checks extended over a period of 8 days. A list of the deficiencies was submitted to the Power Division. Both units are being accepted provisionally.

پروژه شماره ۱-۲۰۱۶-۲ دیژنکتورهای توصیه شده برای شبکه • آکیلوولتی مشهد

Project No. 2516.1 - Recommended Circuit Breakers for Mashad 20 kv System

مشاور مربوطه برای بررسی مشکلات مختلف در مورد نحوه حفاظت شبکه برق مدت دو هفته در مشهد اقامت نمود نامبرد • توصیه های در مورد کلید - فیوزها و کلید های وصل مجدد خود کار • آکیلوولتی ارائه نمود • نامبرد • مضافاً ظرف شینه های ۱۲ کیلوولتی پست کوروش را بمنظور دریافت کامل نیروگاه • مشهد مورد مطالعه قرار داد • است • همچنین احتیاجات رله گذاری شینه جدید احتمالی • ۲ کیلوولت پست فوق مطالعه گردید •

A consultant was in Mashad for two weeks to study various problems in relation to system protection. He made recommendations for 20 kv fuse cutouts and automatic circuit reclosers. He also reviewed the adequacy of the Kouroush Substation 63 kv bus to receive the full planned output of the Mashad power plant and studied relaying requirements for a possible new 20 kv bus at Kouroush Substation.

مضافاً کار در مورد تعیین محل برای نصب دیژنکتورهای شبکه زیرزمینی • آکیلوولتی و نیز محل نصب کلید های وصل مجدد خود کار شبکه هوایی • آکیلوولتی انجام شد •
شرکت برق منطقه ای مازندران

In addition, work was performed in Tehran on the location of circuit breakers on the 20 kv underground system and location of automatic circuit reclosers on the 20 kv overhead system.

MAZANDARAN REGIONAL ELECTRIC COMPANY

پروژه ها

Projects

پروژه شماره ۲-۱۱۱۸-۱ حسابداری لیست حقوق

Project No. 1118.2 - Payroll Accounting

مشاور اطلاعات آماری مربوط به ۹ ماهه اول سال ۱۳۵۱ را تهیه و لیست کارمندان را جهت توزیع حقوق گرد آوری و روش پیشنهادی دستور کار را با اتفاق پرسنل شرکت بررسی نمود •

The consultant completed statistical data for the first 9 months of 1351, compiled a listing of employees for payroll distribution, and reviewed the proposed work order system with company personnel.

مشاور دیگر پیش نویس روش توصیه شده • حسابداری لیست حقوق را تهیه نمود • پس از بازدید پرسنل ایرانی هارزا از شرکت مذکور که بمنظور بررسی توصیه های مقدماتی بحمل آمد در این پیش نویس تغییراتی داد • شد •

Another consultant completed a draft of a recommended payroll accounting procedure. This included revisions made following a trip to the company by Harza Iranian staff for the purpose of reviewing preliminary recommendations.

پروژه شماره ۲-۱۸-۱۲ روش دستور کار

Project No. 1218.2 - Work Order Procedure

مشاور حسابداری و مشاور رفنی هارزا شمائی از روش پیشنهاد دستور کار ارائه نمودند • مشاورین مذکور تا سیسات کنونی مورد تجزیه و تحلیل قرار دادند • و آما مربوط به مشترکین را تا نسبت های مربوط به کارمند • مشترک و تا سیسات راتهییه نمودند • نامبرندگان همچنین احتیاجات مصالح ساختمانی و برنامه پیشنهادی برق رسانی روستاها را مورد تجزیه و تحلیل قرار دادند •

Harza technical and accounting staff members presented an overview of the proposed new work order system. They did an analysis of existing plant, determined customer statistics and prepared plant, customer and employee ratios. They also analyzed construction materials required for the proposed rural village electrification program.

پروژه شماره ۴-۱۴۱۸ - مکانیزه کردن سیستمحسابداری انبارها

مشاور طرح مربوط به مکانیزه نمودن سیستم حسابداری انبار در اتمیه نمود. این طرح پس از بررسی مورد تصویب شرکت گرفت. جلساتی با نمایندگان شرکت سازنده و وسایل مورد نیاز تشکیل گردید و طرح مذکور در حال حاضر در دست اجرا میباشد.

شرکت برق منطقه ای تهرانپروژه هاپروژه شماره ۲-۱۱۱۹ - دستورالعمل روش حسابداریلیست حقوق

مشاور پیش نویس دستورالعمل شماره ۲ روش حسابداری لیست حقوق اتمیه نمود. این دستورالعمل دارای یک پیوسته میباشد که مربوط به برنامه ریزی کامپیوتر میگردد.

پروژه شماره ۲ و ۳-۱۲۱۹ - ثبت مستمرات و اموال

بستن حساب ۱۰۲ و انتقال آن به حساب ۱۰۱ انجام گرفت و در سوابق مستمرات اموال ثبت گردید. برکناریهای اموال بحساب بخش از بستن این حساب تعیین قیمت شد و در دفتر نیز ثبت گردید. تجزیه و تحلیل حساب ۱۰۷ برای آن دسته از دستور کار که در حال حاضر استفاده میشوند آغاز گردید. است.

پروژه شماره ۱-۱۷۱۹ - سرپرستی ای کامپیوتر

در مورد تعیین احتیاجات آموزشی کادر حرفه ای جهت انجام محاسبات الکترونیکی از فاصله دور با شرکت همکاری بحمل آمد مضافاً در زمینه امکان دسترسی به کامپیوتر مرکزی از فاصله دور از طریق ترمینالهای ادارات نواحی بررسی بحمل آمد. پیشنهاد گردید که شرکت برق منطقه ای تهران اقدامات در این زمینه به آینه موکول نماید.

پروژه شماره ۷-۲۱۱۹ - همکاری با قسمت مهندسی خطوطهوائی

برنامه پیشنهاد شد جهت تشکیل قسمت خطوط هوائی در اداره مهندسی باتفاق مدیریت عامل شرکت بررسی گردید.

Project No. 1418.4 - Mechanization of Stores Accounting

The consultant prepared a mechanized stores accounting system plan. It was reviewed and approved by the company. Meetings were held with the equipment manufacturer and implementation is underway.

TEHRAN REGIONAL ELECTRIC COMPANYProjectsProject No. 1119.3 - Payroll Accounting Procedure Manual

The consultant completed the final draft of the Payroll Accounting Procedure No. 2 Manual. This includes an Appendix pertaining to computer programming.

Project No. 1219.2 & 3 - Continuing Property Record

The closing of a/c 103 to 101 is being posted to the continuing property record. Retirements of property as a part of this closing were priced and are also being posted. The analysis of a/c 107 is underway for those work orders which are "in service".

Project No. 1719.1 - Computer Services

Assistance was provided to the client in setting up training requirements for professional staff to implement teleprocessing. Also, a study was made of the feasibility of having remote entry to the Central Computer through terminals in the District Offices. It was recommended that the client defer this approach for the present.

Project No. 3119.7 - Assistance to Overhead Lines Engineering Section

The proposed program to organize and operate an Overhead Line Section of the Engineering Department has been reviewed with the management of the Company.

پرسنل و سایر احتیاجات مورد نظر برای شروع کار این قسمت گردید . سه طرح اساسی ذیل در حال حاضر در دست اجرا میباشد :

— طرح ریزی و تهیه استاندارد های ساختمانی که شامل تیرهای بتونی پیشفشرده میگردد .

— تهیه جزوه مصالح که شامل نقشه ها ، مشخصات شماره موجودی انبار آهن آلات ، مقرره دسـا تجهیزات خطوط فشا رضحیف و فشا رمتوسـا میگردد .

— تشکیلات و عملیات کتابخانه میکروفیلم برای اسناد مهندسی .

شرکت توانیر

پروژه شماره ۱ و ۲ و ۳ - ۱۲۶۰ - ثبت مستر اموال

تجزیه و تحلیل ، تعیین واحد های اموال و طبقه بندی حساب ، ۱۰۲ بطور اساسی انجام شد . کنترل حساب ۱۰۷ که شامل اصلاح حساب بر سر میگردد در حال حاضر در شرف تهیه میباشد . بلافاصله پس از اتمام این کار تجزیه و تحلیل طرح های مورد بهره برداری آغاز خواهد گردید .

پروژه شماره ۲ - ۲۴۲۰ - نیروگاه حرارتی منجیل

مشاورین منظور شرکت در جلسات هماهنگی که در مورد اولین اتصال ۲ کیلوولتس نیروی راه اندازی و تهیه برنامه شروع کار نیروگاه تشکیل گردید . بود بطور مرتب هفته ای یکبار از محـ نیروگاه منجیل بازدید بعمل آورد . کارهای ساختمانی مربوط به دومین واحد توربین ، عایق کاری سراسر نیروگاه ، سیم کشی جریان ضحیف و شینه کشش برای ژنراتور در حال پیشرفت میباشد .

گزارش کوتاهی توسط مشاور تهیه گردید که حاوی توصیه هائـ در زمینه افزایش میزان اتوماسیون در نیروگاه های حرارتی که در حال حاضر برای کشور در نظر گرفته شده میباشد .

Personnel and other indicated requirements have been furnished to permit the initial operation of this Section. The following three major projects are now in progress:

- Design and preparation of Construction Standards incorporating the prestressed concrete pole.
- Preparation of a Materials Handbook which incorporates drawings, specifications, and stock numbers of each item of low and medium voltage hardware, insulator and equipment.
- Organization and operation of a micro-film library for engineering records.

GENERATION AND TRANSMISSION COMPANY (TAVANIR)

Project No. 1220.1, 2 & 3 - Continuing Property Record

The analysis, unitization & classification of a/c 103 has been substantially completed. A control for a/c 107 including all audit adjustments is currently being set up. As soon as this is available, analysis of those projects which are "in service" will get underway.

Project No. 2420.2 - Manjil Thermal Power Station

Weekly visits were made to Manjil site by the consultant where coordination meetings were held in respect to the first connection of 33 kv starting power and the composition of a commissioning program. Construction work is advancing on the second unit turbine, application of thermal insulation throughout the station, and installation of ancillary wiring and generator bus bars.

A short report was written by the consultant recommending an increased degree of automation in thermal power stations now being specified for Iran.

شرکت ساتکاب

EQUIPMENT MANUFACTURE AND PROCUREMENT COMPANY (SATKAB)

پروژه ها

Projects

پروژه شماره ۱-۱۴۶۱ - سیستم سفارش کالا

Project No. 1421.1 - Ordering Systems

از مشاوران ارزاد درخواست شد که در مورد تهیه یک سیستم متحد الشكل سفارش کالا برای کلیه شرکت های برق منطقه ای همکاری بعمل آورد . جلساتی بمنظور تعیین مشکلات موجود تشکیک گردید . روش توصیه شد . تهیه گردید .

Harza's assistance was requested in developing a uniform system for the companies to order material. Meetings were held to define the problem and a recommended procedure was prepared.

واحد برق

DIVISION OF POWER

پروژه ها

Projects

پروژه شماره ۱-۱۴۶۲ - قرارداد های نیروگاه دیزلی وزارت آب و برق

Project No. 1222.2 - MWP Diesel Contracts Analysis

کار طبقه بندی هزینه های نیروگاه های مختلف دیزلی که بخشی از قرارداد های جواس ۳ و ۵ بشمار می آید در این ماه ادامه داشت . در حدود ۱۶۵ محل در سراسر ایران در قرارداد های فوق ذینفع میباشند .

A cost breakdown of the various diesel plants which are a part of GS 3 & 5 was in progress during the month. There are approximately 125 locations throughout Iran involved in the above contracts.

پروژه شماره ۲-۱۴۶۲ - سمینار مدیریت انبارها

Project No. 1422.3 - Stores Management Seminar

سمینار مدیریت انبارها در شیراز تشکیل گردید . نمایندگان کلیه شرکت های برق منطقه ای وساتکاب در این سمینار شرکت نمودند . موضوعات مورد بحث در این سمینار شامل دستور العمل و کاتالوگ انبارها ، ارتباط بین طرح ریزی انبارها ، برنامه ریزی احتیاجات ساختمانی واستانداردها وهمچنین استفاده از برنامه مدیریت در آینده بود .

The consultant conducted a Stores Management Seminar in Shiraz. Represented were all the Regional Companies plus SATKAB. Covered were the stores catalog and manuals; the relationships between stores planning, construction scheduling and standards; and future applications of the program.

پروژه شماره ۱-۱۵۲۲ - فرم های بودجه بندی

Project No. 1522.1 - Budgeting Forms

فرم شماره ۷ بودجه شرکتها را ملزم مینماید که اطلاعات آماری و فیزیکی را در پشتیبانی از احتیاجات بودجه ارائه نمایند مشاورین فنی وحسابداری تخییرات پیشنهادی را در این فرم طی این ماه منظور نمود که پس از چاپ در ماه فوریه ارائه خواهد گردید .

Form No. 7 of the budget requires the companies to submit statistical and physical data in support of budget requests. Proposed modifications to this form were prepared during the month by technical accounting consultants, which will be printed and submitted in February.

پروژه شماره ۱-۱۷۲۲ - سرویس های کامپیوتر

Project No. 1722.1 - Computer Services

برنامه گردش بار که مستلزم استفاده از حافظه وسیع کامپیوتر میگردد برای گروه طرح ریزی سیستم های شبکه برق وزارت تهیه گردید . این برنامه در حال حاضر بوسیله کامپیوتر سازمان - برنامه آزمایش میشود .

A load-flow program utilizing a large amount of computer memory was made ready for the Ministry's Network Systems Planning Group. The program is now being tested on the Plan Organization's Computer.

پروژه شماره ۱-۲۶۲۲ - دستورالعمل آموزش تکنولوژی آب

کارتهیه جزوه راهنما برای تکنسین های آب شرکت های برق منطقه ای ادامه یافت . کلیه هشت فصل این جزوه ماشین گردیده است . تمام نقشه ها نیز تهیه شده است . کار در حال حاضر در زمینه تصحیح نژائی و انجام تغییرات جزئی ادامه دارد .

پروژه شماره ۲-۲۶۲۲ - برنامه آموزش گروه رلیاز مشاور مربوطه بمنظور ارائه برنامه آموزش رله برای مهندسین و تکنیسین های شرکت برق منطقه ای گیلان مدت یک هفته در رشت اقامت نمود . در حدود ۱۸ نفر در کلاس آموزش رله شرکت نمودند .
پروژه شماره ۳-۲۱۲۲ - طرحها و مشخصات سیستم های بهم پیوسته

مشاور اسناد مربوط به قرارداد ساختمان خط انتقال سیستم ۲۰ کیلوولتی گچساران - شیراز را بررسی نمود . گزارشاتی شامل نظریات و پیشنهاداتی در زمینه این قرارداد ارائه گردید .

پروژه شماره ۹-۲۱۲۲ - بررسی شبکه های ۱۲۲ و ۶۳ کیلوولتی شرکت های برق منطقه ای
گزارشاتی درباره بررسی شبکه های همبند از شرکت های برق منطقه ای تهران تهیه گردید . بدین ترتیب مرحله اول برنامه مربوطه به پایان رسید . گزارش خلاصه تهیه و ارائه گردید .
پروژه شماره ۱۰-۲۱۲۲ - ایجاد کارخانه دیژنکتور سازی ایران

از مشاور در خواست گردید که در مورد بررسی پیشنهادات مربوط به ایجاد کارخانه دیژنکتور سازی که از جانب دو کمپانی دریافت گردید ، همکاری بعمل آورد . پیشنهادات مربوطه مورد بحث و ارزشیابی قرار گرفتند . گزارش جامع در زمینه این ارزشیابی تهیه و ارائه گردید .

پروژه شماره ۱۱-۲۱۲۲ - احتیاجات تیرموتونی

تجزیه و تحلیل و بررسی در زمینه احتیاجات تیرهای بتونی در برنامه عمرانی پنجم ادامه یافت . از کلیه شرکت های برق منطقه ای بمنظور گردآوری آمار و اطلاعات مربوطه جهت تنظیم بهترین برنامه اقداماتی که میبایست بوسیله واحد برق بعمل آید تا اطمینان حاصل شود که تیرهای بتونی بتعداد کافی برای برنامه ساختمان خطوط فشار ضعیف و متوسط موجود

Project No. 2622.1 - Diesel Plant Water Technology Training Manual

Work was continued on the Guidebook for Diesel Plant Water Technicians. Typing for all eight Chapters has been completed. All drawings have been completed. Work is now being done on the final editing and in making minor corrections.

Project No. 2622.2 - Relay Training Program

The consultant was in Rasht for one week to present a relaying class to Guilan REC engineers and technicians. Up to 18 people attended the class.

Project No. 3122.3 - Interconnected System Plans and Specifications

The consultant reviewed contract documents for the transmission line construction for the Gachsaran-Shiraz 230 kv system. Reports presenting comments and suggestions on these documents were submitted.

Project No. 3122.9 - Study of Regional Company 132 and 63 kv Systems

Reports had previously been prepared for each company except TREC, thus completing Phase I of this program. A summary report has now been prepared and submitted.

Project No. 3122.10 - Iran Switchgear Factory

The consultant was asked to assist in the review of proposals from two manufacturing groups covering the establishment of a switchgear factory in Iran. The proposals were evaluated and discussed and a detailed report was prepared and submitted by the consultant.

Project No. 3122.11 - Utility Pole Requirements

A study of utility pole requirements for the Fifth National Development Plan continued. All regional electric companies were visited to compile relevant data and information to formulate the optimum course of action that should be pursued by the Power Division to ensure that adequate poles are available for the low and medium voltage construction program.

پروژه شماره ۲ - ۲۲۲۲ - سیمینارهای آموزشی برای

مهندسین توزیع

- پاسخنامه هائ از جانب شرکتها در رفاقت و بررسی گردیدند.
- برنامه مربوط به اجرای سیمینارها تصویب گردید و کمیته ای بمنظور ترتیب دادن سیمینارهای آموزشی مهندسین توزیع تشکیل گردید.

پروژه شماره ۶ - ۲۵۲۲ - جزوه نگاهداری تاسیسات برقی

نیروگاه

- چهار فصل اول (مقدمه، عایق کاری، نگاهداری ترانسفورماتور و نگاهداری باطری خانه) این جزوه تهیه و جهت تصویب به واحد برق ارسال گردید. موضوعات فصل بعدی بیژن تهیه گردیدند.

پروژه شماره ۷ - ۲۵۲۲ - مشخصات واحد های دیزل سیار

- مهندس رله پس از بررسی مشخصات الکتریکی مولد های دیزل سیار و ترانسفورماتورها تخییرات جزئی در آنها بعمل آورد. در مورد ترجمه اصطلاحات جهت نوشتن قرارداد با مهندسین وزارت همکاری گردید.

پروژه شماره ۸ - ۲۵۲۲ - بررسی نقشه های الکتریکی

قرارداد خرید نیروگاه دیزلی ۵۰۰ کیلوواتی

- نقشه های الکتریکی دیگری از جانب کمپانی آئین یونیون برای قرارداد Stork-Werkspoor دریافت گردید. این نقشه ها قبل از تصویب مورد بررسی قرار گرفتند. طبق درخواست مشاور نقشه ای مذکور بوسیله کمپانی "آئین یونیون" آلمانی به انگلیسی ترجمه گردیدند.

پروژه شماره ۱ - ۲۷۱۲ - طرح ریزی سیستم های بهم پیوسته

- مشاوران کارهای تئوریک مربوط به توسعه آتی سیستم برق کشور را انجام داد. بعضی از کارهای مربوط به طرح ریزی تولید و همچنین مسئله تعیین ظرفیت واحد ها و نوع آنها و میزان نیروی ذخیره و نیز پیش بینی نوع سوختی که احتمالاً برای واحد ها صرفه تر است بوسیله مشاوران انجام شد. موضوع انتخاب محل اثرات زلزله بر آن و گنجایش نیروگاه نیز مورد بررسی قرار گرفت.

Project No 3322.3 - Training Seminars for Distribution Engineers

Letters of response from the Regional Companies have been received and reviewed. The program was approved for implementation and a committee was organized to follow through with arranging the seminars.

Project No. 3522.6 - Power Station Electrical Maintenance Handbook

The first four chapters (Introduction, Insulation, Transformer Maintenance, and Storage Battery Maintenance) have been completed and are awaiting approval of the Division of Power. Material for the next chapters is being assembled.

Project No. 3522.7 - Specifications for Mobile Diesel Units

Minor changes were made in the electrical specifications for the mobile diesel generators and transformers after review by the Harza Relay Engineer. Assistance was given to the Ministry Engineers in interpretation of terms during the writing of contracts.

Project No. 3522.8 - Review of Electrical Drawings for Supply of 500 kw Diesel Power Stations

Additional electrical drawings have been received from Elin-Union for the Stork-Werkspoor contract. These drawings are being studied before being approved. German to English translations have been made on the drawings by Elin-Union at the insistence of the consultant.

Project No. 3722.1 - Interconnected Power Systems Planning

The consultant did theoretical work pertaining to the development of the future Iranian Power System. Some of the work involved generation planning and included the problem of selecting unit sizes, types of units, required amount of reserve generation, and projections of the kind of fuel that would probably be most economical during the economic life of the unit. The effect of earthquakes on site selection and the sizing of plants was also studied.

مشاور همچنین گزارش مطالعات پایداری شبکه تبریز را که
بوسیله توانیر تهیه گردید به بررسی نمود تا وزارت بتواند
اثرات افزایش نیروی برق از سد آرس را ارزشیابی نماید *

The consultant also reviewed stability studies that were made by TAVANIR of the Tabriz area to enable the Ministry to evaluate the effects of increasing the power supply from Aras Dam.

پروژه شماره ۲-۲۷۲۲ - تجزیه و تحلیل سیستم بهیم پیوسته

Project No. 3722.2 - Interconnected Power System Analysis

جنبه های الکتریکی طرح آبیاری کوربال (استان فارس) مورد
بررسی قرار گرفت * کار تهیه منحنی های بار روزانه ، ماهانه
و سالانه و همچنین نوشتن برنامه برای احتیاجات رانتهورهای
خطوط انتقال نیرو در حالت کمباری و برآی مصرف
ماهانه انرژی سیستم بهیم پیوسته در این ماه ادامه
داشت *

Work was completed on reviewing the electric power aspect of the Korbali irrigation project in Fars Province.

Work continued on the preparation of historic monthly and annual average daily load curves and duration curves and in writing programs for reactor requirements for transmission lines on low load and for monthly energy consumption of the interconnected system.

مشاور بررسی خود را در مورد موضوع تامین برق خوزستان
در سال ۱۳۵۵ در ساعات غیر پیک آغاز نمود * است * این
بررسی با توجه به افزایش بار جدید کارخانه نسوز
انجام میگردد *

The consultant started on a study of the Khuzistan power supply in 1355 during off-peak periods. This is in connection with expected new loads from the Navard Steel Mill.

پروژه شماره ۱-۱۲۲۲-۵ - آموزش متخصصین روشهای

Project No. 5122.1 - Training of Organization, Methods and Systems Specialists

تشکیلات و سیستمها

کلاسهای آموزشی کارآموزان روشهای تشکیلات و سیستمها
آغاز گردید *

Training classes for the organization, methods and systems trainees were resumed.

یکی از کارآموزان مامور گردید که بطور تمام وقت برنامه کنترل فرمها
را آغاز نماید * اولین طرح تهیه دستورالعمل فرمها میباشد
که شامل هدف از تهیه فرم ، کد شماره گذاری و سایر روشهای
مربوطه میگردد * دومین طرح تهیه فرمهای اصلاح شده برای
قسمت تدارکات و احداث آری و پارلمانی وزارت میباشد *

A forms control program was started with one of the trainees being assigned full time to the program. The first project is to start a Forms Manual consisting of a Forms Policy, Forms Numbering Code and pertinent procedures. The second project is to develop improved forms for Procurement in the General Department of Administration.

پیش نویس بودجه مالی برای طرح انقلاب اداری در برنامه
پنجم عمرانی نیز توسط مشاور تکمیل گردید *

A draft of the Financial Budget for the Administrative Reform Plan for the Fifth Plan period was also completed by the consultant.

پروژه شماره ۴-۵۲۲۲ - تشکیلات مرکز آموزش

Project No. 5222.4 - Administrative Set-up for the Power Training Center

برنامه آموزشی مربیان سیستمهای انتقال ، توزیع ، تولید و
الکترونیک تقریباً طبق برنامه ادامه دارد * مشاور چندین بار
بمنظور بررسی دروس و نحوه تدریس از کلاسها بازدید بعمل
آورد *

The instructor training program for teachers of transmission and distribution, power generation, and electronics is continuing approximately on schedule. The Harza consultant has visited classes on a number of occasions to review the material presented and the classroom procedures used

مشاور همچنین در بررسی اسناد دارای که بوسیله گروه حسابرسی سازمان عمران بین المللی امریکاد مرکز آموزش صورت گرفت شرکت نمود *

The consultant also participated in a review of property records at the Power Training Center made by the USAID Auditing Team.

پروژه شماره ۵-۵۲۲۲-۰ آموزش در ضمن کار برای کارگران ماهر

Project No. 5222.5 - On-the-Job Training (OJT) Development for Skilled-Workers

در مورد طرح و برنامه پیش بینی شد. برای کارگران ماهیگر بطور تفصیل با نمایندگان اداره نظارت بر موسسات برق و مرکز آموزش بحث و مذاکره بعمل آمد. اقدام بعدی انتخاب یک مسئول آموزش بوسیله مدیریک از شرکت های برق منطقه ای میباشد. آموزش های لازم در زمینه نحوه استفاده از اسناد ارد ها آموزش باین شخص داد. خواهد شد تا بتواند برنامه متشکل آموزش در ضمن کار را برای آن دسته از کارگران ماهیگر که در حال حاضر مشغول آموزش های اساسی در مورد خطوط توزیع در مراکز آموزش میباشد رهبری نماید. از این رو برنامه آموزش در ضمن کار در مورد خطوط توزیع بایستی در مدیریک از شرکت های برق منطقه ای براساس زمانی که کارگزاران هر دوره های آموزشی را در مرکز آموزش با تمام میرساند (پس از آوریل) تنظیم شود *

The plan and estimated schedule for OJT development for skilled-worker jobs were discussed in detail with representatives of the Utilities Supervision General Department and the Power Training Center (PTC). The next step will be to get each REC to appoint a Training Leader, who will be instructed in the use of training standards in conducting organized OJT for those skilled-workers now undergoing basic training in Distribution Line work at the Power Training Center. Accordingly, the OJT in Distribution Line work must be arranged in each REC by the time the skilled-worker trainees finish their PTC courses, sometime after April.

در مورد بررسی فیلم ها و موضوعاتی که ممکن است در آموزش ای در مدیریک از شرکت های برق منطقه ای استفاده شود وقت بیشتر صرف گردید *

Films and other materials that can be used in Safety Training in the REC's were reviewed.

پروژه شماره ۲-۵۲۲۲-۰ دوره های مدیریت و سرپرستی

Project No. 5322.2 - Management and Supervisory Courses

ترتیب نهائی تشکیل دوره دو هفته ای سرپرستی اساسی به دانشکده علوم اداری دانشگاه تهران داد. شد. این دور قرار است با شرکت ۴۰ نفر از سرپرستان از ۹ بهترین الی ۱۱، ۱۲۵۱ در آبادان تشکیل گردند. از موضوعاتی که بوسیله تهیه گردید. در این برنامه استفاده خواهد شد *

Final arrangements were made with the School of Public Administration at Tehran University to manage the two-week course in Basic Supervision. This will be conducted at Abadan for 40 supervisors from February 18 to March 2. Materials which were prepared by the consultants will be used in the program.

گزارش تحت عنوان "بهبود روش های مدیریت" برای دفتر تشکیلات و روشها تهیه گردید *

A report was made for the Bureau of Organization, Methods and Training on Improvements in Management Techniques.

پروژه شماره ۳-۵۲۲۲-۰ سمینارهای آموزش حرفه ای

Project No. 5322.3 - Professional Seminars

گزارش نهائی درباره کنفرانس مسئولان آموزش که در دسامبر ۱۹۷۲ در مرکز آموزش تشکیل شد. بود انتشار یافت. این گزار همراه با نامه ای که طی آن از کلیه شرکتها درخواست شد. بود در مورد کلیه مراحل آموزش اقدامات لازم را محمول دارند. در حال حاضر شرکت های مختلف برق منطقه ای ارسال گردید. در حال حاضر اقدامات بازدید از شرکتها بمنظور ارائه برنامه متشکل آموزش در ضمن کار فراهم گردید. است *

The final report on the Training Conference held at the Power Training Center in December was released. This was sent to the companies by the Minister with a letter requesting action on all phases of training. The way is now open for visits to the companies on organized on-the-job training development.

سایر اقدامات

Other Work

طبقه بندی شماره ۲۱۲۲ - استانداردهای ساختمان
توزیع

Category No. 3122 - Distribution
Construction Standards

یکی از مشاورین د ر کمیته استاندارد های ساختمان توزیع در
اهواز شرکت نمود .

A consultant participated in the
Distribution Construction Standards
Committee meeting in Ahwaz.

پروژه های ویژه

SPECIAL PROJECTS

پروژه شماره ۱-۲۱۲۴ - مقررات ایمنی خطوط هوایی

Project No. 3124.1 - Outdoor Line Safety

یک گروه کار شامل نمایندگان واحد برق، هارزا و سه شرکت برق
منطقه ای بمنظور بررسی و در صورت لزوم اصلاح مقررات پیشنهادی
شد . تشکیل گردید .

A working group consisting of members of
the Power Division, Harza and 3 Regional
Companies has been organized to study,
and modify as required, the proposed
Regulations.

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AZARRAIJAN REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1210.1	Classification of Plant Accounts	Power Division	Aug. 1968	Indefinite	100	100	Complete through 1349		
1510.1	Review of Tariffs Implementation	Power Division	June 1972	Sept. 1972	100	100	Consultant service completed.		
1610.2	Analysis of Revenue Results	Power Division	June 1972	Oct. 1972	100	100	Consultant service completed.		
1710.1	Computer Services	Power Division	June 1972	June 1972	100	100	General advice		
1710.2	Installation of Computer	Man. Director	July 1972	Indefinite			Advice given on site preparation.		Machine installed Dec. 1972
2510.2	Stability Study of West Azerbaijan 132 Kv System	Power Division	May 1972	Oct. 1972	100	100	Report issued in Oct.		

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ESFAHAN REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1211.1	Classification of Plant Accounts	Power Division	July 1968	Indefinite	100	100	Complete through 1348		
1711.1	Computer Services	Man. Director	Nov. 1971	Continuous			Feasibility study completed December 1972.		
1611.1	Review of Tariff Implementation	Power Division	Sept. 1972	Nov. 1972	100	100	Consultant service completed.		
1611.2	Analysis of Revenue Results	Power Division	Sept. 1972	Nov. 1972	100	100	Consultant service completed.		
2111.1	Stores Classification of Line Material	Harza	Oct. 1969	Indefinite			Consultant service completed.		
2411.1	Provisional Acceptance - Kashan Diesel Station	Power Division	Nov. 1972	Jan. 1973	95	100	Both units accepted		
3011.1	Prestressed Concrete Pole Plant	Power Division	Nov. 1971	Feb. 1973	90	100	In limited production		Modification of equipment and re-layout of plant required to obtain required reproduction.
2411.2	Provisional Acceptance - Yazd Diesel Station	Power Division	Dec. 1972	Dec. 1972	0	100	Both units accepted.		
3311.3	63/20 Kv, 7.5 MVA Substation Design	Man. Director	June 1971				Consultant service completed.		
3411.1	Capacitor Installation Isfahan System	Harza	June 1970	Aug. 1972			Consultant service completed.		

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 FARS REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1212.1	Classification of Plant Accounts	Power Division	May 1968	Indefinite	100	100	Complete through 1349.		
1212.2	Work Order Procedure		May 1970	Indefinite			Partially in operation		
1112.1	Format of Financial Report	Harza	May 1972	Indefinite			Report submitted in Dec. 1972		Follow-up work is necessary.
1412.1	Stores Accounting	Power Division	May 1971	Oct. 1972	100	100	Completed	Procedural manuals explained in classes and meetings	
1412.2	M & S Catalog	Man. Director	Jan. 1972		100	100	Company has completed catalog & is preparing cross-reference to Ministry Catalog.		
1512.2	Extension of Cash Flow Forecast Technique		June 1972	Indefinite			Report issued in Sept. 1972; Follow-up work expected.		
1612.1	Review of Tariffs Implementation	Power Division	Aug. 1972	Oct. 1972	100	100	Consultant service completed.		
1612.2	Analysis of Revenue Results	Power Division	Aug. 1972	Nov. 1972	100	100	Consultant service completed.		
1712.1	Computer Services	Power Division	Oct. 1972	Continuous			Feasibility study completed Dec. 1972.		
2412.1	Provisional Acceptance Tests Fasa Diesel Station	Power Division	Sept. 1972	Dec. 1972	80	100	Units have been accepted by Ministry.		
2512.2	Relay Settings for Shiraz Network	Harza	Apr. 1972	July 1972	100	100	Completed		
2512.3	Establishment of Relay Group	Power Division	Nov. 1972	Indefinite	5	10	Initial visit made to REC		Next visit scheduled for Feb.
2412.2	Provisional Acceptance - Abadeh Diesel Station	Power Division	Nov. 1972	Dec. 1972	95	100	All three units accepted.		
2512.4	Review of System Protection Busbehr	Man. Director	Nov. 1972	Dec. 1972	50	100	Report issued in Dec. 1972		

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 WEST REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1613.1	Review of Tariffs Implementation	Power Division	July 1972	Oct. 1972	100	100	Consultant service completed.		
1613.2	Analysis of Revenue Results	Power Division	July 1972	Nov. 1972	100	100	Consultant service completed.		
2413.1	Provisional Acceptance Tests Kermanshah Diesel Station	Power Division	May 1969	Indefinite	67	67	Awaiting modifications by manufacturer		
3313.1	Application of Distribution Capacitors	Power Division	Apr. 1972	Jan. 1973	75	75	Reviewed report by another consulting firm		

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QUILAN REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator Of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1214.1	Classification of Plant Accounts	Power Division	Sept. 1968	Indefinite			1350 Closings reviewed		
1214.2	Work Order Procedure	Power Division	April 1970	Indefinite			Reviewed flow charts prepared by company in Oct. 1972.		

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SOUTH EAST REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1115.1	General Accounting	Man. Director	May 1972	Indefinite			Program prepared		
1115.2	Payroll Accounting	Man. Director	Jan. 1973				In progress		
1215.1	Classification of Plant Accounts	Power Division	Dec. 1968	Indefinite			Complete through 1349		Work by Iranian staff only
1415.1	Stores Catalog	Man. Director	May 1972	Indefinite			Catalog being prepared.		
1415.2	Stores Management Program	Man. Director	Dec. 1972	Indefinite			Program started.		
1515.2	Extension of Forecasting Technique	Man. Director	Aug. 1972	Oct. 1972	100	100	Report issued.		
2215.1	Distribution Load Flows Survey	Power Division	Mar. 1971	Indefinite			Consultant work ended.		
2215.2	Bandar Abbas Distribution Improvements Survey.	Man. Director	Apr. 1972	Indefinite	65	65	First report submitted.	Corrective action underway.	
2415.1	Provisional Acceptance Tests Kerman & Bandar Abbas Diesel Station.	Man. Director	Mar. 1969	Jan. 1973	95	100	Provisional acceptance tests completed. Final acceptance taken		
2415.2	Interconnection of Generation Busses	Power Division	Mar. 1971	Indefinite	80	80	Consultant work ended.		
3115.1	Establishment of Prestressed Concrete Pole Plant	Man. Director	Feb. 1972	Feb. 1973	90	90	Production to begin March 1973		
3115.2	Establishment of Machine Shop & Repair Facilities	Man. Director	Feb. 1972	Feb. 1973	10	10	Pending action of Company.		
3115.3	Study of Power System Problems	Power Division	May 1972	July 1972	100	100	Report submitted		
3115.4	Power Development Plan For Bandar Abbas	Man. Director	Aug. 1972	Nov. 1972	10	10	Consultant work ended.		
3315.1	Line Hardware For Round Concrete Poles.	Man. Director	May 1972	Aug. 1972	35	35	Pending further work of pole plant.		
3515.1	Development of Operation & Maintenance Program-Generation Equipment	Power Division	Oct. 1971	Indefinite	92	92	Water Treatment equipment lists for diesel plants being reviewed.		
3515.2	Improvement of Water Technology	Man. Director	Dec. 1971	Feb. 1973			Consultant work ended		
3515.3	Additional Generation for Bandar Abbas.	Power Division	May 1972	Indefinite			In purchasing stage		
3515.4	Water Treatment Equipment for Bandar Abbas.	Harza	Jan. 1972	Oct. 1972	100	100	Report submitted		
3515.5	Inspection of Electrical Installation at Zahedan Power Station	Power Division	Sept. 1972	Sept. 1972	45	45	Consultant service ended.		
4215.1	Organization of New Staff Unit	Man. Director	Jan. 1972	Sept. 1972					

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KHORASSAN REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End period			
1116.1	General Accounting	Company	Feb. 1972	Indefinite	100	100	Report submitted		
1216.1	Classification of Plant Accounts	Power Division	Nov. 1968		100	100	Complete through 1348		
1216.3	Work Order Procedure	Power Division	Apr. 1972		100	100	Flow chart analysis completed		
1416.1	Stores Accounting	Man. Director	Aug. 1972	Indefinite			Analysis of present procedures in progress		
1716.1	Computer Services	Company	Feb. 1972	Indefinite			Assistance in client accounting procedures		
3516.1	Improvement of Water Technology.	Man. Director	May 1972	Oct. 1972			Tenders for recommended equipment for Regional Water Lab at Mashad being solicited		
2416.1	Provisional Acceptance Tests - Shirvan Diesel Station	Power Division	Jan. 1973	Jan. 1973	0	100	Both Units accepted.		
2516.1	Recommended Circuit Breakers for Mashad 20 Kv System	Man. Director	Jan. 1973	Apr. 1973	0	20	Breaker locations tentatively indicated on system map		

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 KHUZESTAN WATER AND POWER AUTHORITY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1717.1	Computer Systems Services		Apr. 1972	Indefinite			Preliminary report prepared with recommendations for converting programs to new computer hardware on order		

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MAZANDARAN REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1118.1	General Accounting	Man. Director	Aug. 1972	Indefinite			General advice		
1118.2	Payroll Accounting	Man. Director	Nov. 1972				Prepared recommended procedure manual.		
1218.1	Classification of Plant Accounts	Power Division	Jan. 1969	Indefinite			Complete through 1350		
1218.2	Work Order Procedure	Power Division	May 1970	Indefinite			Implementation started.		
1218.3	Model Work Order	Harza	Oct. 1972	Oct. 1972	100	100	Explained in detail to company personnel		
1418.3	Stores Management	Man. Director	July 1972	Indefinite			Implementation plan developed.		
1418.4	Mechanization of Stores Accounting	Fin. Director	Dec. 1972	Indefinite			In progress		
1518.1	Budget	Man. Director	Aug. 1972	Aug. 1972	100	100	Review of cash flow analysis for 1351 completed.		
1518.2	Statistical Forecasts	Harza	Oct. 1972				In progress.		
1618.1	Review of Tariffs Implementation	Power Division	Apr. 1972	Aug. 1972		100	Consultant service completed.		
1618.2	Analysis of Revenue Results	Power Division	Apr. 1972	Sept. 1972		100	Consultant service completed.		
1718.1	Computer Services	Man. Director	Dec. 1972	Indefinite			Preliminary report submitted Jan. 1973.		
3318.1	Distribution Mapping	Power Division	July 1972	Indefinite			Service area maps drawn up.		

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TEHRAN REGIONAL ELECTRIC COMPANY

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1119.3	Payroll Accounting Proc. Manual	Harza	Jan. 1972	Sept. 1972	75	90	Final draft completed Jan. 1973		
1219.1	Classification of Plant Accounts	Power Division	June 1967	Indefinite			1350 - a/c 107 - Closing operation in progress		1350 - a/c 103 closing in process
1219.2	Work Order Procedure	Power Division	June 1969	Indefinite				In partial operation	
1219.3	Continuing Property Record	Harza	Sept. 1968	Indefinite			Complete through 1350.		
1419.0	Stores Accounting	Harza	June 1971	Indefinite			System for planning requirements developed and introduced		
1619.1	Review of Tariff Applications	Power Division & TREC	Nov. 197	Oct. 1972	100	100	Consultant service completed.		
1719.1	Computer Services	Power Division	Sept. 1971	Indefinite			Documentation of customer billing in progress		Operation scheduling initiated
3119.2	Boiler Installation - Kan PSC Pole Plant	Harza	Mar. 1971	Feb. 1973	90	90	Installed and will be commissioned in March 1973.		
3119.3	Specification of 2nd Spinning Machine - Kan Plant.	Harza	July 1971	Feb. 1973	95	95	Pending purchase and installation		
3119.4	Specification of Hydraulic Concrete Pump - Kan Plant	Harza	July 1971	Feb. 1973	95	95	Order placed		
3119.5	Purchase of Pole Moulds and Headers - Kan Plant	Harza	Oct. 1972	Mar. 1973	50	50	Pending delivery started.		
3319.1	Distribution Engineering Seminars	Tech. Director	Jan. 1972	Indefinite					
3119.6	Concrete Street Light Pole	Man. Director	Nov. 1972						Testing to be initiated in March 1973
3119.7	Assistance to Overhead Lines Engineering Section	Man. Director	Dec. 1972	Indefinite					Organization developed and in operation

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GENERATION AND TRANSMISSION COMPANY (TAVANIR)

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1120.1	General Accounting	Harza			100	100	Analysis of clearing accounts for year 1350 completed.		
1220.1	Classification of Plant Accounts	Man. Director	July 1970	Indefinite			A/C 107 Analysis in progress.		1350 - a/c 103 is nearly complete
1220.2	Work Order Procedure	Power Division	Oct. 1970	Indefinite			Work order numbers assigned; implementation started.		
1229.3	Continuing Property Record	Harza	July 1972	Indefinite			Complete through 1350		
1520.1	Accounting and Financial Reports	Harza	Feb. 1972	Indefinite			Suspended - other consulting firm is now responsible		
2420.2	Manjil Thermal Power Station	Man. Director	Dec. 1970	May 1973	87	90	Under construction; continuing consulting service.		
2420.3	Isfahan Thermal Power Station Extension	Man. Director	Jan. 1970	Indefinite			Consultant service suspended.		
3220.1	Helicopter Transmission Line Patrol And Transmission Program	Harza	Mar. 1970	Indefinite	95	95	Consultant service ended.		

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DIVISION OF POWER

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
1122.1	Revised Uniform System of Accounts	Harza	Dec. 1971	Nov. 1972	100	100	Completed and issued		
1122.2	General Meeting with all Companies	Power Division	Nov. 1972	Nov. 1972	100	100	Various accounting problems clarified.		
1222.1	Manual of Plant Accounting Procedures.	Power Division	Nov. 1971	Jan. 1973		100	Report showing use of construction units submitted to standards committee Jan. 1973		
1222.2	MWP Diesel Contracts	Harza	Jan. 1973	Feb. 1973			Analysis of G.S. 3 & 5 in progress.		
1422.1	Assistance to M & S Catalog	Power Division	Dec. 1971	Continuous			Recommendation concerning Diesel Parts issued Dec. 1972		
1422.2	Manual of Stores Management Procedures	Harza	Feb. 1972	Indefinite	100	100	Manual for Fars R.E.C. approved by MWP and MWP Audit Company.		
1422.3	Stores Management Seminar	Power Division	Dec. 1972	Jan. 1973			Seminar held in Jan. 73.		
1622.1	Tariff Study-Cost of Street Lighting	Power Division	Jan. 1971	Indefinite	60	60			
1522.3	Budget Forms	Harza	Jan. 1973	Indefinite			Modification of form No. 7 in progress		
1622.3	Complementary Provisions to Electric Service	Power Division	Jan. 1969	Indefinite	95	35	Under study		
1622.9	Tariffs Reviews	Power Division	Nov. 1971	Indefinite	100	100	Consultant services completed.		
1722.1	Computer Services	Power Division	Nov. 1971	Indefinite			Three seminars for companies with computers held to date; load flow program submitted Jan. 73		
2422.4	Improvement of Water Technology in Regional Diesel Stations	Power Division	May 1971	Indefinite					
2622.1	Water Technology Training Manual	Harza	Nov. 1971	Oct. 1972	98	99	Six chapters issued and two chapters being printed.		
2622.2	Relay Training Program	Harza	Dec. 1971	Indefinite	70	80	Completed at S-EREC, FREC, KREC, MREC, EREC, & GREC		
3122.1	Tehran 230 Kv Loop	Power Division	Sept. 1971				Consultant work completed		
3122.3	Interconnected System Plans and Specification	Power Division	Nov. 1972	Indefinite			Report on contract documents for Gachsaran - Shiraz 230 kv line submitted.		
3122.10	Iran Switchgear Factory	Power Division	Dec. 1972	Indefinite			Review of proposals from manufacturers completed.		
3122.11	Utility Pole Requirements	Harza	Dec. 1972	Feb. 1973			All companies have been visited. Analysis in progress		

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DIVISION OF POWER (Page 2)

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
3122.4	Electric Laboratory Planning Report	Power Division	Nov. 1968	Indefinite	80	80	Preliminary report by outside consultant submitted.		
3122.9	Study of Regional Co. Systems, 63 and 132 Kv	Power Division	Sept. 1971	Jan. 1973	65	66	Phase I reports on 1350 loads issued for each REC; summary report submitted to Ministry.		
3322.1	Capacitor Standards	Power Division	Nov. 1971	Nov. 1972	5	5	Awaiting action by Ministry.		
3322.2	Distribution Engineering Assistance to REC's	Power Division	May 1972	Indefinite			Visits made to Gharb, Guilan, Kerman, Isfahan, Fars and Mazandaran RECs.		
3322.3	Training Seminars for Distribution Engineers.	Harza	July 1972	Indefinite	6	7	Committee organized to assist in implementation.		
3422.2	Transmission Substations Layout	Power Division	Jan. 1972	Indefinite					
3522.4	Purchase Specifications for Diesel Units	Power Division	Aug. 1970	Indefinite	85	85	In progress		
3522.5	Power Plant Chimney Design	Power Division	June 1972				Report issued in Oct.		
3522.6	Power Station Electrical Maintenance Handbook	Power Division	July 1972	Indefinite	25	40	First four chapters prepared		
3522.7	Specifications for Mobile Diesel Units	Power Division	July 1972	Indefinite	60	65	Electrical specs written.		
3722.1	Interconnected Power Systems Planning	Power Division	Jan. 1972	Indefinite			Work continuing		
3722.2	Interconnected Power Systems Analysis	Power Division	Jan. 1972	Indefinite			Work continuing		
3722.3	Fifth Plan Interconnected Systems	Power Division	Mar. 1972	Nov. 1972	100	100	Report completed.		
3722.4	Development of Computer Programs for Interconnected Systems Planning	Power Division	Mar. 1972	Indefinite			Two programs completed		
3522.8	Review of Supply Contract for 500 KW Diesel Plants	Power Division	Nov. 1972	Indefinite	10	20	Awaiting supplier information.		

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SPECIAL PROJECTS, MAHAB, AND SATKAB

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End period			
3124.1	Outdoor Line Safety Regulations	Power Division	May 1971	Dec. 1972	92	92	Committee organized to review draft.		
3124.6	Prestressed Concrete Pole (SPUM) Operations Handbook	Harza	Sept. 1969	Indefinite	95	95			
3524	Complete Data on Diesel Generation Units	Power Division	Apr. 1971	Indefinite	95	95	In progress		
6124.1	Farsi - English Technical Dictionary	Harza	Apr. 1972	Indefinite	90	90	Preliminary draft distributed for editing		
3125.1	Development of Sectional Post-tensioned Concrete Transmission Pole	Power Division	May 1972	May 1973	35	40	Fabrication and test of prototype poles scheduled in 2-3 months.		
4225.1	Organization of MAHAB	Harza	Aug. 1972	Oct. 1972	100	100	Report submitted in October		
1421.1	Ordering Systems	SATKAB	Jan. 1973	Feb. 1973			Recommendations completed		

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TRAINING AND MANAGEMENT

Project Number	Project Title	Initiator of Project	Date of Assignment	Estimated Completion Date of Assignment	Percentage Complete		Status of Project	Disposition of Project	Comments
					Beginning Period	End Period			
5122.1	Training of Organization, Methods and Systems Specialists.	Ministry	July 1972	July 1974			Training classes in Ind. Engineering being held.		
5222.1	Training Standards for Operations and Maintenance Personnel	Harza	Oct. 1971	Nov. 1972	100	100	Report completed in Nov.		
5222.3	In Company Training Procedures	Harza	Feb. 1972	Nov. 1972	100	100	Report completed in Nov.		
5222.4	Administrative Set-Up For Power Training Center (PTC)	Harza	Mar. 1972	Mar. 1973	10	10	Continuing consulting service		
5222.5	On-the-Job Training (OJT) Development for Skilled Workers	Harza	Dec. 1972	Nov. 1973	2	5	Preliminary schedule prepared.		
5322.1	Executive Management Training Program	Power Division	Oct. 1971	Feb. 1973	20	60	Training for Nuclear Mgmt. and Engr. groups started in U.S.		
5322.2	Management and Supervisory Courses	Power Division	Jan. 1972	Feb. 1973	85	90	Supervisory course design completed		Supervisory course scheduled for Feb. 1973.
5322.3	Professional Seminars	Power Division	Nov. 1972	Indefinite			Report on training officer's seminar sent out.		Distribution Engineers seminar being planned.
6022.1	Recruitment, Appraisal & Development Program for Managers and Professionals	Harza	Apr. 1972	June 1973	55	55	Executive Assembly being planned.		

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