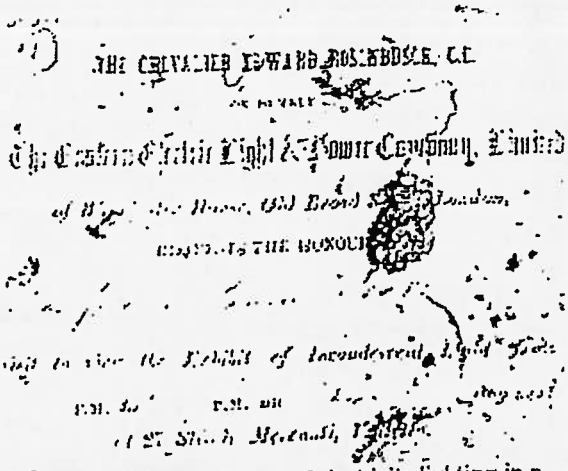
History of Power Generation in Malta

1882
Electric lighting was introduced for the first time in Malta during the opera " Un Ballo in Maschera" at the Royal Opera House. During the same year, Piazza San Giorgio in Valletta was also illuminated by electric lighting.



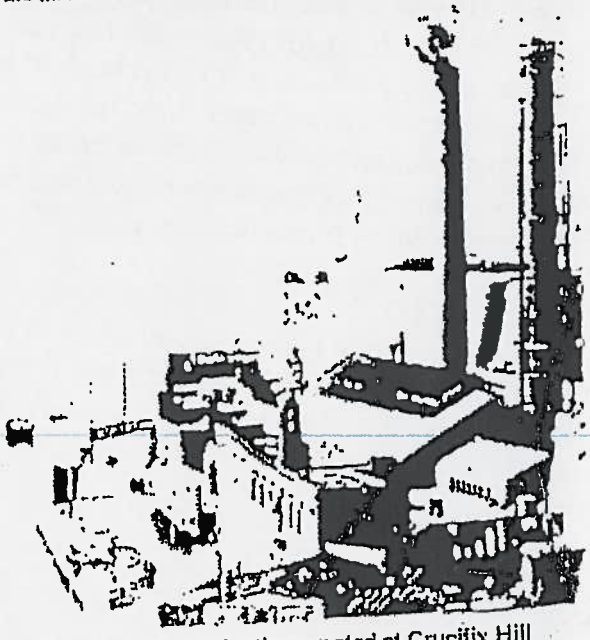
Invitation for a demonstration of electricity lighting in a private house In Valletta in 1894, by Chevalier Edward Rosenbusch

1883
The first demonstration of electricity for consumers' use was demonstrated by Chev. Edward Rosenbusch on behalf of the eastern Electric Light and Power Co. Ltd of London at his private residence, at 27, Merchant Street, Valletta. He invited various dignitaries and members of the public to see the beginning of a new era of the electricity supply for consumers. During this demonstration he set up a simple installation of lighting by electricity.

1890
The Government of Malta, with the intervention of the Secretary of State for the Colonies commissioned the first feasibility study (which included both the technical and economical aspect) to advise on the introduction of electric current supply in Malta. This report was prepared by Mr. William H. Preece Consulting Engineer and was forwarded to Government of Malta on the 1st December 1890.
The report recommended the introduction of high-pressure alternate current system to provide power for 10,000 lamps of 10-candle power each. It was estimated that the plant would cost £40,000. The project included the extension of the mains to Valletta, Floriana, the Three Cities, Hamrun and Sliema.

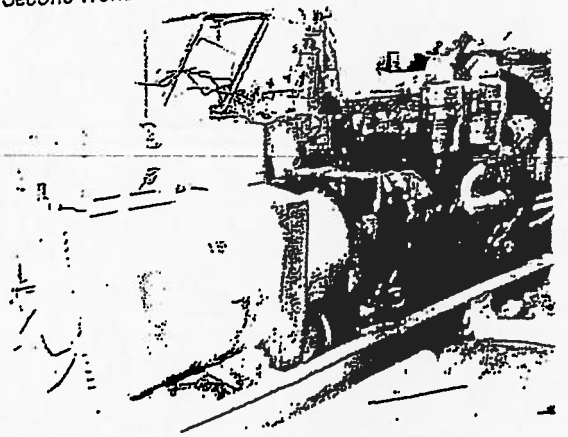
William H. Preece, (1864) who was the first consultant for the Malta Government in connection

1894 - 1896
The year 1894 saw the rise of the first public electricity service in the Maltese Archipelago. The Central Power Station, as it was known at that time, was erected at the foot of Crucifix Hill overlooking the Grand Harbour in the limits of Floriana. The equipment consisted of a set of four steam driven generating units with a capacity of 350KW. At the very beginning it was used for street lighting but then it ousted the town gas as an illuminant in houses and building premises, and later on in industry. The first public lighting took place at Valletta and Floriana. The same year the supply was extended to Hamrun and the three Cities. The supply at that time was single phase at 100 cycles. The plant was scheduled to be inaugurated in 1895 but due to difficulties and delays of work it was extended to the following year.
The first generating plant was ordered from Modley Brush.



The first Malta Power Station erected at Crucifix Hill

Floriana in 1895. Photo taken in the late forties after the Second World War.



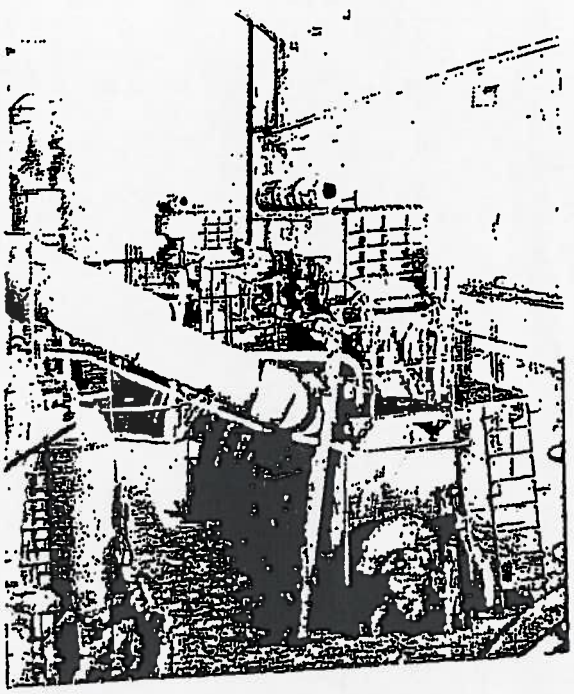
1904 -1915

During this period, due to the expansion of the electricity system in Malta, more generating units were added to the already existing plant. During 1904 two generating units having a capacity of 600 KW were installed. These were purchased from Westinghouse Beliss, and ECC Beliss respectively. Another plant was installed in 1915 increasing the generating capacity by another 500 KW; this was ordered from Ljungstrom Brush.

1922 - 1933

In 1920 a recommendation was made to replace the old engine driven alternators at the Lascaris Power Station by a steam turbine system set of a higher capacity. This would have included the introduction of the 3-phase 50 cycle operation system. Because of the high costs this proposal was declined by the government. Two years later, following a report on the electricity supply in Malta, the system proposed was introduced. During this ten-year period several developments took place.

Gozo



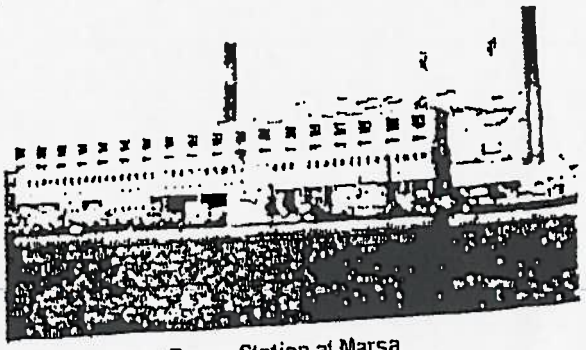
1935

Proposals for a larger plant were brought up again in 1935 and this proposal once more included the conversion of the out-dated distribution system to the standard 50-cycle 3-phase operation. Again these plans did not materialize because they were upset by the intervention of World War II and the whole scheme was postponed once more.

Corradino

1925 - 31 (GOZO)

Following a decision taken in 1925 by the government, a Power Station was built in St. Domenica Street in Victoria Gozo. The supply was inaugurated on the 1st. August 1926. The generating plant consisted of two units by 44KVA Diesel Alternator Sets. The electricity demand was rather restricted in Gozo mainly due to the fact that it was an agrarian society with very little mechanized industry, and thus the electricity was mainly used for lighting purposes. In 1931 more equipment was added, bringing the capacity to 94KVA. During this period the supply was provided mainly after dusk and on some occasions during daytime.



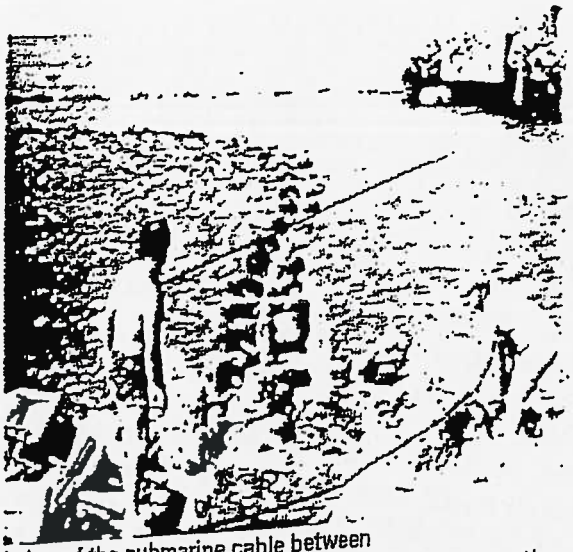
The Malta Water Powel Station at Marsa

1936 (GOZO)

Ten years after the introduction of electricity on the island of Gozo, the 3-phase 50-cycle system was approved by the government. A proposal for the changeover to a similar system in Malta did not occur because of the advent of the war.

1948 -1949

Following World War II the Maltese Government sought help under the Marshall Aid Scheme that was a plan for the Recovery of Europe. The financial help sought was to finance the cost of the plant and equipment for a new Power Station to finally replace the one at Lascaris Wharf. The Economic Administration of the United States of America, after more than a year of discussions, approved this grant.



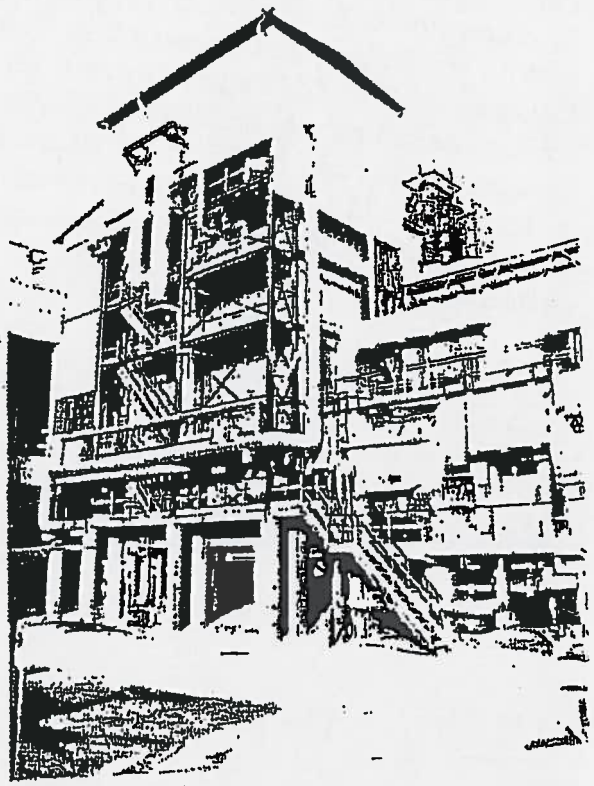
Lying of the submarine cable between Malta/Comino/Gozo Channel to supply electricity for the mainland

1949 (GOZO)

In 1949 a new unit with a capacity of 120KW was installed in Gozo. This brought the overall capacity to 180KW because some of the old equipment was also replaced. During the same period an alternator with a capacity of 200KW was also installed to be able to reach the demand of electricity. The new equipment was inaugurated in august 1951. Because of this improvement some of the rural villages were also served with electricity by 1953.

1954 – 1959

The demand to supply electricity to the most remote villages, especially those in the North of the Island, was being continuously pursued by the residents. In order to keep up with the demand the Government commissioned a feasibility study to see what steps were to be taken. It was recommended that it was more viable to serve Gozo from the Power Station in Malta and in 1957 two submarine cables were laid from Marfa to Comino and from Comino to Gozo. This was commissioned in 1958. During January 1959, the Gozo Power Station stopped operating and another chapter in the history of electricity of the Maltese islands came to an end.



Marsa Power Station

1953 -1965

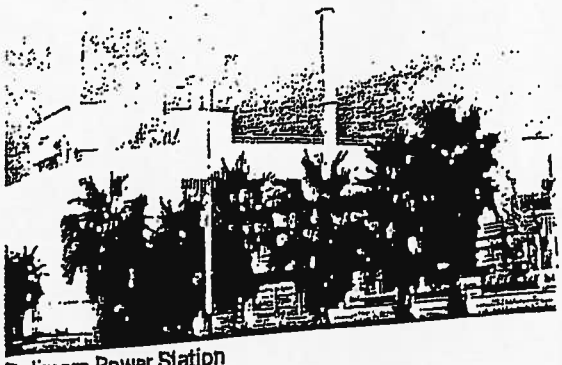
The inauguration of the new Power Station, which was installed in the galleries excavated in the base of Jesuits Hill at Marsa, was inaugurated on 5th December 1953. This generated electricity at three phases 50 cycles. The installed capacity of this new equipment was 15,000KW. This Power Station, that is better known as "Underground Station", was totally closed down during September 1994.

1954 - 1958

Following the commissioning of the Jesuit Hill's Power Station a new era was opened. The introduction of 3ph 50cycle system necessitated the complete changeover of the distribution network installations and equipment. This ambitious programme commenced in 1954 and it lasted four years. This task demanded co-ordination of labor and material resources to achieve its completion in such a short time. This was known as the "changeover period" when the electricity supply and distribution network were converted

from single-phase 100 cycles to three-phases 50 cycles. The reconstruction of the distribution system involved the laying of 11Kv three-phase cables and erection of 11KV overhead lines, construction of new substations and the stringing of 3-phase 415/240v service mains.

1965
Due to the constant demand for the electricity supply due to the diversification of the Island's economy during 1965 a 5,700KW Gas Turbo Alternator was installed at the same station. Due to lack of space in the under ground tunnel which housed this first station at Marsa it was decided that a new Power Station will be erected next to it.


Delimara Power Station

1966 -1990
The new Power Station, which is better know as the Marsa " B " Power station was inaugurated on. This new station housed two 12.5MW Turbo Alternator Units. It also housed a million gallon per day desalination plant that was very much needed at that time. In 1971 the B Station continued to be extended and in March 1970 three one million gallon / day seawater distillation units were inaugurated. The two Turbo Alternator units followed this in 1971.

DELIMARA POWER STATION

1992 PHASE 1 : 2 x 60MW

1995 PHASE 2A : 2 x 37.5MW OPEN CYCLE GAS TURBINES,

1999 PHASE 2B : 115MW COMBINED CYCLE :

POWER STATIONS F'MALTA

Fil-110 snin li f'Malta ilu li ddahal l-elettriku b'kollox gew mibnija sitt Power Stations. L-ewwel wahda nbniet fix-xatt tal-belt fl-1896. Matul iz-zmien kompliet tikber u sas-sittinijiet tas-seklu l-iehor kienet ghada qed tintuza. Fl-ewwel kwart tas-seklu ghoxrin inbniet Power Station go Ghawdex, li baqghet tahdem sa nofs il-hamsinijiet meta l-provista lejn Ghawdex bdiet tinghata mill-Power station tal-Marsa permezz ta' cable minn taht il-bahar. Ftit qabel il-gwerra u matul il-gwerra gew mibnija zewg Power stations ohra; dik tas-servizzi maghrufa bhala ta' Kordin u ohra ta' emergenza ghal matul il-gwerra taht is-sur ta' Lascaris fejn kien hemm il-ift li mix-xatt tal-Belt kien iwassal ghal Barrakka ta' Fuq. Fl-1953 giet nawgurata l-ewwel Power Station fil-Marsa maghrufa bhala ta' taht l-art li sa ftit tas-snin ilu din kienet ghadha tahdem. Fl-1966 inbniet l-ewwel Power Station fil-kumpless tal-Marsa fejn matul il-zmienijiet inbnew di-versi estenzjonijiet li kienu jinkludu sahansistra wahda li permezz ta' dis-illaturi kienet tipproduci l-ilma. Fost estenzjonijiet ohra kien hemm dik maghrufa bhala ta' Palermo li kienet installata f'Quattro Venti f'Palermo go Sqallija. Minbarra din kienet ukoll ingabet ohra maghrufa bhala Little Barford, mill-Ingilterra fejn kienet installata. Fis-snin disghin beda x-xoghol fuq il-Power Station ta' Delimara. Matul dawn l-ahhar snin din il-Power Station kompliet tikkabbar biex tkun tista tlahhaq mad-domandi li l-zvilupp tal-pajjiz jitlob.

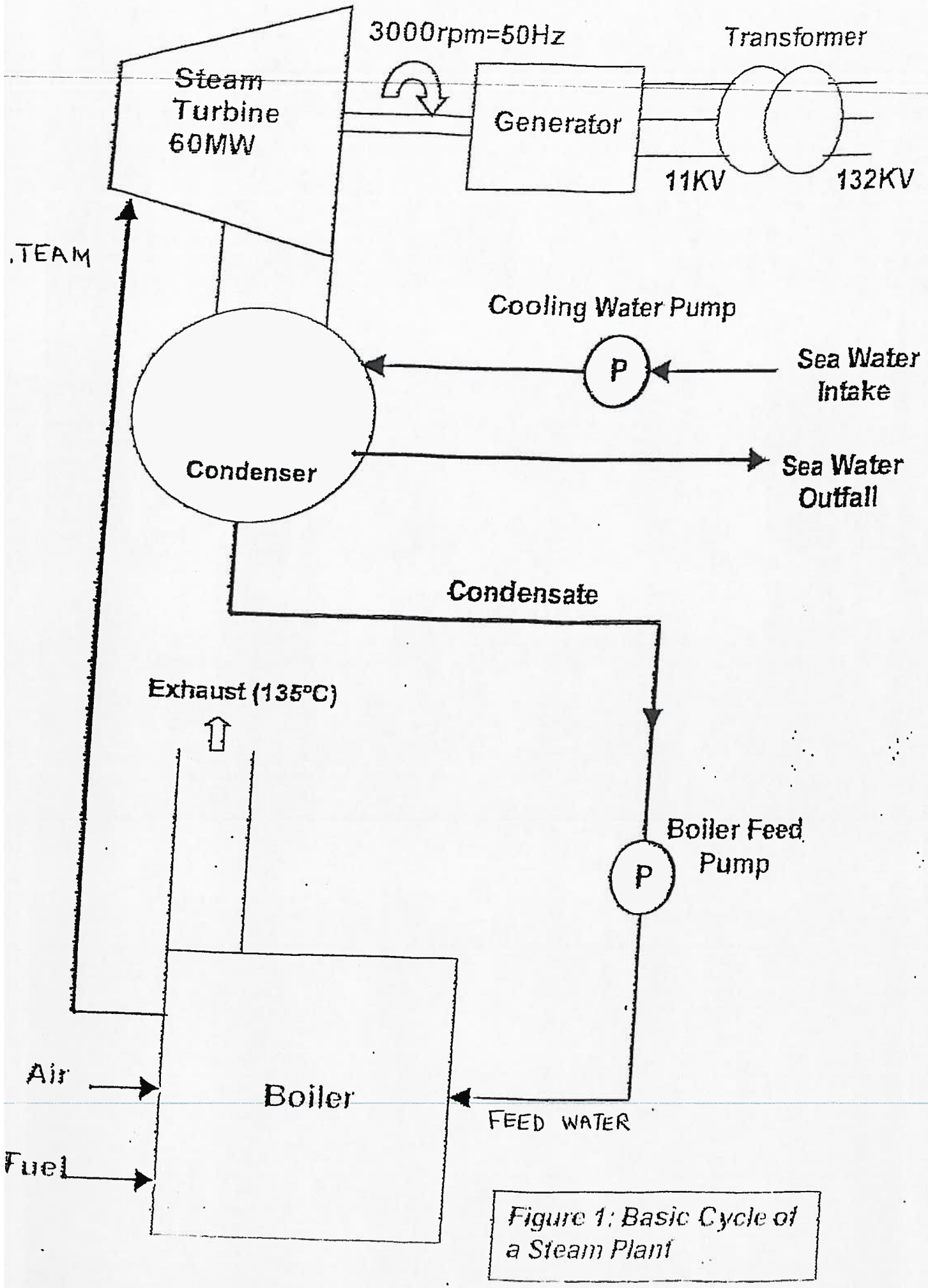


Figure 1: Basic Cycle of a Steam Plant

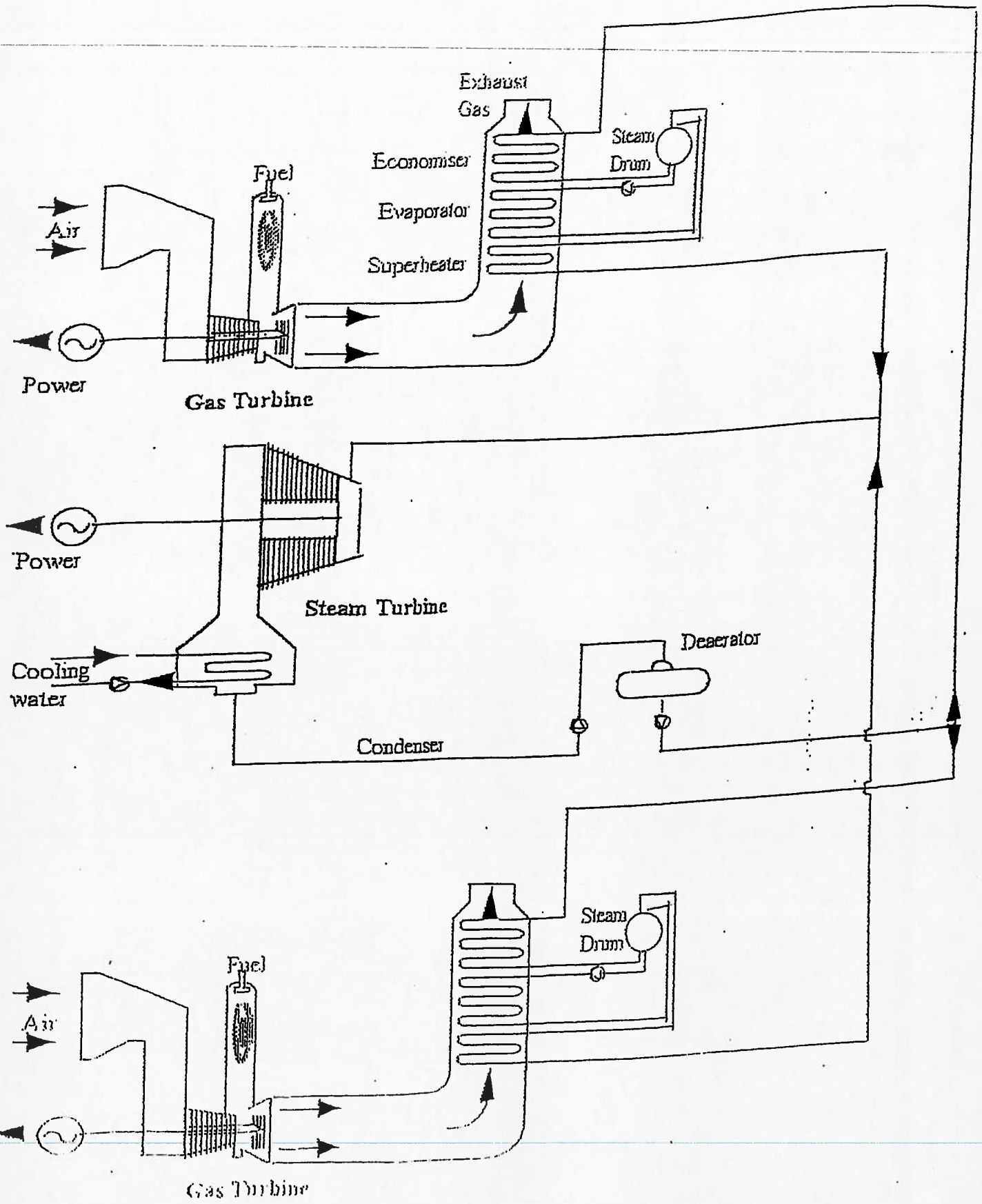
L-IMPJANT TAL-COMBINED CYCLE F'DELIMARA

Għal ħafna snin il-Magni tad-dawl f'Malta (Power Stations) iġġeneraw l-elettriku b'mod konvenzjonali jiġifieri permezz ta' turbini u boilers. Fl-Lulju tal-1999 uffiċjalment il-Korporazzjoni bdiet tagħmel uzu minn sistema totalment ġdida magħrufa bħala il-Combined Cycle li taħdem b'mod differenti. Filwaqt li l-impjant li jaħdem bit-turbini u l-steam huwa ddisinjat biex jaħdem kontinwament is-sena kollha l-impjant li jaħdem bil-Gas Turbines f'dawn il-combined cycles huwa differenti u aktar flessibli. Din is-sistema tagħmel uzu ukoll mid diesel li kif jaf kulħadd fih ferm u ferm inqas kubrit miz-zejt li jintuża fil-power stations oħra li huwa magħruf bħala heavy fuel oil b'hekk jiġi ikkawzat anqas tniġġis fl-arja.

Il-Combined Cycle hija magħmula minn gas turbines u boilers u turbine tal-isteam. Il-Boilers ta din is-sistema jaħdmu permezz ta' gassijiet li joħorġu mill-Gas Turbine, filwaqt li it-turbina tal-isteam taħdem b'rizultat ta' steam li jiġi ġenerat mill-ġeneraturi inkorporati f'din is-sistema.

Il-gas turbine bħal magni oħrajn li jaħdmu permezz ta' l-enerġija tas-sħana jibdlu l-enerġija kimika li hemm fiz-zejt f'enerġija mekkanika li umbagħad iddawwar il-ġeneraturi li jipproduċu l-enerġija elettrika.

Il-Combined cycle li hija nstallata f'Delimara għanda kapaċita ta' 110MW. Dan l-impjant jikkonsisti f'zewġ gas Turbines generators, zewġ heat recovery boilers, u steam turbine. Flimkien ma dawn hemm is-sistema tal-high u il-low voltage, transformers u is sistema tal-kontroll. Dan l-appartat jipprovdi elettriku li biex tiġġenerah hemm inqas tniġġis fl-arja minħabba li hemm kontroll ta' carbon dioxide u kubrit. B'rizultat ta' hekk l-elettriku provdut minn din is-sistema jagħmel anqas ħsara l-ambjent fl-arja tal-madwar.



COMBINED CYCLE PLANT

IS-SUBMARINE CABLE BEJN MALTA U GĦAWDEX

Matul l-ewwel kwart tas-seklu li għadda l-provvista tal-elettriku għal Għawdex kienet provduta permezz ta' Power Station li kien hemm mibnija fejn illum hemm id-distrett tal-Korporazzjoni fir-Rabat. Wara studji li saru wara l-gwerra u fil-bidu tal-ħamsinijiet irriżulta li ma kienx vijabbli li dan l-istazzjon tal-elettriku jibqa' jitħaddem, għalhekk inħasset il-ħtieġa li jkun hemm mezzi alternattivi. Kien hawn li fuq rakkomandazzjoni tal-esperti li l-provvista bdiet tingħata minn Malta permezz ta' cable li kien għaddej minn taħt il-baħar. Dan tpoġġa għall ewwel darba fl-aħħar tal-ħamsinijiet u fl-1959 beda kapitlu ġdid meta l-provvista bdiet tingħata minn Malta.

Submarine cables oħra ġew installati fl-1981 u l-1987. Dak tal-1981 beda jaħdem fuq is-sistema tal-11KV iżda meta beda' jaħdem it-tieni sett ta' cables tal-1987 dawn bdew jaħdmu fuq is-sistema 33KV. It-tielet cable ġie installat f'Settembru tal-2001 u jiffunzjona ukoll fuq is-sistema tal-33KV.

Ta min jgħid li kull darba li ġie installat cable bħal dan dejjem ikun f'par, għar-raguni li jekk ikun hemm ħsara fuq parti minn dan il-cable Għawdex qatt ma jispiċċa bla dawl għax is-sistema tinqaleb fuq il-cable l-ieħor.

Dan il-cable ta' qiegħ il-baħar jibdew miċ-ċirkewwa sa Kemmuna u minn Kemmuna ghal Qala Għawdex. Sabiex ma jsirx ħsara mix-xejn lil dan il-cable f'ċerti partijiet fejn saru trinek mod specjali viċin il-kosta.

L-aħħar cable li ġie nstallat fil-bidu ta' dan is-seklu huwa fibre optic u l-Korporazzjoni tista' tikri cores minnu għal użu tat-telefon, televixn, u biex tgħaddi data tal-kompjuter minnu.

Il-Librerija tal-Enemalta

Ghaxar snin ilu f'Ottubru tal-1996 il-korporazzjoni hasset il-htieġa li biex tkun tista tagħti servizz aħjar lill-ħaddiema tagħha twaqqaf librerija. Dan il-proġett aktar il-quddiem kompla jikber u jinfirex tant li llum għandu wkoll servizz ta' l-arkivju.

Fil-librerija insibu madwar 23,000 elf dokument li jikkonsistu f'kotba, liġjiet, manuals li jintużaw fuq il-makkinarju tal-Power Stations, rapporti dwar is-sistema tal-enerġija fil-pajjiż, standards, kuntratti, u teżijiet fil-bidu l-kbira ippreparati mill-ħaddiema tal-Korporazzjoni stess. Minn barra dawn id-dokumenti kollha nsibu sezzjoni oħra fejn hemm kotba u rapporti dwar Malta. Din imsejħa s-sezzjoni tal-Melitensja. Fiha hemm il-minuti tal-Bord tal-Elettriku, u Tal-Gas, Dokumenti oħra li jitkellmu dwar l-istorja tal-enerġija f'malta. Dawn id-dokumenti huma kollha katalogati u wieħed jista jagħmel użu minnhom. Il-librerija hija miftuħa għal ħaddiema u anki għal istudenti f'kull grad akkademju, minn dak sekondarju għal wieħed Universitarju. L-istudenti li jikkonsultaw il-librerija jkunu jridu jagħmlu appuntament minn qabel.

Sezzjoni oħra hija dik tal-audio-visual. F'din is-sezzjoni għandna audio Cassettes, CD-Roms, Videos u DVD.

Hemm ukoll numru kbir ta' ritratti li ħafna minnhom huma kkatalogati wkoll. Xi whud imorru għal aktar minn mitt sena.

Minn barra dan il-materjal kollu wieħed isib ukoll is-settur tal-arkivju fejn fil-preżent hemm maħzuna aktar minn 42,000 file li xi whud minnhom imorru lura għal 1955 meta is-settur tad-dawl kien għadu dipartiment tal-Gvern. F'dawn il-files u dokumenti wieħed isib materjal li jitkellem dwar l-iżvilupp tad-dawl, il-gas u l-prodotti taż-żejt f'Malta. Għalkemm dawn id-dokumenti mhux miftuħa għall-pubbliku minħabba li għadhom fil-pussess tal-Korporazzjoni, wieħed jista jitlob permess jekk ikun qiegħed jagħmel xi studju biex ikun jista jara dokumenti taħt is-supervizjoni tal-librar. Legalment wieħed jista jara biss dokumenti li għandhom aktar minn tletin sena u ma jkunx ta' natura riservata jew sigriet.

Kull min ikun irid jagħmel użu mis-servizz tal-librerija jew jingħata xi parir jista iċempel fuq 22980839 jew inkellha jibgħat email fuq librarydps@enemalta.com.mt