

**FINAL NARRATIVE REPORT
IRFFI/UNDG IRAQ TRUST FUND (UNDG ITF)**

Participating UN Organization(s)	Sector(s)/Area(s)/Theme(s)
<i>United Nations Development Programme</i>	Cluster: E Infrastructure Rehabilitation Sector: Economic Recovery and Development

Programme/Project Title E4-01	Programme/Project Number
Emergency Supply of Equipment to Electricity Sector in Iraq and Support to Essential Humanitarian Services	ATLAS Project Number: UNDG 66978 UNDP Iraq 38907 ATLAS Award Number: UNDG 54978 UNDP Iraq 15721

Programme/Project Budget	Programme/Project Location
UNDG ITF: USD 11,999,810 Govt. Contribution: USD 0 Agency Core: Ministry of Electricity Other: Governorate Councils, Ministry of Health Water Authorities and Town Councils in respective areas TOTAL: USD 11,999,810	Region (s): Northern, Central and Southern Iraq Governorate(s): Al Muthana, Baghdad, Basrah, Erbil, Missan, Ninewa, Tameem and Thigar. District(s) Please Refer to Annex I

Final Programme/ Project Evaluation	Programme/Project Timeline/Duration
Evaluation Done <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Overall Duration <i>August 2004 till December 2008</i>

Evaluation Report Attached Yes No

UNDP led the joint UN/World Bank Needs Assessment of the Electricity Sector in October 2003.

Original Duration

August 2004 July 2005

Programme/ Project Extensions

2nd Extension April 2008

FINAL NARRATIVE REPORT

I. PURPOSE

- a. Provide a brief introduction to the programme/ project

Following, the recent war and the history of repair on the electrical network in Iraq there was an urgent need to support the Ministry of Electricity to conduct necessary repairs and routine maintenance. Of particular focus was the interim period to ensure reliable and safe electricity especially in hospitals and water pumping stations to assist citizens in accessing services within an environment that was experiencing violence. This project focused on areas in central, south and northern Iraq and established capacity building to improve the ability to respond in the Ministry of Electricity by providing urgently required equipment, spare parts and training. In several areas this project exceeded the intended outputs. Additional areas of work included the rehabilitation of the electrical distribution network for Umm Qasr in Al-Basrah Governorate which is the main deep water port in Iraq and the partial electrical rehabilitation to the Safwan Municipality which is a major border crossing city into Kuwait and support to the Karama Water Treatment Plant in Baghdad. This work was achieved within an environment of sectarian violence and deterioration of security in Iraq.

- b. List programme/project outcomes and associated outputs as per the approved Project Document.

Key Immediate Objectives:

1. Key parts of the Iraqi national electricity grid continued to operate, thus ensuring the overall integrity of the grid.
2. Essential humanitarian activities in the central and upper south regions of Iraq continued to provide services to the population.
3. The capacity of the MoE in providing basic technical training to its staff is restored.

Outputs:

- 1.1 Urgently required equipment and spare parts installed in key parts of the national electricity grid.
- 2.1 The electrical facilities of essential humanitarian services operational and supported by sufficient backup generation capacity.
- 3.1 Three MoE training centres refurbished and re-equipped and technical capacities of selected trainers enhanced.

- c. List the UN Assistance Strategy Outcomes, MDGs, Iraq NDS Priorities, ICI benchmarks relevant to the programme/ project.

UN Assistance Strategy for Iraq:

UN Cluster 4 Infrastructure

There is an articulated need expressed for efficient operation, management and maintenance of an electricity network with increased availability to the population through rehabilitation of the grid and overall electricity generation capacity. The Ministry of Electricity has the ability to increase capacity, repair and maintain power generation. The relevant excerpt from the 2006-2007 UN Assistance Strategy for Iraq is as follows:

- UNCT Goal 2: Assist in the provision of basic services and promotion of community development and participation;
- Cluster Outcome 2.6: Rehabilitation and governance of infrastructure at local level;
- E3: Increased availability of electricity, particularly to rural and low income areas.

Programme outputs:

- Generation capacity enhanced in specific needy areas;
- Technical and management capacity enhanced;
- Coordination with other electricity projects to work in areas of greatest need.

UN Millennium Development Goals (MDG):

MDG 7 Target 11 states that significant improvements of people living in slums who are not or partially connected to services like water, sanitation and electricity. This project also assists within MDG 4 and 5 to access health services.

Iraq National Development Strategy:

The Emergency Supply of Equipment to Electricity Sector in Iraq is based on Pillar 2 10 that prioritizes increasing electricity generation and distribution to meet current and projected needs. One of the planned goals on page 38 refers to two actions specific to this project which are; 1) reconstruct power network, increase power generation and guarantee a continuous supply and 2) update power distribution.

The International Compact with Iraq (ICI):

The Emergency Supply of Equipment links into several components of the ICI. Section 4 Realising the Vision - the Socio-Economic Context in Point 2: Revitalize the private sector particularly through the creation of an enabling environment; and Point 3: Improve the quality of life starting with the provision of basic services. This is further elaborated in the Section 4.5 Energy (Oil, Gas and Electricity) page 20-21.

Section 4.5 Energy Goal is: “The Government will develop an energy sector that meets Iraq’s needs and maximizes the benefits of hydrocarbons for all Iraqis and reinforces national unity and institutions.” The Government of Iraq will develop an Energy Master Plan on the basis of an Energy Balance...for the electricity sector; the Government will formulate a plan for least cost development of the power system.... The Emergency Supply links directly into activities within the larger UNDP infrastructure projects.

- d. List primary implementing partners and stakeholders including key beneficiaries.

The primary implementing partner was the Ministry of Electricity. Additional ministries involved were the Ministry of Health and Water Authorities. Significant work was done with the respective governorates and at the municipality level who were partners and stakeholders. Key beneficiaries were the Ministry of Electricity who received the first tranche of materials. Additional beneficiaries were personnel who worked at the respective facilities that received the generator sets and those civilians who used the health clinics and water facilities and the other services of the remaining eleven generators.

Beneficiaries that can be quantified in the project are 312,500 women; 311,875 men and 625,625 children in Umm Qasr and Safwan who directly benefitted from the rehabilitation of the electrical systems. The input into the electrical needs of Karama Water Treatment Plant affected 900,000 persons in Baghdad. The additional estimated beneficiary population is approximately 1.25 million residents who benefit from the Diesel Generator

sets in either water or hospital facility with the primary health care centers and hospital serving approximately 3,000 patients per day.

II. ASSESSMENT OF PROGRAMME/ PROJECT RESULTS

- a. Report on the key outputs achieved and explain any variance in achieved versus planned results. Who have been the primary beneficiaries and how they were engaged in the programme/ project implementation?

Please also kindly refer to the Logframe on pages 11-18 of this report.

Output 1.1 Urgently required equipment and spare parts installed in key parts of the national grid.

Indicator 1.1.1 Project E4-01 conducted basic assessment identifying equipment and spare parts for the Iraqi electricity grid. The procured equipment was installed in approximately fifteen (15) key electricity facilities. The equipment procured included;

- 440 Distribution Transformers,
- 700 Low Voltage Boards,
- 2,700 Molded Case Circuit Breakers (MCCBs)

Indicator 1.1.2 Project E4-01 procured and delivered priority parts and equipment that were essential for humanitarian facilities. Although the anticipated delivery was for 50 Diesel Generator sets the output actually doubled the number to 111 Diesel Generator sets. The delivery in this area included;

- 111 Diesel Generator Sets with 51 sets to hospitals and health centers and 49 sets to pumping stations and other water facilities with the outstanding 11 to various other service delivery facilities.
- 86% of electrical costs were provided to the Karama Water Treatment Plant. This freed funds to enable the repair of lines 2 and 3 of the Treatment Plant which boosted production by 40% and provides safe water to 900,000 Baghdad residents.

Indicator 1.1.3 Project E4-01 undertook necessary repair works and replacements with the primary focus on the electrical distribution system in the only deep water port city in Iraq Umm Qasr and support to Safwan which is the main border crossing into Kuwait. This was to facilitate the importation of humanitarian goods. The delivery in this area included;

Umm Qasr

- Planting of + 1776 MV and LV poles Construction of +24 km of 11kV overhead power lines. Installing of +48x11/0.4kV 50 Hz outdoor pole transformers.
- Removal of redundant poles, conductors and delivery to warehouse
- 3,250 domestic and commercial facilities linked to the network

Safwan

- Planting of +115 MV and LV poles
- Construction of +7Km of 11 KV overhead power line by stringing 120/20mm ACSR conductors
- Construction of +5km of 0.4 kV overhead power line by stringing overhead twisted cable with 3*95+50+16mm conductors
- Installing 12x11/0.4kV, 50Hz outdoor pole mounted distribution transformers
- Installed +50 street lamps
- Provided 5,090 consumers with reliable power

Output 2.1 The electrical facilities of essential humanitarian services operational and supported by sufficient backup generation capacity.

Indicator 2.1.1 Project E4-01 Assessed and prioritized generator requirements and ancillary items and repair. The primary coverage of the 111 generators was in Al Muthana, Baghdad, Basrah, Erbil, Missan, Ninewa, Tameem and Thigar.

Indicator 2.1.2 Project E4-01 procured and delivered the 111 generators with photographs documenting locations.

Indicator 2.1.3 Basic assessment of undertaking of necessary repair work. The diesel generator sets were tailored to the requirements of the facility.

Output 3.1 Three MoE training centers fully refurbished and re-equipped and the technical capacities of selected trainers enhanced.

Indicator 3.1.1 Assessing the need of the training centers and refurbish and re-equip as needed. Upon assessment it was identified that this was being duplicated by the Coalition Provisional Authority (under US Administration).

Indicator 3.1.2 Assessment of the requirements for enhancing the capacities of selected trainers. The six most urgent training needs were assessed with 35 Ministry of Electricity staff trained in best practice relating to maintenance, installation and repair. In addition electricity projects built upon this foundation.

Indicator 3.1.3 Provision of refresher training was not conducted as there was significant staff movement and logistical problems within the MoE restricted the availability of further trainees.

- b. Report on how achieved outputs have contributed to the achievement of the outcomes and explain any variance in actual versus planned contributions to the outcomes. Highlight any institutional and/ or behavioural changes amongst beneficiaries at the outcome level

One hundred eleven (111) diesel generator (DG) sets of various sizes were provided by this project which is more than double the original output goal of 50 DG sets. The majority, 100 of the DG sets were allocated to priority hospitals and health centers and water facilities which is 90% of the total. Therefore, each of the two priorities areas received the original amount of a total of 50.

- 51 DG sets of various sizes have been installed at priority hospitals/health centres. This is 46% of the total number within this project and over the amount forecast as the output.
- 49 DG sets of various sizes have been installed at pumping stations and other water facilities. This is 44% of the total number within this project and almost the amount forecast at the output.

The proportionate amounts of the one hundred eleven (111) Diesel Generator Sets provided are identified in Illustration 1 below.

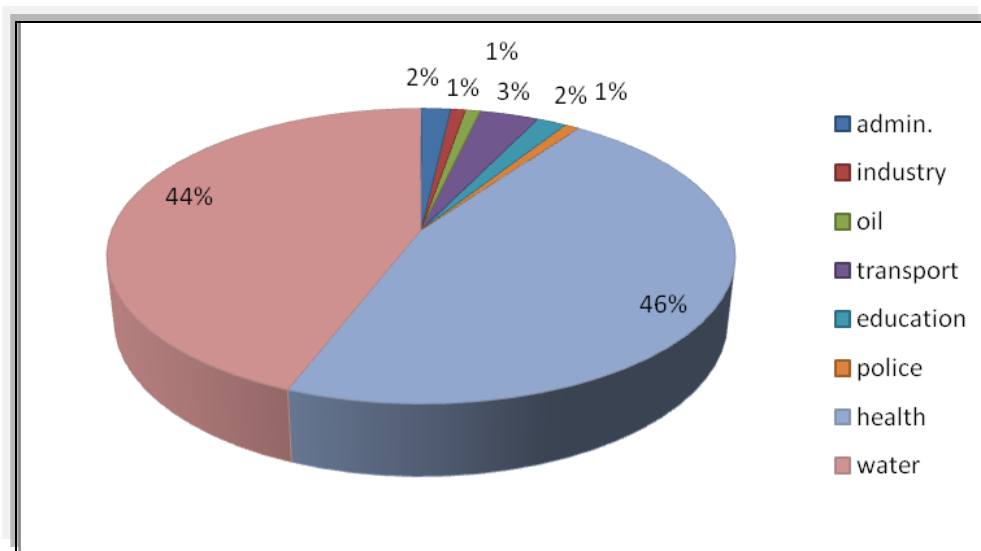


Illustration 1: Sectors Generator Sets Provided by E4-01

It is anticipated that the beneficiary population was approximately 1.25 million residents of Iraq through improved access to potable drinking water and health care services. The hospitals and primary health care centers which benefitted from the diesel generator sets service on average approximately 3,000 patients per day.

The rehabilitation of the electrical distribution system in Umm Qasr affected 3,250 domestic and commercial facilities. The Safwan rehabilitation affected 5,090 consumers and the technical support and intervention assisted 900,000 residents of Baghdad to access clean potable water.

- c. Explain the overall contribution of the programme/ project/ to the ICI, NDS, MDGs and Iraq UN Assistance Strategy.

UN Assistance Strategy:

Cluster 4 Infrastructure

There is an articulated need expressed for efficient operation, management and maintenance of an electricity network with increased availability to the population through rehabilitation of the grid and overall electricity generation capacity. The Ministry of Electricity has the ability to increase capacity, repair and maintain power generation. The relevant excerpt from the 2006-2007 UN Assistance Strategy for Iraq is as follows:

- UNCT Goal 2: Assist in the provision of basic services and promotion of community development and participation:
- Cluster Outcome 2.6: Rehabilitation and governance of infrastructure at local level.
- E3: Increased availability of electricity, particularly to rural and low income areas.

Programme outputs:

- Generation capacity in specific needy areas enhanced;
- Technical and management capacity enhanced;
- Coordination with other electricity projects to work in areas of greatest need.

UN Millennium Development Goals (MDG):

MDG 7 Target 11 states that significant improvements of people living in slums who are not or partially connected to services like water, sanitation and electricity. This project also assists within MDG 4 and 5 to access health.

Iraq National Development Strategy:

The Emergency Supply of Equipment to Electricity Sector in Iraq is based on Pillar 2 10 that prioritizes increasing electricity generation and distribution to meet current and projected needs. One of the planned goals on page 38 refers to two actions specific to this project which are; 1) reconstruct power network, increase power generation and guarantee a continuous supply and 2) update power distribution.

The International Compact with Iraq (ICI):

The Emergency Supply of Equipment links into several components of the ICI. Section 4 Realising the Vision - the Socio-Economic Context in Point 2: Revitalize the private sector particularly through the creation of an enabling environment; and Point 3: Improve the quality of life starting with the provision of basic services. This is further elaborated in the Section 4.5 Energy (Oil, Gas and Electricity) page 20-21.

Section 4.5 Energy Goal is: “The Government will develop an energy sector that meets Iraq’s needs and maximizes the benefits of hydrocarbons for all Iraqis and reinforces national unity and institutions.” The Government of Iraq will develop an Energy Master Plan on the basis of an Energy Balance...for the electricity sector; the Government will formulate a plan for least cost development of the power system.... The Emergency Supply links directly into activities within the larger UNDP infrastructure projects.

This programme worked under severe distress to assist in getting basic services to persons. The focus on this work was to save lives and to assist in electricity to essential services with a focus on health services and water. Other areas include cooking gas in Basrah and other key needs of the people.

- d. Explain the contribution of key partnerships including national, international, inter-UN agency, CSO or others towards achievement of programme/ project results.

UNDP has been a key player in the training for the Electricity Sector in Iraq and has been actively working with the electricity sector over the past ten years. This expertise was established between 1996 and 2003 when the electricity network rehabilitation programme was implemented under the Office of the Iraq, Programme Oil-for-Food.

Moreover, UNDP has led the joint UN/World Bank Assessment of the Electricity Sector conducted in October 2003. Discussions with the Ministry of Electricity in Baghdad and information acquired by UNDP resulted in the identification of rehabilitation and repair needs of the Iraqi electricity grid network locations in the central and southern parts of Iraq.

The most urgent need identified was related to the elaboration of the requirements of emergency repairs and rehabilitation works as expressed by the Ministry of Electricity (MoE) into coherent full-fledged projects. In light of need and commitment to the people the MoE requested that the first steps were to formulate priorities and provide urgently required materials and the provision of specialized assistance for international procurement resulting in this project.

Focus of this proposal has three major outcomes. The first two involved the Ministry of Electricity and the third was generation capacity primarily to health and water facilities.

e. Highlight the contribution of the programme/ project on cross-cutting issues:

- Were the needs of particularly vulnerable or marginalised groups addressed?

The two districts that received significantly more generators within the project were in areas that were particularly vulnerable or marginalised. Basrah received 47 out of the 56 (83%) diesel generator sets provided in Southern Iraq and Tameem received 34 out of the 45 (75%) diesel generator sets provided in Northern Iraq. These two vulnerable areas received 72% of all diesel generator sets.

Basrah during the project was an area which experienced extensive fighting as well as has the deepwater port and the major road access into Iraq from Kuwait. Generators were installed at the Port to run the cranes to unload food for the people of Iraq during this high risk period. Sectarian violence reached a level where contractors were not willing to work and the degree of risk to deliver was too high.

- How did men and women benefit from the programme/project? How were gender inequalities handled?

The equipment urgently procured for the Ministry of Electricity in the repair of the national grid potentially affected significant numbers of the civilian population.

Forty six percent of the generators were installed at hospitals serving locations where injured were taken. Forty four percent (44%) of the generators were installed at pumping stations and other water facilities which most likely assisted women in maintaining health standards at home. Only one industry received support from the project for a diesel generator set. This was a gas bottling plant in Basrah. Bottle gas is the primary cooking fuel in households. Availability of gas was critical for the cooking of food as well as boiling water to prevent waterborne disease.

Beneficiaries that can be quantified in the project are 312,500 women; 311,875 men and 625,625 children in Umm Qasr and Safwan who directly benefitted from the rehabilitation of the electrical systems.

Additionally 35 engineers from the Ministry of Electricity benefitted from training or study tours.

- Were environmental concerns addressed including environmental impact/risk assessment where relevant?

This project was implemented during an early post conflict environment with several waves of unrest and sectarian violence. The instability and the special situation in Basrah was a primary challenge with 47 (42%) of the generators provided to this area. This area experienced several waves of intensive violence during the project. The focus of this project was on the provision of basic services for persons to access health care and water that was considered essential for survival of the Iraqi population.

The purpose of this project was to provide urgently needed parts to the Government of Iraq to assist in getting electricity restored and to provide backup during power cuts or in areas with no power was available due to the post conflict environment and within sectarian violence. Focus was to assist hospitals to provide services and the population to have access to water.

- Were there any specific issues in relation to the security situation?

The security situation deteriorated during the implementation of the project. This resulted in delays in project implementation for the following reasons:

- 1) Due to the security situation, procured equipment had to be unloaded in Jordan and taken overland into Iraq which caused delays in delivering some of the equipment.
- 2) The fluctuating security situation in Iraq caused significant increases in transportation costs and insurance at approximately 2.5% of the value of goods transported.
- 3) The withdrawal of international UN staff from Iraq after the tragic event of 19 August 2003 had a severe impact on project implementation and forced UNDP Iraq to work by remote management.

- Did the project contribute to employment generation (gender disaggregated)?
 - This project worked with Engineers within the Commission of Electricity which, during the life of the project, evolved into the Ministry of Electricity.
 - Additionally this project worked with regional and local structures

f. Provide an assessment of the programme/ project based on performance indicators as per approved project document using the template in Section IV.

Please refer to Section IV

Capacity within the Ministry of Electricity

Consultations with UNDP became a catalyst for the Commission of Electricity/Ministry of Electricity to assess the range of skills/capacity available within the Ministry; and relate the available skills/knowledge in comparison to the current needs of the ministry, particularly in the areas focusing on rehabilitation of existing facilities and equipment.

It became clear to the Ministry of Electricity that there was a very significant skills shortage, thus a sustained long-term effort would be needed. Upon consultations with UNDP, the Ministry provided a list of courses that were considered as a priority and were agreed upon between the Ministry and UNDP that they should be offered to MoE staff. Details of the courses were sent to the Ministry for final review and use in selecting suitable trainees, taking into account background and experience prerequisites needed for each course and providing a clear basis for trainee selection.

A total of 35 Ministry of Electricity staff were trained in best practices relating to maintenance, installation and repair. The staff are now able to carry out their day-to-day work with greater skill and pass on their skills to others. This will provide a long-term benefit for Iraq through the improvement of maintenance, operation and reliability in the electricity sector. Additionally, two staff studied the metering system in South Africa. The training covered a range of qualification and skill levels from semi-skilled up to professional engineer category. The following topics were determined:

Course Topic	Skill Level	Number of Trainees
Network Construction Techniques	Intermediate	20
Setting Up System Planning Offices in Electricity Distribution	Advanced	15

III. EVALUATION & LESSONS LEARNED

- a. Report on any assessments, evaluations or studies undertaken relating to the programme/ project and how they were used during implementation. No evaluation was done
- b. Indicate key constraints including delays (if any) during programme/ project implementation

The deterioration of the security situation in Iraq had significant impact on the project and required modification in management, deliverables and method of delivery for emergency procured goods for the Ministry of Electricity.

During the period of this project a major re-profiling took place in the structure of the Ministries by the newly established Government. The Commission of Electricity was restructured to become the Ministry of Electricity and has been UNDP's main counterpart in this project. The restructuring process caused unanticipated delays for some of the project's activities and affected the process of arriving at consensus on certain issues.

The management of the project due to security restrictions for all United Nations staff required that the project continue to take full responsibility yet work by remote management. In order to ensure continuous monitoring of the project activities at the ground level, UNDP approached Iraqi companies to provide consultancy services. In addition, UNDP international engineers worked closely with engineers from the local authority and specialists who were invited to Amman to identify needs as well as prepare specifications, Bill of Quantities and to monitor both the inspection and delivery of goods received.

During early recovery, there was a coordination interface problem with potential for duplication between the Coalition Provisional Authority who provided funds unilaterally. One such example was the refurbishment of the three training centres. This work was completed by the Coalition Provisional Authority.

- c. Report key lessons learned that would facilitate future programme design and implementation.
 1. Continuous change in key staff right after conflict while a government is being formed can adversely affect the ability to deliver with additional focus having to be placed on closer contact to stay on top of issues as they emerge with reliance on teleconferencing, VS, for communications if available.
 2. The security and sectarian violence during the main implementation period exposed a critical risk to personnel and equipment. A high concern was how to simultaneously implement within a violent environment.
 3. The third lesson learned is that flexibility has to be built into documents that are responding to conflict and procurement of materials, especially within the transport of the goods to the locality. There is a need to work closely with security persons and partners within the country and identify ways to ensure the arrival of the goods so that materials are not lost in the process.
 4. In a conflict situation it is exceedingly hard to determine who gets essential equipment such as water which sustains life or hospitals where life is saved. Therefore, this project found the flexibility to adapt so as many people as possible could access services.
 5. In an emergency situation it is feasible that different international players could potentially duplicate actions or an output. If duplication is identified, then players should work together to identify gaps as a way forward.

IV. INDICATOR BASED PERFORMANCE ASSESSMENT

	Performance Indicators	Indicator Baselines	Planned Indicator Targets	Achieved Indicator Targets	Reasons for Variance (if any)	Source of Verification	Comments (if any)
IP Outcome 1 Key parts of the Iraqi electricity national grid continue to operate, thus ensuring the overall integrity of the grid.							
IP Output 1.1 Urgently required equipment and spare parts installed in key parts of the national grid.	Indicator 1.1.1 Assessing and prioritizing the needs of equipment and spare parts;	Basic assessment conducted identifying equipment and spare parts in Iraq for the Iraqi electricity grid	Urgently required equipment procured and installed in approx 15 key electricity facilities.	440 distribution transformers 700 Low Voltage (LV) Boards 2700 Molded Case Circuit Breaker (MCCBs) were delivered to MoE for urgent operation and maintenance works	.	Internationally procured items are delivered safely to implementation sites. Periodic progress reports Feedback from counterparts Final assessment, evaluation and technical acceptance reports of UNDP designated consultant on the ground.	
	Indicator 1.1.2 Procuring and delivering the	No priority equipments and parts available and	50 DG Sets procured and installed in selected	This project provided 111 DG sets (more than double the	This was more than double the proposed DG sets. Needs were	Internationally procured items are delivered safely to	Exceeded expectations

	<p>identified priority equipment and parts;</p>	<p>identified prior to procurement</p>	<p>essential humanitarian facilities.</p> <p>Conducted the electrical rehabilitation work at Al-Karama Water Treatment Plant in Baghdad in partnership with ITF project E3-04.</p>	<p>output indicator of 50) to key facilities, hospitals/health centres and water-pumping stations in central, northern and southern Iraq with this projects</p> <p>Assisted in 86% of the costs for electrical rehabilitation at the water treatment plant and provided technical expertise. This action assisted in the reliability and long-term operation of the water plant and assisted in making it available to have the funding to complete line 2 and 3 which</p>	<p>great especially in some high risk areas to save lives</p> <p>This action was taken to support increased water supply for the people of Baghdad which boost production 40% and provides safe potable water to 900,000 residents daily in Baghdad Karkh side.</p>	<p>implementation sites.</p> <p>Periodic progress reports</p> <p>Feedback from counterparts</p> <p>Pictures documenting locations</p> <p>Final assessment, evaluation and technical acceptance reports of UNDP designated consultant on the ground.</p>	
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				were not part of the original plan			
	Indicator 1.1.3 Undertaking the necessary repair works and replacements;	No repair and replacement works had been undertaken previously.	440 distribution transformers were delivered to MoE for urgent operation and maintenance works as well as: 700 Low Voltage (LV) Boards 2700 Molded Case Circuit Breaker (MCCBs) were delivered	Urgent repairs, maintenance and replacement works were conducted by MoE in various locations in Iraq Utilizing the 440 distribution transformers were delivered to MoE for urgent operation and maintenance works as well as: 700 Low Voltage (LV) Boards 2700 Molded Case Circuit Breaker (MCCBs) were delivered		Periodic progress reports Feedback from counterparts Final assessment, evaluation and technical acceptance reports of UNDP designated consultant on the ground	
		In two areas where good were coming into the	The electrical distribution system in Umm Qasr	Planting of + 1776 MV and LV poles Construction of	This is the port area and the rehabilitation made it possible		

		<p>country Safwan and Umm Qasr the electricity system was in poor condition</p>	<p>Village was rehabilitated</p> <p>The electrical distribution system in Safwan required rehabilitation and the project provided the materials and partial rehabilitation working closely to build capacity with the MoE and Municipality completed the task</p>	<p>+24 km of 11kV overhead power lines by stringing 120/20 mm Installing of +48x11/0.4kV 50 Hz outdoor poll transformers Removal of redundant poles, conductors and delivery to warehouse 3,250 domestic and commercial facilities linked to the network</p> <p>Planting of +115 MV and LV poles Construction of +7Km of 11 KV overhead power line by stringing 120/20mm ACSR conductors Construction of +5km of 0.4 kV overhead power line by stringing</p>	<p>for cranes to unload food and increase security of food before distribution</p> <p>Safwan was a key border crossing city into Kuwait. This action was to increase security in the city and reduce sectarian violence.</p>		
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				overhead twisted cable with 3*95+50+16mm conductors Installing 12x11/0.4kV, 50Hz outdoor pole mounted distribution transformers Installed +50 street lighting luminaries Provided 5,090 consumers with reliable power			
IP Outcome 2 Essential humanitarian services in the central and upper south regions of Iraq continue to provide services to the population.							
IP Output 2.1 The electrical facilities of essential humanitarian services operational and supported by sufficient backup generation capacity.	Indicator 2.1.1 Assessing and prioritizing the needs of generators, ancillary items and repair;	Basic assessment had been made identifying necessary repair works and replacements by MoE.	Comprehensive assessment conducted by UNDP designated consultant in cooperation with MoE, MoH, Baghdad Water Authority	Supply of DG sets by UNDP, urgent repairs, maintenance and replacement works were conducted by UNDP contractors and MoE in various locations in Iraq.		Internationally procured items are delivered safely to implementation sites.	

	<p>Indicator 2.1.2</p> <p>Procuring, delivering, installing and commissioning the generators;</p>	<p>No generator procurement plans existed for procurement, installation and commissioning</p>	<p>50 sets delivered, installed and commissioned</p>	<p>This project succeeded in providing double the original output by providing 111 diesel generator sets to support uninterrupted services.</p>		<p>Internationally procured items are delivered safely to implementation sites.</p> <p>Periodic progress reports</p> <p>Feedback from counterparts</p> <p>Pictures documenting locations.</p>	
	<p>Indicator 2.1.3</p> <p>Undertaking the necessary repair works:</p>	<p>Basic assessment of required necessary works was conducted by MoE</p>	<p>Extended assessment of required and necessary works was conducted by UNDP consultant in cooperation with MoE, MoH, and BWA</p>	<p>Urgent repairs, maintenance and replacement works were conducted by UNDP contractors/MoE in various locations in Iraq</p>		<p>Periodic progress reports</p> <p>Feedback from counterparts</p> <p>Periodic progress reports</p> <p>Feedback from counterparts</p> <p>Final assessment, evaluation and technical acceptance reports of UNDP</p>	

						designated consultant on the ground.	
IP Outcome 3 The Capacity of the MoE in providing basic technical training to its staff restored.							
IP Output 3.1 Three MoE training centers fully refurbished and re-equipped and the technical capacities of selected trainers enhanced.	Indicator 3.1.1 Assessing the needs of the training centers and refurbish and re-equip as needed;	Basic need assessment for training centers and their refurbishment had been conducted previously by UNDP and MoE	Extended assessment of required training needs was conducted by UNDP and MoE	20 Engineers trained on network construction techniques 15 Engineers trained on system planning and specialized soft ware and associated IT accessories provided for setting-up system planning offices in electricity distribution companies 2 MoE engineers trained in South Africa on meter and other techniques	The refurbishment of the training centres was never implemented to avoid duplication with the Coalition Provisional Authority (under USA Administration) who implemented unilaterally. UNDP was requested to construct a new Training Centre in Basrah but the request was abandoned as the proposed site for the training was located in swamp area unsuitable for construction.	MoE able to conduct basic training programmes for its technical staff.	Duplication by another development partners

	Indicator 3.1.2 Assessing the requirements for enhancing the capacities of selected trainers;	Lists of skills most needed provided by the MoE	The six most urgent training needs were identified through consultation and discussions with content selected and agreed with UNDP			35 Ministry of Electricity staff were trained in best practices relating to maintenance, installation and repair.	
	Indicator 3.1.3 Provide refresher training courses for selected trainers.	Not assessed by MoE		Not implemented	Not implemented as logistical problems within the Ministry restricting the availability of further trainees.		

Annex I

The information below identifies locations of the 111 Diesel Generator Sets procured and installed under Emergency Supply of Equipment to Electricity Sector in Iraq and Support to Essential Humanitarian Services E4-01.

Number	DG Size kVA	Region	Governorate	Type of Facility	Location
1	250	South	Basra	Administration	Al-Qurna Counsel IPS Station
2	100	South	Thiqar	Administration	Suk Al-Sheoukh City Council
3	100	South	Thiqar	Education	Al-Nassiriyah University
4	250	Center	Baghdad	Education	Dental College
5	250	Center	Baghdad	Education	Dental Hospital
6	500	South	Al-Muthana	Health	Al-Samawa Hospital
7	150	South	Basra	Health	Abu Al-Khaeeb Al-Shawahda Medical center
8	175	South	Basra	Health	Al-Faw Primary Health Center
9	100	South	Basra	Health	Al-Hedayeh Medical Complex / Al-Zubair
10	100	South	Basra	Health	Al-Qeblah Health Clinic
11	100	South	Basra	Health	Al-Kebasee Clinic / Shatt Al-Arab
12	150	South	Basra	Health	Al-Rissala Health Center
13	100	South	Basra	Health	Al-Marbid Medical Clinic / Al-Zubair
14	1000	South	Basra	Health	Al-Sadr Teaching Hospital
15	1000	South	Basra	Health	Al-Sadr Teaching Hospital
16	100	South	Basra	Health	Al-Saker Clinic / Shatt Al-Arab
17	150	South	Basra	Health	Nuclear Medicine Center
18	175	South	Basra	Health	Al-Shwala Health Center
19	100	South	Basra	Health	Al-Sunker Medical Clinic / Abu Al-Khaseeb
20	100	South	Basra	Health	Al-Zubair General Hospital
21	150	South	Basra	Health	Basrah Center Hospital
22	100	South	Basra	Health	Basrah Medical Center
23	100	South	Basra	Health	Central Medical Instrument Workshop
Number	DG Size kVA	Region	Governorate	Type of Facility	Location
24	175	South	Basra	Health	Dental Medical Clinic
25	100	South	Basra	Health	Forensic Medicine Directorate
26	100	South	Basra	Health	Hay Al-Hussaini Medical Clinic
27	100	South	Basra	Health	Hemrainan Medical Clinic / Karmat Ali City
28	100	South	Basra	Health	Intifadat Al-Ksaa Hospital

29	100	South	Basra	Health	T.B. Center
30	100	South	Basra	Health	Umm Qasr Hospital
31	100	South	Basra	Health	Al - Ashar Health Center
32	150	South	Missan	Health	Amara Health Center
33	175	South	Missan	Health	Amara Dental Clinic
34	150	South	Missan	Health	Umm Gharbo Health Center
35	1000	Center	Baghdad	Health	National Center of Blood Bank
36	1000	Center	Baghdad	Health	Central Health Laboratory
37	250	Center	Baghdad	Health	Directorate of Medical Committees
38	150	Center	Baghdad	Health	Neurology Science Center
39	150	Center	Baghdad	Health	Primary 8th Health Center at Al-Sadr City
40	250	Center	Baghdad	Health	Vaccination and Immunization Institute
41	250	Center	Baghdad	Health	Tuberculosis & Chest Diseases Institute
42	150	Center	Baghdad	Health	Training and Improving Center / Ministry Center
43	300	North	Tameem	Health	Alton Copry General Hospital
44	50	North	Tameem	Health	Al-Shagara Health Center Kirkuk
45	1000	North	Tameem	Health	Children Hospital, Kirkuk
46	250	North	Tameem	Health	General Hospital, Kirkuk
47	50	North	Tameem	Health	Hajaj Health Center Kirkuk
48	50	North	Tameem	Health	Malla Abdulla Health Center Kirkuk
49	250	North	Tameem	Health	Medical & Appliances Department, Kirkuk
50	50	North	Tameem	Health	Muthanna Health Center, Kirkuk
51	50	North	Tameem	Health	Ryadh Health Center Kirkuk
52	50	North	Tameem	Health	Tapa Health Center Kirkuk
53	50	North	Tameem	Health	Teseen Health Center Kirkuk
54	50	North	Tameem	Health	Wасы Health Center Kirkuk
Number	DG Size kVA	Region	Governorate	Type of Facility	Location
55	50	North	Tameem	Health	Zabe Health Center Kirkuk
56	250	South	Basra	Industry	Al-Faw Gas Bottling Plant
57	250	South	Al-Muthana	Oil	Samawa Refinery
58	250	South	Missan	Police	Al-Khala Police Station and Municipal Building
59	500	South	Basra	Transportation	Port Workshop
60	500	South	Basra	Transportation	Port Workshop

61	2000	South	Basra	Transportation	Umm Qasr Port
62	2000	South	Basra	Transportation	Umm Qasr Port
63	150	South	Basra	Water	Abu Al-Fluss W.T.P
64	250	South	Basra	Water	Al - Zuhair WTP / Abu Al-Khaseeb
65	100	South	Basra	Water	Al-Laban W.T.Project / Abu Al-Khaseeb
66	150	South	Basra	Water	Balad Hamdan W.T.P
67	250	South	Basra	Water	Balad Hamzan W.T.P
68	250	South	Basra	Water	Basra Water Directorate
69	175	South	Basra	Water	Basra Water Directorate
70	175	South	Basra	Water	Basra Water Directorate
71	175	South	Basra	Water	Basra Water Directorate
72	150	South	Basra	Water	Basra Water Directorate
73	500	South	Basra	Water	Al-Gubalah W.T.P.
74	175	South	Basra	Water	Al - Barak W.T.P / Abu Al-Khaseeb
75	100	South	Basra	Water	Hamdan Al - Jisr W.T. Project
76	500	South	Basra	Water	Safwan R O Project
77	175	South	Basra	Water	Safwan W.T.P
78	500	South	Basra	Water	Khor Al-Zubair Municipality
79	100	South	Thiqar	Water	Al-Iqtisadiyen Water Pumping Station
80	500	North	Erbil	Water	Makhmur Water Project A, Erbil
81	500	North	Erbil	Water	Makhmur Water Project B, Erbil
82	400	North	Nainawa	Water	Al Nahrawan Pumping Station, Mosul
83	300	North	Nainawa	Water	Alyarmuk Pumping Station, Mosul
84	150	North	Nainawa	Water	Baach Water Well, Mosul
85	100	North	Nainawa	Water	Dawasa Pumping Station, Mosul
86	75	North	Nainawa	Water	Karama Pumping Station, Mosul
87	250	North	Nainawa	Water	Tahreer Pump Station, Mosul
88	400	North	Nainawa	Water	Wana Water Project, Mosul
Number	DG Size kVA	Region	Governorate	Type of Facility	Location
89	250	North	Nainawa	Water	Faluja Water Project, Mosul
90	1000	North	Nainawa	Water	Zumar water project, Mosul
91	50	North	Tameem	Water	Arooba WW-28Kirkuk
92	50	North	Tameem	Water	Babagoorgoor WW-24Kirkuk
93	50	North	Tameem	Water	Daquk WW-1 , Kirkuk
94	50	North	Tameem	Water	Daquk WW-2 , Daquk, Kirkuk

95	50	North	Tameem	Water	Daquk WW-3 , Daquk,Kirkuk
96	50	North	Tameem	Water	Directorate of Sewerage Kirkuk
97	75	North	Tameem	Water	Domis-Hairashid Sewerage Pumping Station, Kirkuk
98	75	North	Tameem	Water	Haimuthana Water Pumping Station, Kirkuk
99	50	North	Tameem	Water	Haisadam Sewerage Station/1 Kirkuk
100	50	North	Tameem	Water	Haisadam Sewerage Station/2 Kirkuk
101	75	North	Tameem	Water	Haisadam Water Pumping Station, Kirkuk
102	500	North	Tameem	Water	Hawija Water Project, Kirkuk
103	500	North	Tameem	Water	Daquk Water Pumping Station
104	250	North	Tameem	Water	Hay-Al Mualimin Sewerage Pump Station, Kirkuk
105	300	North	Tameem	Water	Laylan Water Project, Kirkuk
106	50	North	Tameem	Water	Qarahassan WW-1, Kirkuk
107	50	North	Tameem	Water	Qarahassan Yahawa WW-2 , Kirkuk
108	50	North	Tameem	Water	Storage Tank 3 - Azadi Kirkuk
109	50	North	Tameem	Water	Tseen WW-20Kirkuk
110	50	North	Tameem	Water	Wahidhuzairan WW-12, Kirkuk
111	50	North	Tameem	Water	Wahidhuzairan WW-13 Kirkuk
171		TOTAL of Larger Programme			
-8		MINUS PROCURED AND INSTALLED UNDER NORAD PROJECT			
-52		MINUS INSTALLED UNDER ENRP OIL FOR FOOD			
111		TOTAL PROCURED AND INSTALLED UNDER Emergency E4-01 ITF Project			