

SIGAR

**Special Inspector General for
Afghanistan Reconstruction**

SIGAR 21-30 Inspection Report

Kandahar Solar Power Plant: Project Was Generally Completed According to Contract Requirements



APRIL
2021



SIGAR

Office of the Special Inspector General
for Afghanistan Reconstruction

April 5, 2021

Ms. Gloria D. Steele
Acting Deputy Administrator, U.S. Agency for International Development

Dr. Tina Dooley-Jones
USAID Mission Director for Afghanistan

This report discusses the results of SIGAR's inspection of the Kandahar solar power plant in Kandahar Province, Afghanistan. In February 2017, the U.S. Agency for International Development (USAID) awarded Dynasty Oil & Gas Private Limited (Dynasty), an Indian firm, a \$10 million firm-fixed-price contract to design, construct, operate, and maintain a 10-megawatt solar power plant. In February 2017, Dynasty also signed a 15-year power purchase agreement with Da Afghanistan Breshna Sherkat (DABS), Afghanistan's power utility. This agreement requires Dynasty to sell, and DABS to purchase, all of the plant's generated electricity. On September 28, 2019, the solar power plant became commercially operational.

During our August 31–September 3, 2020, site visits to the Kandahar solar power plant, we found that Dynasty's plant construction generally met contract requirements. However, we found that Dynasty appears to have installed prohibited piping material from Iran. We also found that some of Dynasty's electrical workmanship was substandard, which created a safety and fire hazard. Lastly, we found that some maintenance issues—nonfunctional security cameras, cracks in the boundary wall and the control building's roof, and mortar missing in the boundary wall's foundation—are starting to surface.

The Kandahar solar power plant is generating electricity, but DABS is not using all of the electricity produced at the plant due to technical issues with DABS's electrical grid. In addition, DABS has not paid Dynasty for all the generated electricity, despite DABS's contractual obligation to do so. Dynasty's ability to continue operations is threatened due, in part, to DABS's unpaid invoices; and if the project fails, it could affect future private investment in Afghanistan. We are not making any recommendations pertaining to the DABS electrical grid being unable to accept all of the energy produced by Dynasty, as well as the outstanding invoices, because these issues are between DABS and Dynasty.

We are making two recommendations in this report. We recommend that the USAID Mission Director for Afghanistan (1) determine whether Dynasty violated contract terms citing the Federal Acquisition Regulation in the installation of Iranian-manufactured piping and take appropriate action to hold the contractor accountable, and (2) advise Dynasty about the faulty wiring connections and unsecured exposed wiring that are creating a safety and fire hazard, as well as the maintenance issues involving the cracked concrete and missing mortar, so that Dynasty can take whatever action it deems appropriate.

We provided a draft of this report to USAID for review and comment. USAID provided written comments, reproduced in appendix III, in which it concurred with both recommendations. For the first recommendation, USAID said it determined that Dynasty did not violate contract terms under the Federal Acquisition Regulation. Because Dynasty owns and operates the plant and there is no construction warranty, and because USAID determined that Dynasty did not violate the contract terms, we will close the recommendation as implemented upon issuance of this report. For the second recommendation, USAID said that it would share the findings about faulty wiring connections, unsecured exposed wiring, and maintenance issues involving the cracked concrete and missing mortar with DABS and Dynasty. Our second recommendation will remain open until USAID provides documentation showing that it notified DABS and Dynasty of these issues. We are requesting



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documentation of the corrective actions taken and/or target dates for completion of the recommendations to sigar.pentagon.audits.mbx.recommendation-follow-up@mail.mil, within 60 days from the issue date of this report.

We conducted this inspection under the authority of Public Law No. 110-181, as amended, and the Inspector General Act of 1978, as amended; and in accordance with the *Quality Standards for Inspection and Evaluation*, published by the Council of the Inspectors General on Integrity and Efficiency.

John F. Sopko
Special Inspector General
for Afghanistan Reconstruction

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ABBREVIATIONS

| | |
|-------|---|
| DABS | Da Afghanistan Breshna Sherkat |
| USAID | U.S. Agency for International Development |

On February 23, 2017, the U.S. Agency for International Development (USAID) awarded Dynasty Oil & Gas Private Limited (Dynasty), an Indian firm, a \$10 million firm-fixed-price contract to design, construct, operate, and maintain a 10-megawatt solar power plant in Kandahar Province, Afghanistan (see photo 1).¹ Dynasty was responsible for designing and constructing the power plant as well as the perimeter boundary wall, access roads, and various other facilities, such as a security room, guard towers, and control building. The Kandahar solar power plant connects to Afghanistan's electrical grid through Shorandam Industrial Park and the Breshna Kot Substation, providing energy to industrial and residential customers in Kandahar. In February 2017, Dynasty also signed a 15-year power purchase agreement with Da Afghanistan Breshna Sherkat (DABS), Afghanistan's power utility, in order to encourage private investment in the Afghan energy sector.² The agreement required Dynasty to sell, and DABS to purchase, all of the plant's generated energy.

On August 26, 2017, USAID issued Dynasty a notice to proceed with a required completion date of August 26, 2018. USAID and Dynasty modified the contract six times, which changed the construction completion date to December 29, 2019. Dynasty completed facility testing and on September 28, 2019, the solar power plant became commercially operational.³ Dynasty was responsible for the design and construction, and it accepted ownership and responsibility for operating and maintaining the plant following construction. Therefore, the contract did not include a warranty on completed construction work, an item typically included in USAID-funded construction contracts in Afghanistan.⁴

Photo 1 - Kandahar Solar Power Plant



Source: SIGAR, September 3, 2020

The objectives of this inspection were to determine whether (1) the design and construction were completed in accordance with contract requirements and applicable construction standards, and (2) the solar power plant is being used and maintained.

We conducted our field work in Kabul and Kandahar Province, Afghanistan, and Arlington, Virginia, from July 2019 through February 2021, in accordance with the *Quality Standards for Inspection and Evaluation*, published by the Council of the Inspectors General on Integrity and Efficiency. Our professional engineers conducted the engineering assessment in accordance with the National Society of Professional Engineers' *Code of Ethics for Engineers*. Appendix I has a detailed discussion of our scope and methodology.

¹ The solar power plant is located in the Mohammad Afzal Khan Village, Daman District, Kandahar Province, Afghanistan.

² DABS is Afghanistan's national utility company that manages power generation, transmission, and distribution throughout the country.

³ Other entities also contributed to the project's completion and testing processes. For example, Tetra Tech, under USAID's Engineering Support Program, provided construction managers as owner's advisor services.

⁴ Our previous inspections show that USAID's construction contractors may be subject to a contractually stipulated warranty period during which the contractor is responsible for correcting issues arising from deficient work. See SIGAR, *USAID's Power Transmission Expansion and Connectivity Project in Afghanistan: The Ghazni and Sayedabad Substations are Complete, But Construction Deficiencies Create Safety Hazards and Could Disrupt Electrical Power*, SIGAR-20-27-IP, February 13, 2020; SIGAR, *USAID's Power Transmission Expansion and Connectivity Project: Arghandi-Ghazni Transmission Line Was Generally Built to Contract Requirements, But Four Deficiencies Create Safety Hazards and Could Disrupt Electrical Power*, SIGAR 19-35-IP, April 29, 2019.

CONSTRUCTION OF THE KANDAHAR SOLAR POWER PLANT GENERALLY MET CONTRACT REQUIREMENTS, BUT PROHIBITED MATERIALS WERE USED AND SUBSTANDARD ELECTRICAL WORKMANSHIP EXISTS

During our August 31–September 3, 2020, site visit to the Kandahar solar power plant, we found that Dynasty’s plant construction generally met contract requirements. However, we also found that Dynasty installed prohibited piping material from Iran and some of Dynasty’s electrical workmanship was substandard.

Dynasty Installed Prohibited Piping Material from Iran

To facilitate solar panel cleanings, Dynasty constructed a new cleaning system, including a water well with associated piping, pumps, and water storage tanks. The cleaning system is mostly underground and distributes water around the grounds to spray hoses near solar panels. The construction contract and U.S. federal law prohibited the use of Iranian-made materials in the facility. However, during our inspection, we found that a section of the cleaning system’s above ground piping was manufactured in Iran (see photos 2 and 3).

YAZD Pipe, an Iranian firm, manufactured the green piping in these photos. Our visual inspection confirmed approximately 66 feet of above ground piping was Iranian.⁵ Because Iran is subject to U.S. economic sanctions, the purchase and installation of the YAZD piping appears to have violated contract requirements and the Federal Acquisition Regulation.⁶ During a December 2020 meeting, we brought this issue to USAID’s attention so the agency could determine appropriate corrective actions.⁷

Photo 2 - Prohibited Piping from YAZD Pipe



Source: SIGAR, September 3, 2020

Photo 3 - Site Visit Photo With Prohibited Piping



Source: SIGAR, September 3, 2020

⁵ Dynasty’s invoices showed that all the below ground piping came from India.

⁶ The Federal Acquisition Regulation prohibits U.S. government contractors from obtaining Iranian goods and services without authorization from the U.S. Department of the Treasury’s Office of Foreign Assets Control. See Federal Acquisition Regulation 52.225-13, *Restrictions on Certain Foreign Purchases*, June 2008.

⁷ We reviewed April 2019 notes from Tetra Tech, the construction oversight company, which found that Dynasty used Iranian tiles for the guard shack flooring but removed them after Tetra Tech raised the issue (See Tetra Tech Engineering Support Program; Meeting Minutes, Technical Meeting No. 45, April 2, 2019. Tetra Tech). When we brought the issue of the Iranian piping to USAID’s attention, USAID told us that they believed Dynasty installed the Iranian piping after the facility was constructed and Dynasty’s contractual obligations with USAID ended. However, the cleaning system was installed before the plant became operational, and we located photos from an October 2019 Tetra Tech site visit that showed the Iranian piping.

Some of Dynasty's Electrical Workmanship Was Substandard

The power purchase agreement requires that Dynasty's construction and equipment installation meet applicable International Electrotechnical Commission standards.⁸ These standards call for all electrical connections to be sealed so that wiring is not exposed to various weather conditions. During our site visit, we found multiple instances where Dynasty's electrical workmanship was substandard. Specifically, Dynasty did not seal openings where wire entered poles. We also found exposed wiring or splices at the exterior of some lighting and security camera poles, and in and around some guard towers (see photos 4 through 7). Although these issues do not affect the plant's ability to produce electricity, the deficiencies leave exposed wires susceptible to environmental deterioration or damage. In the guard towers the exposed wiring and connections present a safety and fire hazard to personnel working there.

Photo 4 - Unsealed Opening in Pole



Source: SIGAR, September 1, 2020

Photo 5 - Exposed Wiring Surrounding Pole Bases



Source: SIGAR, September 1, 2020

Photo 6 - Interior Exposed Spliced Wiring in Guard Tower



Source: SIGAR, September 1, 2020

Photo 7 - Exterior Exposed Spliced Wiring from the Solar Panel Providing Power to the Guard Tower



Source: SIGAR, September 1, 2020

⁸ The International Electrotechnical Commission is a non-profit, non-governmental international standards organization headquartered in Geneva, Switzerland. The Commission prepares and publishes international standards for all electrical, electronic, and related technologies, collectively known as electrotechnology.

THE KANDAHAR SOLAR POWER PLANT IS GENERATING ELECTRICITY, BUT DABS IS NOT USING OR PAYING FOR ALL OF THE ELECTRICITY GENERATED, AND MAINTENANCE ISSUES EXIST

During our site visit, we found that the Kandahar solar power plant was being used to generate electricity, but that DABS was not using all of the electricity generated. We also found that DABS has not paid Dynasty for approximately \$1.1 million in generated electricity. Further, we found three maintenance issues involving nonfunctional security cameras, cracks in the power plant's boundary wall and the control building's roof, and missing mortar in the boundary wall's foundation.

DABS Is Not Using All of the Plant's Generated Electricity

Although Dynasty's solar power plant is generating electricity, DABS's electrical grid is unable to transmit and distribute all of the energy produced because of the grid's instability. DABS's Kandahar electrical grid receives power from several sources, one being Dynasty's solar power plant. During our 4-day site visit, the Kandahar solar power plant had to shut down three times due to disruptions in the electrical grid. In addition, Dynasty officials told us that technical issues between the plant and the electrical grid prevent DABS from accepting and using all of the solar energy that the Dynasty plant produces.⁹

Dynasty provided us with information comparing the amount of electricity delivered to the DABS electrical grid and the amount of electricity unable to be delivered onto the grid during the 12-month period from October 2019 through September 2020. We found that the grid was unable to receive about 11.2 million kilowatt-hours out of the 24.1 million kilowatt-hours, about 46 percent, of the electricity generated at the Kandahar solar power plant during this 12-month period.¹⁰ Our analysis also shows that for 5 of the 12 months, the amount of electricity that Dynasty was unable to deliver onto the DABS electrical grid exceeded 50 percent of the electricity generated for those months, reaching as high as 93.7 percent in December 2019.¹¹ Appendix II provides a monthly breakdown for the amount of energy delivered to the DABS electrical grid and amount of energy unable to be delivered onto the DABS electrical grid from October 2019 through September 2020.

To mitigate the energy delivery problem, the Breshna Kot Substation requires additional capacitor banks.¹² The substation currently has a total of 5.2 mega volt-ampere reactive capacitor banks. However, engineering studies conducted by DABS and USAID concluded that 20 mega volt-ampere reactive capacitor banks were needed to mitigate voltage problems on the Kandahar grid.¹³ The larger capacitor banks could better stabilize the voltage for the Kandahar solar power plant, as well as two other solar power plants and the Kajaki hydroelectric power plant, which are also connected to the Kandahar electrical grid.¹⁴

DABS officials told us that they are aware of the grid issue and have finalized the procurement of new capacitor banks costing approximately \$325,000. The officials believe that the new capacitor banks will allow the electrical grid to receive all of the energy generated by the power plants.

⁹ The connection issues exist because DABS has not installed sufficient electrical equipment at the Breshna Kot Substation, specifically capacitor banks, resulting in uncontrolled voltage and frequency fluctuations in the Kandahar electrical grid.

¹⁰ Kilowatt is a unit of power equal to 1,000 watts.

¹¹ The 5 months are November and December 2019, and January, June, and July 2020.

¹² A capacitor bank stores electrical energy and conditions the flow of that energy.

¹³ Mega volt-ampere reactive is a unit of measure for energy as it relates to capacitor banks.

¹⁴ The two other solar power plants are the 77 Construction Company's 15-megawatt solar power plant and Zularistan's 15-megawatt solar power plant, both located in the Kandahar area.

DABS Has Not Fully Paid Dynasty for Energy Generated, Which Could Affect the Solar Power Plant's Future Operations

DABS has not paid for all the electricity generated at the Kandahar solar power plant. The power purchase agreement states that DABS will purchase all energy generated and delivered onto the electrical grid from the Kandahar solar power plant, including generated electricity that was delivered to but not distributed by the grid. In addition, the agreement requires DABS to pay Dynasty within 30 days of receiving an invoice. However, we found that DABS had not paid Dynasty for all the energy delivered onto the grid, and had never paid Dynasty for any electricity that was generated but not distributed.

In November 2020, Dynasty officials told us that the outstanding, unpaid electricity delivered onto the grid and billed to DABS from July through September 2020 totaled \$298,707. Additionally, the total billed amount for the outstanding, unpaid electricity that could not be delivered onto the electrical grid due to voltage instability issues at the Breshna Kot Substation for September 2019 through September 2020 totaled \$825,011. Together, the outstanding invoices through September 2020 totaled about \$1.1 million. Dynasty officials said that the unpaid invoices contribute to cash flow issues that place the viability of the power plant at risk.¹⁵

Three Maintenance Issues Exist at the Kandahar Solar Power Plant

During our site visit, we found three maintenance issues at the solar power plant. Specifically, we found that 17 of the 36 security cameras (47 percent) were nonfunctional. We also found cracks in facility's boundary wall and on the roof of the control building (see photos 8 and 9). Further, we found mortar missing from stones that form the boundary wall's foundation (see photos 10 and 11). These were not identified during the project's final inspection in December 2019. While they do not affect the solar power plant's ability to operate as intended and produce electricity, the issues indicate Dynasty's difficulty in properly maintaining the plant.

Photo 8 - Cracks in Boundary Wall



Source: SIGAR, August 31, 2020

Photo 9 - Cracks in the Control Building's Roof



Source: SIGAR, September 1, 2020

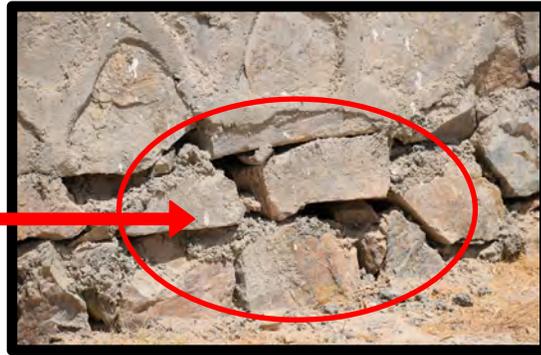
¹⁵ Dynasty officials also said the company incurred \$1.5 million in additional expenses due to delays caused by the custom's process, and that these additional expenses also place the viability of the power plant at risk.

Photo 10 - Boundary Wall and Foundation



Source: SIGAR, August 31, 2020

Photo 11 - Boundary Wall Foundation Lacking Mortar



Source: SIGAR, August 31, 2020

CONCLUSION

Dynasty successfully built the Kandahar solar power plant, which is generating electricity. Dynasty's construction mostly met contract requirements, except for its installation of what appeared to be prohibited Iranian piping material, and some substandard electrical workmanship involving wiring around the lighting and poles and guard towers. The faulty and unsecured wiring create a safety and fire hazard. In addition, although the power plant has only been operating for about 16 months, some maintenance issues—nonfunctional security cameras, cracks in the boundary wall and the control building's roof, and mortar missing in the boundary wall's foundation—are evident. These issues do not affect the solar power plant's ability to generate electricity, but they need the attention of Dynasty, the plant's owner and operator.

However, Dynasty's ability to continue operations is threatened, in part due to DABS's unpaid invoices. Further, almost half of the electricity generated by the solar power plant is being wasted due to technical problems with the Kandahar electrical grid, although DABS is reportedly working to resolve this matter. Because the electrical grid problems and unpaid invoices are issues between Dynasty and DABS, we are not making any recommendations to address them. However, it is worth noting that DABS has had issues for years with billing and collecting payments from its customers, which would then affect its cash flow and ability to pay its bills. We recognize the importance of successfully resolving these problems and hope all stakeholders are able to work together to find a suitable solution that will help ensure the Kandahar solar power plant's future.

RECOMMENDATIONS

To protect U.S. taxpayers' investment in the Kandahar solar power plant, we recommend that the USAID Mission Director for Afghanistan take the following action and report the results back to SIGAR within 60 days:

- 1. Determine whether Dynasty violated contract terms citing the Federal Acquisition Regulation in the installation of Iranian-manufactured piping, and take appropriate action to hold the contractor accountable.**
- 2. Advise Dynasty about the faulty wiring connections and unsecured exposed wiring that are creating a safety and fire hazard, as well as the maintenance issues involving the cracked concrete and missing mortar, so that Dynasty can take whatever action it deems appropriate.**

AGENCY COMMENTS

We provided a draft of this report to USAID for review and comment. USAID provided written comments, which are reproduced in appendix III. USAID also provided technical comments, which we incorporated as appropriate. USAID concurred with both recommendations. For the first recommendation, USAID said it determined that Dynasty did not violate contract terms under the Federal Acquisition Regulation with respect to USAID's contract. For the second recommendation, USAID said that it has no role in the plant's operations and maintenance. However, as we recommended, USAID said that it would share the findings about faulty wiring connections, unsecured exposed wiring, and maintenance issues involving the cracked concrete and missing mortar with DABS and Dynasty.

In its comments on our first recommendation, USAID stated that its contract with Dynasty, which prohibits the purchase of certain materials, cannot be applied to the design-build contract between Dynasty and DABS. However, USAID's contract with Dynasty states that "the Contractor (Dynasty) was responsible for the design and construction of the plant." Similarly, the power purchase agreement between Dynasty and DABS defines the construction contract as "the contract between USAID and the Seller (Dynasty) pursuant to which the facility will be designed, constructed, and commissioned." Additionally, USAID contracted with Tetra Tech to oversee the facility's construction, which included ensuring that prohibited products were not used. Further, in its technical comments, USAID stated that Dynasty did not use Iranian-made products during plant construction.

USAID stated that the Iranian-made pipes we found were replacement pipes purchased and installed after the plant began operations as a result of damage caused by regular use of the original pipes. However, we located photos from an October 2019 Tetra Tech site visit that appear to show that the Iranian piping was installed during plant construction, and we found no evidence that the original pipes and joints incurred regular damage and were replaced after plant commissioning. Therefore, we stand by our analysis that this system falls under USAID's \$10 million construction contract with Dynasty, that Dynasty installed the Iranian piping during construction, and that the Tetra Tech oversight team failed to identify the prohibited piping when they inspected the project's construction during the contract performance period.

Nevertheless, because Dynasty owns and operates the plant and there is no construction warranty, and because USAID determined that Dynasty did not violate the contract terms, we will close the recommendation as implemented upon issuance of this report.

In its comments on our second recommendation, USAID stated that the faulty wiring connections, unsecured exposed wiring, and maintenance issues involving the cracked concrete and missing mortar were relevant to the design-build contract between Dynasty and DABS. Although USAID said it has no role in the plant's operation and maintenance, USAID said it will share the findings with Dynasty and DABS. This recommendation will remain open until USAID provides us with evidence that it has notified Dynasty and DABS of the findings.

APPENDIX I - SCOPE AND METHODOLOGY

This report provides the results of SIGAR's inspection of the Kandahar solar power plant in Kandahar Province, Afghanistan. The objectives of this inspection were to determine whether (1) the design and construction was completed in accordance with contract requirements and applicable construction standards, and (2) the facility is being used and maintained. Specifically, we

- reviewed contract documents, design submittals, and other relevant project documentation;
- interviewed officials with the Afghan government's power authority, Da Afghanistan Breshna Sherkat, concerning the power purchase agreement and payment to Dynasty for power; and
- conducted a 4-day site visit to the power plant on August 31, and September 1, 2, and 3, 2020.

We did not rely on computer-processed data in conducting this inspection. However, we considered compliance with laws and indicators of fraud, abuse, and other illegal acts, and their potential impact.

In December 2014, SIGAR entered into a cooperative agreement with Afghan civil society partners. Under this agreement, our Afghan partners conduct specific inspections, evaluations, and other analyses. In this regard, Afghan engineers inspected the facility in August and September 2020.

We developed a standardized engineering evaluation checklist covering items required by the contract. The checklist required our partners to analyze the contract documents, scope of work, technical specifications, and design drawings. We compared the information our Afghan civil society partners provided to accepted engineering practices, relevant standards, regulations, laws, and codes for quality and accuracy.

In addition, as part of our monitoring and quality control process, we

- met with our Afghan partner engineers to ensure that the inspection's planning and approach were consistent with the objectives of our inspection and the terms of our cooperative agreement;
- attended periodic meetings with our partners and conducted our normal entrance and exit conferences with agency officials;
- discussed significant inspection issues with our partners;
- referred any potential fraud or illegal acts to SIGAR's Investigations Directorate, as appropriate;
- monitored our partners' progress in meeting milestones and revised contract delivery dates as needed; and
- conducted oversight of our partners in accordance with SIGAR's policies and procedures to ensure that their work resulted in impartial, credible, and reliable information.

We conducted our inspection field work in Kabul and Kandahar Province, Afghanistan, and Arlington, Virginia, from July 2019 through February 2021, in accordance with the *Quality Standards for Inspection and Evaluation*, published by the Council of the Inspectors General on Integrity and Efficiency. Our professional engineers conducted the engineering assessment in accordance with the National Society of Professional Engineers' *Code of Ethics for Engineers*. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our inspection objectives. We conducted this inspection under the authority of Public Law No. 110-181, as amended, and the Inspector General Act of 1978, as amended.

APPENDIX II - MONTHLY ENERGY DELIVERED AND NOT DELIVERED ONTO THE DABS ELECTRICAL GRID

Table 1 shows the amount of energy that Dynasty's Kandahar solar power plant delivered to the Da Afghanistan Breshna Sherkat (DABS) electrical grid and energy that was unable to be delivered onto the DABS electrical grid for the 12-month period from October 2019 through September 2020.

Table 1 - Energy in Kilowatt-Hours that the Kandahar Solar Power Plant Produced and Delivered to the DABS's Electrical Grid

| Month | Energy Delivered onto DABS's Electrical Grid (in kWh) | Energy Unable to be Delivered onto DABS's Electrical Grid (in kWh) | Percentage (%) of Total Undelivered (Wasted) Energy |
|----------------|---|--|---|
| October 2019 | 1,153,370 | 799,334 | 40.9% |
| November 2019 | 732,378 | 919,679 | 55.7% |
| December 2019 | 110,789 | 1,651,574 | 93.7% |
| January 2020 | 265,672 | 1,109,500 | 80.7% |
| February 2020 | 1,050,010 | 920,693 | 46.7% |
| March 2020 | 1,433,825 | 558,532 | 28.0% |
| April 2020 | 1,536,560 | 469,897 | 23.4% |
| May 2020 | 1,550,352 | 886,780 | 36.4% |
| June 2020 | 1,016,742 | 1,382,588 | 57.6% |
| July 2020 | 1,143,330 | 1,258,241 | 52.4% |
| August 2020 | 1,527,860 | 707,003 | 31.6% |
| September 2020 | 1,420,678 | 537,268 | 27.4% |
| Total | 12,941,567 | 11,201,089 | 46.4% |

Source: SIGAR analysis based on information Dynasty provided.

APPENDIX III - COMMENTS FROM THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT



USAID | AFGHANISTAN
FROM THE AMERICAN PEOPLE

MEMORANDUM

March 11, 2021

TO: John F. Sopko, Special Inspector General for Afghanistan Reconstruction (SIGAR)

FROM: Tina Dooley-Jones, Mission Director 

SUBJECT: Mission Response to the Draft SIGAR Inspection Report titled: "Kandahar Solar Power Plant: Project Was Generally Completed According to Contract Requirements" (SIGAR 21-XX Inspection Report/I-061).

REF: SIGAR Transmittal email dated February 21, 2021.

USAID thanks SIGAR for the opportunity to comment on the draft report titled, "Kandahar Solar Power Plant: Project Was Generally Completed According to Contract Requirements" (SIGAR 21-XX Inspection Report/SIGAR I-061).

USAID concurs with Recommendation 1 and Recommendation 2 and appreciates the opportunity to provide our feedback.

USAID's comments are divided in two sections: the first section responds to the two recommendations in the subject draft report while the second identifies specific portions of the draft report that contain inaccurate or incomplete facts or conclusions.

SIGAR Recommendation 1:

Determine whether Dynasty violated contract terms citing the Federal Acquisition Regulation in the installation of Iranian-manufactured piping, and take appropriate action to hold the contractor accountable.

USAID Response: USAID concurs with the recommendation.

U.S. Agency for International Development
Great Massoud Road
Kabul, Afghanistan

Tel: 202-216-6288 / 0700-108-001
Email: kabulusaiddinformation@usaid.gov
<http://afghanistan.usaid.gov>

USAID has determined that Dynasty did not violate contract terms under the FAR with respect to USAID's contract.

The scope of the contract with Dynasty Oil and Gas Private Limited (Dynasty) was to attract Independent Power Producers (IPPs) through a reverse auction to work with DABS to design and build the Kandahar solar power plant. The design-build contract was signed between Dynasty and DABS. USAID's contract with Dynasty was milestone based, incentivizing Dynasty to produce 2 megawatts (MWs) of power for each of the five milestones. USAID's contract with Dynasty - which prohibits the purchase of certain materials under that contract - cannot be applied to the design-build contract between Dynasty and DABS. The piping system constructed for cleaning of the solar panels did not fall under the scope of the \$10 million funded by USAID and was therefore not part of the verification process for each of the five milestones.

Therefore, Dynasty did not violate any contract or clause requirement with USAID related to the scope of the contract. USAID will share the findings of the inspection with DABS for their awareness, follow up and continued engagement with Dynasty under the DABS-Dynasty Power Purchase Agreement.

Based on the above, USAID requests SIGAR to close Recommendation 1 upon issuance of the final report.

SIGAR Recommendation 2:

Advise Dynasty about the faulty wiring connections and unsecured exposed wiring that are creating a safety and fire hazard, as well as the maintenance issues involving the cracked concrete and missing mortar, so that Dynasty can take whatever action it deems appropriate.

USAID Response:

USAID concurs with the recommendation.

As noted in the response to Recommendation 1 above, the USAID reiterates that the contract between USAID and Dynasty was milestone based, incentivizing Dynasty to produce two megawatts of power for each of the five milestones for the 10 MW solar power plant. The deficiencies identified by

SIGAR are relevant to the design-build contract between Dynasty and DABS. Therefore, USAID has no role in the operations and maintenance of the plant.

Actions Planned:

USAID will share the findings with DABS and Dynasty for their appropriate action.

Based on the above, USAID requests SIGAR to close Recommendation 2 upon issuance of the final report.

Comments on the Draft SIGAR Inspection Report Titled: “Kandahar Solar Power Plant: Project Was Generally Completed According to Contract Requirements” (SIGAR 21-XX Inspection Report/I-061).

1. **Page ii SIGAR statement:** “In February 2017, the U.S. Agency for International Development (USAID) awarded Dynasty Oil & Gas Private Limited (Dynasty), an Indian firm, a \$10 million firm-fixed-price contract to design, construct, operate, and maintain a 10-megawatt solar power plant.”

“However, we found that Dynasty appears to have installed prohibited piping material from Iran.”

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Comment 1

USAID Comment 1:

USAID would like to clarify that this statement conflates two separate contracts. The contract between USAID and Dynasty was a milestone-based contract to incentivize Dynasty to produce 10 MW of solar power in Kandahar province. The design-build (construction) contract to design, construct, operate, and maintain the power plant was a separate contract signed between Dynasty and DABS. The terms included in the USAID-Dynasty milestone contract do not apply to the Dynasty-DABS design-build contract and the piping system did not fall under the scope of the \$10 million contract funded by USAID.

USAID requests that SIGAR clarify the nature of the two contracts in this statement as well as in similar statements that appear throughout the document (e.g., Page 1, lines 1-2: “On February 23, 2017, the U.S. Agency for International Development (USAID) awarded Dynasty Oil & Gas Private Limited (Dynasty), an Indian firm, a \$10 million firm-fixed-price contract to design, construct, operate, and maintain a 10-megawatt solar power plant”; Page 2, lines 10-11: “The construction contract and U.S. federal law prohibited the use of Iranian-made materials in the facility.”).

2. **Page 2: SIGAR statement:** “we found that a section of the cleaning system’s above ground piping was manufactured in Iran ...”

SIGAR
Comment 2

USAID Comment 2:

The contract between USAID and Dynasty was milestone based, incentivizing Dynasty to produce two MW of power for each of the five milestones for the

10 MW solar power plant. As stated above, the design-build contract was signed between Dynasty and DABS, therefore the piping system constructed for cleaning of the solar panels did not fall under the scope of the \$10 million funded by USAID and was not part of the milestone verification by Tetra Tech.

This piping system that is required for maintenance was constructed by Dynasty at their own expense and Dynasty confirmed to USAID that no Iranian-made products were used for the project before commissioning and completion of the plant. According to Dynasty, the piping system is heavily used daily for module cleaning and other water requirements of the plant. The pipes and joints regularly get damaged while operating under high water pressure and require routine replacement. The original pipes used in the system were from India. It was only after the plant had been commissioned and completed (marking the end of the USAID award) and was operating that the pipes became damaged and Dynasty bought pipes available on the local market - the Iranian-made pipes - to replace them.

USAID requests that SIGAR delete the reference to the Iranian-made pipes or incorporate the above facts.

3. **Page 2 footnote #7:** "... We reviewed April 2019 notes from Tetra Tech, the construction oversight company... However, the cleaning system was installed before the plant became operational, and we located photos from an October 2019 Tetra Tech site visit that showed the Iranian piping."

SIGAR
Comment 3

USAID Comment 3:

Tetra Tech did not fully inspect the cleaning system as it was not part of the contractual requirement under the five milestones. Tetra Tech informed USAID that they did not observe any Iranian-made piping in the system during their October 2019 site visit.

Dynasty has confirmed to USAID that the pipes originally used in the solar panel cleaning system were from India, and that they used Iranian-made pipes for the solar panel cleaning system only after the USAID project period had ended. They used these pipes during the operations and maintenance period at their own expense.

While the Tetra Tech photo taken during the October 2019 site visit and referenced in footnote #7 shows green pipes, the photo does not provide detail

sufficient to read the markings on the pipes. USAID and Tetra Tech are unable to confirm whether the pipes shown in the photo are the same pipes that were identified during the subsequent SIGAR site visits or whether those pipes had been replaced by the Iranian-made pipes by Dynasty as part of their operations and maintenance. Please note that the October 2019 photo shows green pipes but not the pipe markings that can confirm the country of origin. Therefore, it is not possible to conclude that those green pipes were made in Iran.

USAID requests that SIGAR delete the reference to Tetra Tech's October 2019 photo or to incorporate the above facts.

4. **Page 3 lines 1-9: SIGAR statement** "... Some of Dynasty's Electrical Workmanship Was Substandard... In the guard towers the exposed wiring and connections presents a safety and fire hazard to personnel working there."

SIGAR
Comment 4

USAID Comment 4:

As stated under USAID Comment 1 (above), the deficiencies reported by SIGAR do not fall under the Statement of Work of the USAID contract with Dynasty nor the quality assurance scope of Tt ESP. Under the Power Purchase Agreement (PPA) terms, Dynasty is responsible for operations and maintenance of the facility for 15 years. Although the issues reported by SIGAR do not affect the solar plants' ability to produce energy, Dynasty has expressed their commitment to addressing these problems in their routine maintenance for the safety of their employees.

USAID requests that SIGAR incorporate the above clarification in the forthcoming report.

5. **Page 4 line 12 - 15: SIGAR statement** "DABS's Kandahar electrical grid receives power from several sources, one being Dynasty's solar power plant. During our 4-day site visit, the Kandahar solar power plant had to shut down three times due to disruptions in the electrical grid. In addition, Dynasty officials told us that technical issues between the plant and the electrical grid prevent DABS from accepting and using all of the solar energy that the Dynasty plant produces."

**SIGAR
Comment 5**

USAID Comment 5:

DABS confirmed to USAID that the grid line is often down due to attacks on the line, subsequent repairs, and routine maintenance, which prevents the transfer of power from the solar plant to the grid.

Another reason grid efficiency is low is because a 20MVA capacitor bank needs to be installed in Breshna Kot Substation. According to DABS, the procurement of the capacitor bank was delayed due to the COVID-19 pandemic. USAID has learned that the procurement is in its final stages. DABS is facing similar issues with the 10 MW Zularistan solar plant and the 15 MW 77CC solar plants, which are also connected to the same grid. DABS confirmed that they are working hard to address these tangible issues. However, the attacks on the grid line are unpredictable and beyond DABS' control.

USAID is funding the 114-kilometer South East Power System (SEPS) transmission line that will be completed by the end of calendar year 2022. This line is anticipated to significantly improve the conditions in the Kandahar area and provide redundancy to the existing grid.

USAID requests that SIGAR incorporate the above in the forthcoming report.

- 6. Page 5 lines 9-14: SIGAR Statement** “we found that DABS had not paid Dynasty for all the energy delivered onto the grid, and had never paid Dynasty for any electricity that was generated but not distributed.”

**SIGAR
Comment 6**

USAID Comment 6:

Dynasty's \$825,011 payment is on-hold pending a final decision by the High Economic Council (HEC). The reason for the delay in payment by DABS is because Dynasty did not commission the power plant on time as per the terms and conditions of the PPA. The delay in commissioning and completion was because Dynasty faced customs delays for equipment at the entry ports. DABS and Dynasty have presented the case to the HEC for resolution. USAID does not have a legal or contractual basis to demand action from DABS since it is not party to the PPA. However, USAID management has requested DABS to improve its relationships with the IPPs, and to address internal capacity issues that are leading to poor management and delayed payments.

7. **Page 5 line 15-19: SIGAR statement** “.... we found that 17 of the 36 security cameras (47 percent) were nonfunctional... These were not identified during the project’s final inspection in December 2019.”

**SIGAR
Comment 7**

USAID Comment 7:

According to the PPA between DABS and Dynasty, the Government of Afghanistan is responsible for providing protection against insurgent attacks on the plant. Dynasty is responsible for internal security of the plant and its employees. Dynasty has the flexibility to develop security measures and is solely responsible for all security costs.

The construction of the boundary wall and control building do not fall under the scope of the USAID contract with Dynasty. The contract to design and build was between Dynasty and DABS. Dynasty is also responsible for the operation and maintenance of the plant per the terms and conditions of the PPA.

Dynasty has expressed their commitment to address these issues for the safety of their employees during routine maintenance.

USAID requests that SIGAR incorporate the above clarifications in the forthcoming report.

8. **Page 6: Conclusion:**

**SIGAR
Comment 8**

USAID Comment 8:

USAID requests that SIGAR adjust the conclusion statements to reflect the responses provided by USAID in the above responses to the draft report.

cc: Morgan J. Brady, Controller
U.S. Embassy/Kabul
Asia Bureau Budget
Paul Bruning, Acting Director, Office of Infrastructure

SIGAR's Response to Comments from the U.S. Agency for International Development

SIGAR Comment 1. Our report accurately defines and presents the difference between the contract USAID awarded to Dynasty, and the power purchase agreement between Dynasty and DABS. In addition, USAID's contract with Dynasty states that its purpose is "to install a 10-megawatt solar photovoltaic system in Kandahar province" and "the Contractor (Dynasty) was responsible for the design and construction of the plant." Additionally, USAID contracted with Tetra Tech to oversee the facility's construction, which included ensuring that prohibited products were not used. The contract between Dynasty and DABS, the power purchase agreement, outlines the terms under which DABS would pay Dynasty for energy generated. This agreement defines the construction contract as "the contract between USAID and the Seller (Dynasty) pursuant to which the facility will be designed, constructed, and commissioned."

SIGAR Comment 2 and 3. See comment 1. In addition, we found no evidence that the pipes and joints incurred regular damage due to high water pressure, and were replaced after plant commissioning. We stand by our analysis that this system falls under USAID's \$10 million construction contract with Dynasty, that Dynasty installed the Iranian piping during construction, and that the Tetra Tech oversight team failed to identify the prohibited piping when they inspected the project's construction during the contract performance period.

SIGAR Comment 4. In response to USAID's comment, we revised the report to state that the substandard wiring does not affect the plant's capacity to produce electricity.

SIGAR Comment 5. As stated in our report, we acknowledge USAID's confirmation of the need for 20 mega volt-ampere reactive capacitor banks at the Breshna Kot Substation. We also agree with USAID's comment that it is funding the 114-kilometer South East Power System transmission line, which is expected to improve conditions in the Kandahar area and its existing electrical grid, and that the transmission line is scheduled to be completed by the end of next year.

SIGAR Comment 6. We understand that USAID does not have any "legal or contractual basis" to demand action from DABS. Our report does not state that USAID has any such legal or contractual recourse, nor do we make any recommendations to address payment issue. We appreciate that USAID management has requested DABS to improve its relationship with independent power producers and address the internal capacity issues that are leading to delayed payments.

SIGAR Comment 7. According to the contract between USAID and Dynasty, "The contractor is responsible for the design, construction of the plant (including perimeter boundary wall, access roads and pathways, and necessary buildings), and maintenance and operation of the project at its own expense." We agree that Dynasty is responsible for the operation and maintenance of the plant, as stated in the contract's purpose. As such, our report brought this operation and maintenance issue to the attention of USAID and Dynasty.

SIGAR Comment 8. USAID's technical comments do not provide sufficient and appropriate new information requiring such a change.

APPENDIX IV - ACKNOWLEDGMENTS

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