SECTION 3

Related Facilities and Systems

3.1 Transmission System Interconnect

3.1.1 Existing and Proposed Transmission System

Power generated by the Project will interconnect with SCE's Eldorado-Mountain Pass transmission line, which runs on a southwest-northeast ROW approximately 2 miles north of the Project site. This line is currently rated at 115 kV; however, SCE plans to upgrade the line to 220 kV to increase capacity to accommodate renewable energy projects proposed in California and Nevada.

An approximately 2.5-mile-long transmission line from the Project substation will interconnect into a new 2.2-acre, 220-kV switchyard located south of and adjacent to the existing SCE ROW. The interconnection will require approximately 1.6 miles of new ROW and approximately 0.9 mile of expansion to an existing ROW belonging to the LADWP (BLM ROW CC020824). The SCE Eldorado-Mountain Pass line will then be connected to the new switchyard.

Figure 1-3 shows the proposed transmission route for the generation tie line and the location of the switchyard. Figure 3-1 shows a typical transmission tower. Figure 3-2 provides additional detail and shows the layout of the proposed switchyard.

As shown in Figure 1-2 the transmission line will travel north from the project site for approximately 1 mile along the Section 11 boundary within the Silver State North project area. The route will turn west and run along the southern boundary of Section 3, within the Silver State North Project site. From this point, the route will turn north and travel 0.9 mile paralleling an existing NV Energy transmission line to the point where it intersects with the SCE Eldorado-Mountain Pass transmission line.

3.1.2 Ancillary Facilities and Switchyard

The proposed Project switchyard will be a 220-kV, three-breaker, ring bus configured switchyard, composed of three 220-kV, SF6-insulated dead tank circuit breakers. Each breaker will be isolatable by two 220-kV, non-load break disconnect switches, one with grounding terminals. Instrument transformers will be tapped off the 220-kV bus for line protection and potential revenue metering. Three lines will terminate on steel angle pull-off structures and will be insulated from the structure by porcelain insulators. This configuration allows for additional reliability allowing for loss of any one breaker without plant gen-tie or SCE line disconnect. Line disconnects are included for disconnect of any of the incoming lines for maintenance or repair without complete disruption of power flow. All bus, cable, hardware, and electrical equipment ratings will be determined during detailed design. The switchyard will include a control building to house protective relay equipment, communication, and, potentially, utility metering.

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Switchyard site and construction power will be supplied from a local distribution line near the switchyard and a distribution transformer within the switchyard. Yard and control room lighting, convenience power, and protection and communication hardware power will be supplied via a 480-208Y/120V lighting and distribution panel. The grounding system will be designed in accordance with all applicable codes and standards to protect equipment and personnel from available fault currents. As part of this system, metal-oxide lightening arrestors may be included at line terminations near the steel angle pull-off structures to protect the equipment and personnel from surges caused by lightning strikes. A roadway will be included around the perimeter with sufficient width for maintenance vehicles. A barbed wire perimeter fence with a lockable gate wide enough for truck traffic will keep pedestrian traffic out of the switchyard.

3.1.3 Status of Power Purchase Agreements

A California utility has "short-listed" the Project as part of a recent solicitation for renewable power to meet its mandate under the California Renewable Portfolio Standard program. NextLight is in active negotiations to finalize a Power Purchase Agreement with that utility.[3] NextLight has also met with a Nevada entity to explore opportunities to provide power from the Project.

3.1.4 Status of Interconnect Agreement

On June 1, 2008, NextLight filed an application with the California Independent System Operator (CAISO) to interconnect a solar project with SCE's Eldorado-Mountain Pass transmission line. This request will more than accommodate the Project, which is nominally rated at 267 MW. The CAISO Queue Number is 289.

As part of its Generator Interconnection Process Reform program, CAISO is reforming its process for conducting System Impact Studies for new power generation facilities. The Federal Energy Regulatory Commission's (FERC) Large Generator Interconnection Procedures have been in place since 2003, and outline the procedures to ensure open access to the transmission system. However, the large number of interconnection requests, stemming partly from the increased interest in renewable power, has led to delays in the interconnection review process and a need for reform.

On May 15, 2008, CAISO requested permission from FERC to implement proposed reforms to the process and filed a revised version of this proposal on June 27, 2008. The proposed reforms seek to:

- Clear the backlog of all existing interconnection requests by increasing financial commitments or project viability tests and applying group study techniques to the remaining projects
- Develop procedures that efficiently allocate interconnection capacity in a manner that matches system needs
- Provide interconnection applicants with more certainty regarding cost and timing
- Better integrate transmission planning with the generation interconnection process

[3] NextLight is contractually bound not to disclose the utility's name.

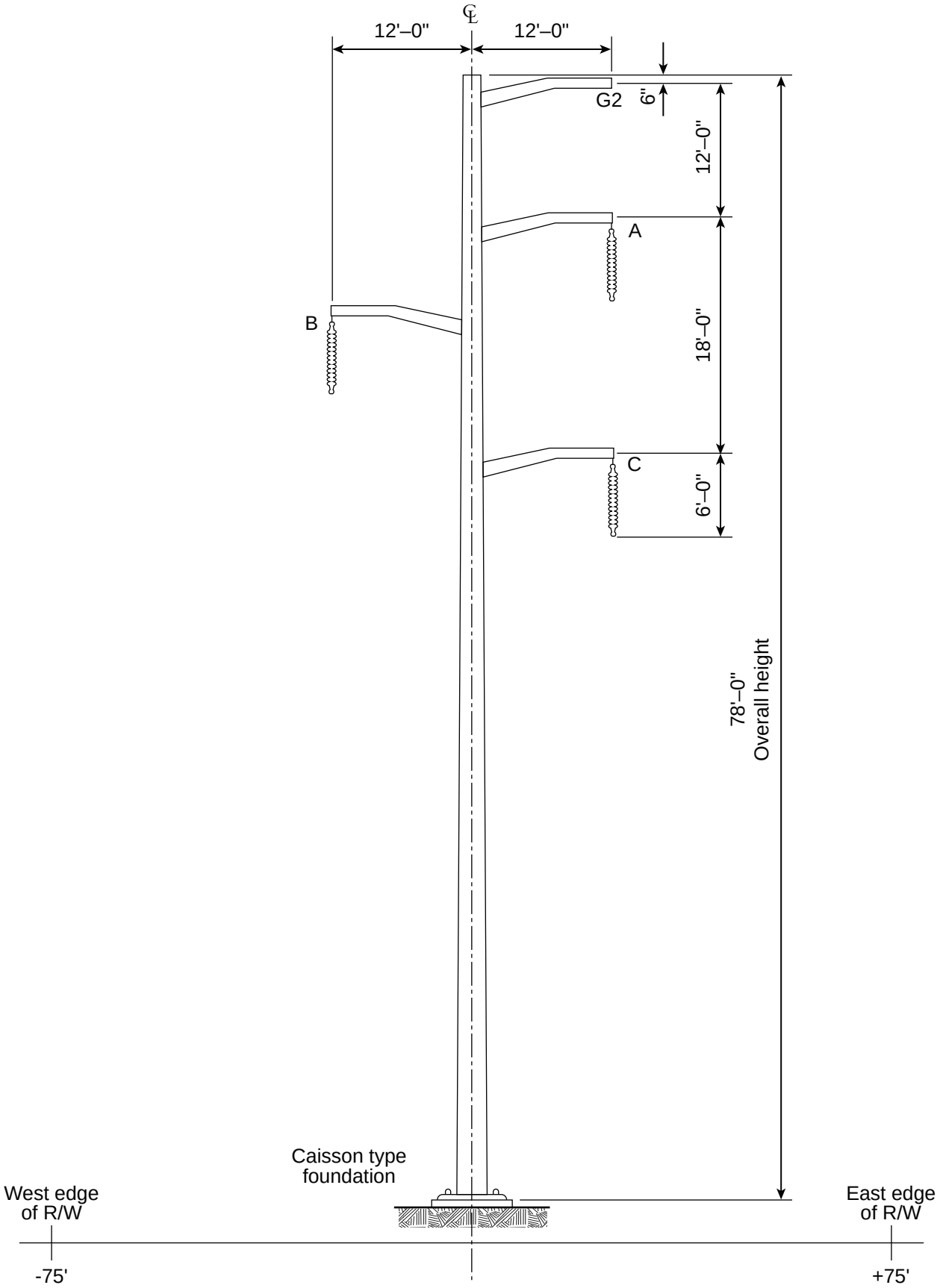
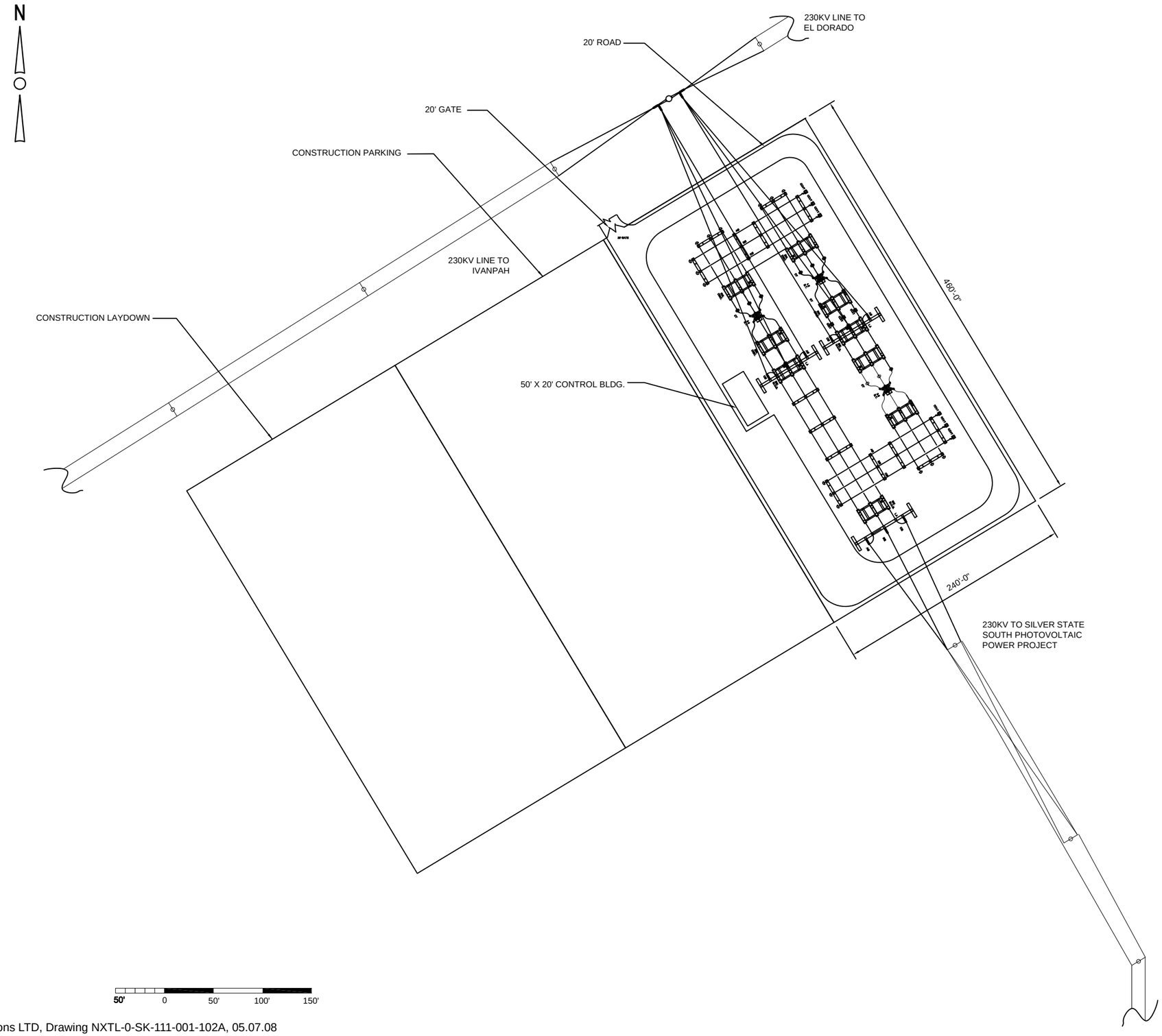


FIGURE 3-1
Typical Transmission Tower
Silver State South Photovoltaic Power Project
Clark County, Nevada

Note: Not to scale, all dimensions and phasing are estimates



Source: WorleyParsons LTD, Drawing NXTL-0-SK-111-001-102A, 05.07.08

FIGURE 3-2
Switchyard Layout
Silver State South Photovoltaic Power Project
Clark County, Nevada

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While its reform proposal is under consideration at FERC, CAISO will not accept new System Impact Study requests or process existing requests not meeting certain criteria. Under CAISO's proposal to FERC, projects that requested interconnection studies before June 2, 2008, will be grouped as the "Transition Cluster." As indicated, NextLight filed its request with the CAISO on June 1, 2008, and the Project is, therefore, part of the Transition Cluster for this injection point on the CAISO system. The System Impact Studies for these projects will be eligible to sign a study agreement in the fourth quarter of 2008 and will obtain Phase I study results in summer of 2009.

3.1.5 General Design and Construction Standards

The project will be designed in accordance with federal and industrial standards including American Society of Mechanical Engineers, National Electric Code (NEC 2005), International Energy Conservation Code (IECC 2006), International Building Code (IBC 2006), Uniform Plumbing Code (UPC 2006), Uniform Mechanical Code (UMC 2006), NFPA and Occupational Safety and Health Administration (OSHA).

Construction will be in accordance with the federal codes listed above and all applicable state and local codes. Local Clark County codes will include Title 13 – Fire and Fire Prevention; Title 22 – Buildings and Construction; Title 24 – Water, Sewage and Other Utilities; and Title 25 – Plumbing and Electrical Regulations.

3.2 Gas Supply Systems

The Project will not require natural gas supply.

3.3 Other Related Systems

3.3.1 Communication System Requirements During Construction and Operation

Multiple communication systems will be used for construction and operation. During construction, cellular or satellite communication technology will be used to the greatest extent, for both internet and telephone systems. Hard-wired (land-line) systems required for operation communications will installed as part of the electrical construction activities. These items will include telephone, fiber optics, and T-1 internet. All operation communication cables will be installed on poles and routed adjacent to the proposed access road. Communications will interconnect near the NV Energy Higgins Power Plant Substation using existing lines to the greatest extent possible. Where this is not feasible, new lines will be run from Primm Resort to the Project site using existing poles where possible.

3.3.2 Access Road

The Project will require vehicular access for construction, operation, and maintenance.

A 3.25-mile-long paved access road connecting the Project site from the existing Interstate 15 access road north of the Primm Resort will be constructed. The access road will consist of two 12-foot-wide lanes, with adjacent 2-foot-wide shoulders and 3-foot-wide drainage swales on either side. The road will be constructed in accordance with Clark County's Uniform Standard Specifications and would be owned and maintained by NextLight.

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The plant access road will be designed to accommodate equipment deliveries, the construction workforce, and, ultimately, the operational needs of the Project. The Project access road is located on public lands administered by BLM. Figure 1-2 shows the location of the proposed access road.

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