

# *Herpetological Associates, Inc. - Environmental Consultants*

## *\* Plant and Wildlife Specialists \**

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November 12, 2018

**Mr. Terry Lewis**, Director Power Utilities  
***Ameristar Perimeter Security U.S.A.***  
1555 North Mingo Road. Tulsa, Oklahoma 74116

Re: Review and evaluation of the proposed animal exclusion fence around an electric generation station in South Carolina.

Dear Mr. Lewis:

As requested, Herpetological Associates, Inc. (HA), has reviewed the details of the construction document matrix entitled: "Animal Shield." It is my understanding this fence was designed to keep snakes, lizards and other small animals out of the generating station because in the past these critters have caused electrical shorts in the equipment resulting in power outages.

### **Review and Comments about the Perimeter Exclusion Fence**

Overall, the exclusion fence design has merit and should function within its intended purpose. Because the metal fence is 10-feet in height with a 2-foot deep cement footing below grade, it will help keep most reptiles and amphibians out of the electric generation station.

The most important design item that will keep snakes, lizards and tree-frogs from entering the electric generation station is the animal shield bracket. According to the plan, there is a space of about 5-inches between the wall and the metal over-hang that extends outward about 6 5/8-inches. Some species of large snakes such as rat snakes (*Pantherophis spp.*), have the ability to climb exceptionally well, but the space of the over-hang that is provided would make it almost impossible for rat snakes to go around the smooth surface of the fence and reach the top.

Most local lizard species cannot climb a smooth surface as their claws cannot penetrate the hard metal surface. Again, if they do manage to climb up a portion of the fence, the metal over-hang that extends outward for 6 5/8-inches will stop them. The only local reptiles and amphibians that may be able to climb under and around the animal shield bracket are green anole lizards and gecko lizards. They have toe-pads on each digit that allows them to climb on smooth surfaces. They also have the ability to jump and once on the wall could possibly jump across the 6 5/8-inch space to the overhanging shield and proceed upward and over the top of the wall. The razor spikes along the top of the wall will not stop them from entering the facility.

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Another possible concern for small animals to breach the fence are treefrogs. These amphibians are capable of scaling the metal wall. In South Carolina there are several species of treefrogs, some of which are 2 or 3-inches in size and have special toe-discs (which act as suction cups), on each digit. That is why they are called treefrogs, because they spend much of their life in shrubs and trees during the summer. Once on the wall, the treefrogs may be able to jump across the animal shield bracket and scale the wall to the top.

### **Summary and Recommendations**

The only recommendation that Herpetological Associates has is to make the animal shield brackets from 5-inches to 10-inches. In other words, by expanding the brackets outward it would increase the space between the bottom of the overhang towards the metal wall. The extra 5-inches would make it impossible for lizards and treefrogs to jump or navigate across the space between the shield on the metal wall to the overhang.

Ameristar Perimeter Security U.S.A., is to be commended for designing such a well thought out barrier fence that should keep most snakes and other wildlife out of the electric generation station. Please do not hesitate to call upon us if you have any questions or need any assistance with other projects in the future.

Sincerely yours,

  
Robert T. Zappalort  
Executive Director/CEO

***HERPETOLOGICAL ASSOCIATES, INC.***



Southern Gray Treefrog.