

October 2, 2007

1200 New Jersey Ave., S.E.
Washington, DC 20590

In Reply Refer To: HSSD/SS-155

Mr. Andrew Evans
Vice President
JSF Technologies
6771 Kirkpatrick Cres.
Saanichton, British Columbia
Canada, V8M 1Z8

Dear Mr. Evans:

In your mail correspondence of July 13, 2007, you requested the Federal Highway Administration's (FHWA) acceptance of your company's FL-1412 solar powered beacon mounted on the previously accepted breakaway sign post coupling, the "Kleen Break" (model 425) by Xcessories Squared Inc., for use on the National Highway System (NHS) under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features". Accompanying your letter were the details of the Kleen Break breakaway coupling and a drawing of the FL-1412 beacon, both of which are enclosed with this letter.

The JSF Technologies Model FL-1412 solar powered beacon consists of JSF's solar engine, the engine housing, batteries and control module, a standard signal head with LED signal module, and a mount for the 1-3/4 inch (4.5 cm) to 2-1/4 inch (5.7 cm) solid or perforated square steel tube (PSST). The weight of the device is approximately 32.2 lb (14.6 kg). The assembly drawing of the solar beacon is provided in the enclosure.

Testing of the Kleen Break was performed in compliance with the guidelines contained in the NCHRP Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features" and was documented in the FHWA acceptance letter SS-131 dated December 2, 2005. Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Because the previously accepted Kleen Break breakaway coupling uses a rigid perforated or solid square steel tube post with the frangible coupling, we agree that the maximum change in vehicle velocity and overall breakaway performance of the frangible coupling will not be affected by the addition of the 32.2 lb (14.6 kg) JSF Technologies Model FL-1412 beacon

installed above the sign. The maximum change in velocity in the low-speed pendulum tests conducted on the Kleen Break coupling was 0.95 ft/s (0.29 m/s) and is therefore likely to pass this test with the 32.2 lb (14.6 kg) JSF Technologies Model FL-1412 beacon installed. Further, the normal rotation of the sign assembly about the center of gravity will likely allow the test vehicle to pass under it with minimal contact. Since the maximum weight for luminaire poles is limited to 1000 pounds (454 kg) to reduce roof deformation in the low speed impact, it is likely that the extra 32.2 lb (14.6 kg) of the JSF Technologies Model FL-1412 beacon added to the approximate 66 lb (30 kg) Kleen Break coupler with PSST post would not cause a roof deformation in excess of the acceptable limits of 6 inches (150 mm).

When the JSF Technologies Model FL-1412 beacon is installed on a 1-3/4 inch (4.5 cm) to 2-1/4 inch (5.7 cm) solid or PSST sign post and utilizes the previously FHWA accepted breakaway sign post coupler as mentioned above, it is acceptable for use at all appropriate locations on the NHS as a test level 3 device under the provisions of NCHRP Report 350 when selected by the contracting authority.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- This acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that they will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance designated as number SS-155 shall not be reproduced except in full. This letter and the test documentation upon which this letter is based is public information. All such letters and documentation may be reviewed at our office upon request.
- The JSF Technologies Model FL-1412 beacon is a patented product and considered proprietary. If proprietary devices are specified by a highway agency for use on Federal-aid projects, except exempt, non-NHS projects, they: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with the existing highway facilities or that no equally suitable alternative exists; or (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411.

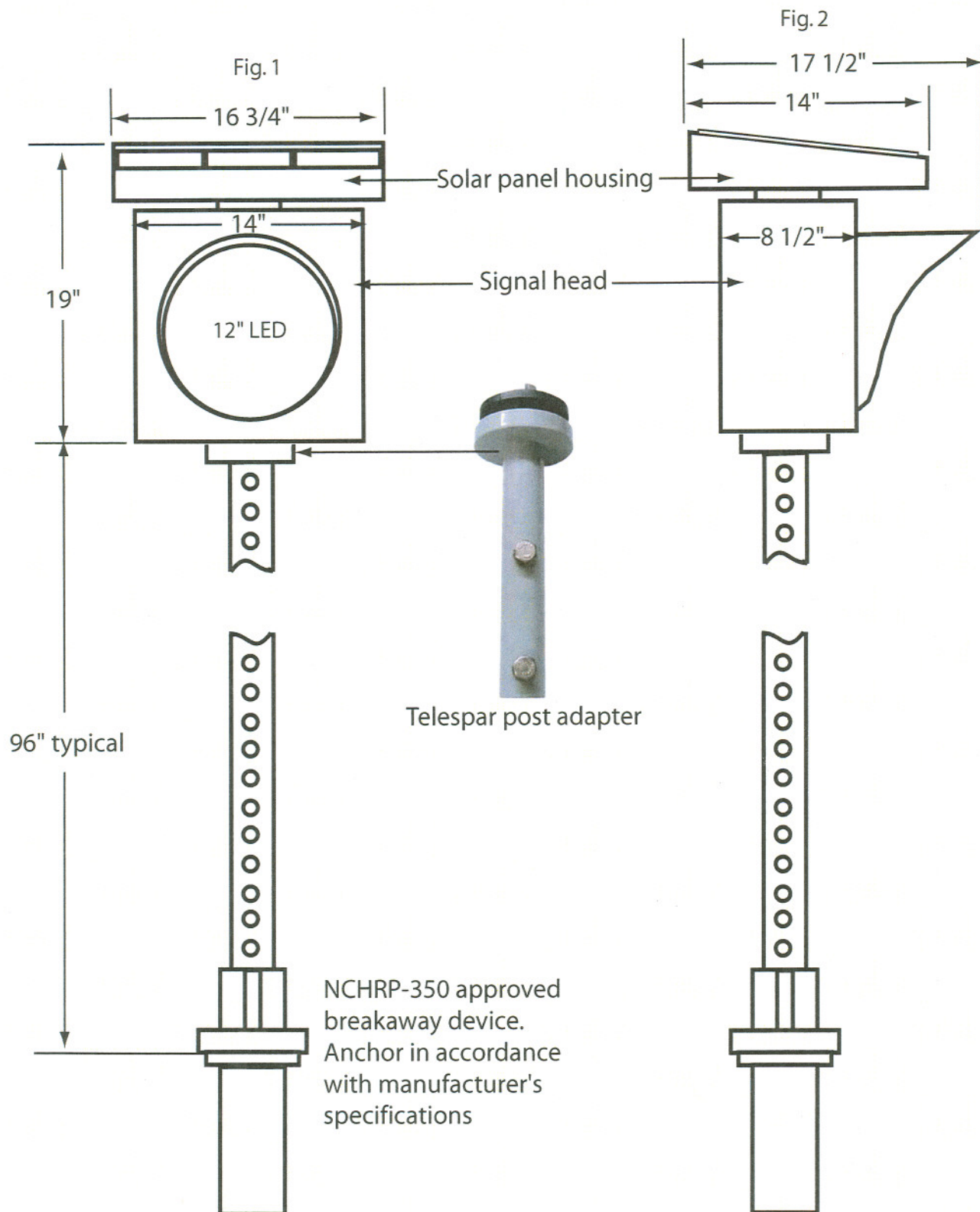
- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

Sincerely yours,



George E. Rice, Jr.
Acting Director, Office of Safety Design
Office of Safety

Enclosure



KLEEN BREAK MODEL 425 SIGN POST COUPLER
NCHRP 350 COMPLIANT / FHWA LETTER SS-131
COMPLETE ASSEMBLIES

PART NUMBER	DESCRIPTION	WT. EA.
XKB42520-G	Complete Kleen Break Assembly for 1-3/4" & 2" square post. (Includes all components for concrete installation)	12.2#
XKBSM42520-G	Surface Mount Kleen Break Assembly	14.43#
AXT225-36-G	2-1/4" x 12ga. x 36" Anchor Extension (Includes corner bolt & nut)	8.4#
WS25-16-Z	Wing Sleeve – 2-1/2" x 12ga with 12" x 13" Soil Bearing Wing	9.7#



XKB42520-G



XKBSM42520-G



AXT225-36-G

WS25-16-Z



REPLACEMENT PARTS

PART NUMBER	DESCRIPTION	WT. EA.	STD. PKG.
SBH5840-Z	5/8"-11 X 4" Model 425 Shear Bolt with Hardware	.55#	25 sets/box
RB30-EPDM	3" x 1.3" x 0.850" rubber bushing	.2#	10 ea/ box
LWX35-G	Post to coupler locking wedge	.35#	10 ea/ box
TX175-200-G	1-3/4" / 2" square post receiver	4.64#	5 ea/ box
BX250-G	Bottom locking ring	2.75#	5 ea/ box
CKBA-8-G	Kleen break anchor for concrete – 8" long	4.0#	5 ea/ box
SMKB-57-G	Kleen break surface mount base	6.23#	5 ea/ box



SBH5840-Z



RB30-EPDM



LWX35-G



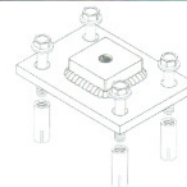
TX175-200-G



BX250-G



CKBA-8-G



SMKB-57-G
(Hardware sold separately
See page 9)