KSC ENVIRONMENTAL CHECKLIST						
1. PROJECT TITLE:		2. PROJECT NO.:				
Construct Photovoltaic Array		98744				
3. PROJECT LOCATION: 🗶 K	SC CCAFS PAFB	4. FACILITY NAME/NO.:				
	N/A					
OPC/MAIL CODE:	Operations Directorate/TA-B3B	8. PHONE NO				
7 PREPARER OF CHECKLIST	James D. Nelson	867-0176 8 PHONE NO :				
ORG/MAIL CODE:	Operations Directorate/TA-B3B	867 0176				
9. PROJECT DESCRIPTION: (<i>Provide site plans, maps, etc. as separate attachment(s)</i>) Florida Power and Light (FPL) will construct a Photovotaic array for FPL's use under a NASA/FPL Enhanced Use Lease. The site will be located on NASA property. Please see attached site plan for approximate location.						
Project will involve installation of solar panels/arrays along with necessary electrical equipment and cabeling to transfer the solar power from DC to AC at a level (13.8KVAC) that can be utilized by the FPL power distribution system located at the Air Liquide Plant just south of the NASA south gate.						
10. a-r. Check the appropriate box (Yes, No, Undetermined) to identify if any component of the proposed project (including, but not limited to: construction, installation, demolition, removal, activation or operation) will involve any of the items listed. Use the attached instructions. Provide more specific information for each item marked Yes or Undetermined in the third column.						
Yes X No Undetermined	 a. <u>Construction/Modification/Demolition</u>: modifying (other than routine maintena pavement or structure. 	Constructing, altering, expanding, ance), or demolishing any building,				
X Yes No Undetermined	<u>Land Impacts</u>: Land disturbance, soil trenching, alteration or removal of veg required, stockpiling and any activity i and low-lying areas).	l addition or removal, digging, grading, getation, equipment/material staging area n or near surface water (including ditches	Diggingrequired for concrete pad installation.			
Yes X No Undetermined	 <u>Hazardous Material and Hazardous, C</u> storage, generation and/or disposal of petroleum products or paint coatings. 	<u>Controlled or Universal Waste:</u> Use, f any hazardous or toxic material,				
Yes X No Undetermined	 <u>Asbestos Containing Material (ACM)</u>: may contain asbestos (i.e., roofs, wall caulk, etc.). 	Disturbance of construction material that ls, ceilings, floor tile, piping insulation,				
Yes X No Undetermined	 PCBs: Disturbance or replacement or communication systems, lightning pro materials or any other items believed 	f electrical distribution systems, otection, transformers, non-liquid PCB to contain PCBs, including paint coatings.				
Yes X No Undetermined	 f. <u>Painting</u>: Initial application or repainti structure or utility. 	ng of a facility (interior or exterior),				
Yes X No Undetermined	 <u>Paint, Sealant, Caulking Removal</u>: In sandblasting, scraping, water blasting coatings. Specify method. 	cludes surface preparation such as or chemical stripping of existing paint				
Yes No X Undetermined	 <u>Dewatering</u>: Use of conventional well transfer groundwater (including water including utility trenching, foundation treatment pond, and borrow excavation 	points, hydraulic pumps, or other means to in utility manholes) for project activities work, roadbed construction, stormwater on.				
X Yes No Undetermined	 <u>Stormwater</u>: Construction of new buil semi-impervious surface and/or modif Give approximate square feet of imper 	ding, pavement, impervious, or fication of an existing stormwater system. rvious surface being added.	Unkown Sq Ft			
Yes X No Undetermined	j. <u>Drinking/FIREX Water</u> : Installation or Include diameter of new water piping	r modification of potable water system. if known.	inches			
Yes X No Undetermined	 <u>Domestic/Industrial Wastewater</u>: Inst system, including septic tank systems modification to a system that handles condensate lines, washdown effluent, source discharges associated with inc 	tallation or modification of domestic sewer s, generation of process wastewater or or transports wastewater, including outfalls, holding ponds and non-point dustrial applications/processes.				
Yes X No Undetermined	I. <u>Air Emissions</u> : Installation or alteration generator, fume hood, cooling tower, HVAC system, refrigeration system; o Describe emission source.	on of a stack, scrubber, exhaust fan, vent, boiler, halon fire suppression system, or discharge from painting or sandblasting.				
Yes X No Undetermined	m. Open Burning: Burning of any land cl	earing debris.				
Yes X No Undetermined	n. <u>Tanks</u> : Construction, modification, or storage tanks (including piping and/or capacity.	repair of aboveground or underground containment). Give commodity stored and	gallons			

X Yes	No	Undetermined	0.	Transformers/Generators: Installation, replacement or repair of transformers, generators, or any other oil-filled equipment. Give capacity.	Unknown gallons
X Yes	No	Undetermined	p.	Exterior Lighting: Installation, refurbishment or modification of exterior lighting.	May require some security lightingminor
Yes	X No	Undetermined	q.	<u>Radiation</u> : Generation of ionizing or non-ionizing radiation or use of any radiation source.	
Yes	X No	Undetermined	r.	<u>Other</u> : Please describe any other aspect of the proposed action that could potentially affect the environment. Use separate sheet if necessary.	



Work Order Long Description



Workorder Report

Workorder: E1060472

DESIGNER; PHIL SPRINK;E

SUPPORT OF ENHANCED USE LEASE CONTRACTOR/ SUB-CONTRACTOR FOR CONSTRUCTION OF PHOTOVOLTAIC FACILITY PROJECT:

1. ISC HIGH VOLTAGE SHOP TO PROVIDE LABOR, MATERIAL AND EQUIPMENT FOR 13.8KV CONNECTION FROM VFI-83 TO PRIMARY SIDE OF PHOTOVOLTAIC OUTPUT TRANSFORMER. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, MEDIUM VOLTAGE CABLE, MEDIUM VOLTAGE TERMINATIONS, TESTING OF MEDIUM VOLTAGE CABLE/ TERMINATIONS, AND ENERGIZATION OF SAME.

2. ISC RELAY AND TEST SHOP SHALL PROVIDE LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR SETTING MEDIUM VOLTAGE RELAY(S) ON VFI-83 POSITION THAT FEEDS PHOTOVOLTAIC PLANT (POSITION TBD).

3. ISC DESIGN ENGINEERING SHALL DETERMINE AND PROVIDE, VIA POWER SYSTEM ANALYSIS, SETTING FOR VFI-83 RELAYED POSITION THAT FEEDS PHOTOVOLTAIC PLANT AND INSURE THESE SETTINGS ARE PROPERLY PROGRAMMED INTO VFI-83 RELAY.

4. ISC HIGH VOLTAGE SHOP/ OUTAGE COORDINATOR SHALL PROVIDE OUTAGE SUPPORT FOR FPL/ FPL CONTRACTOR FOR CONNECTIONS TO, TESTING OF, AND FINAL ENERGIZAIONS OF VFI-83. ISC SHALL PROVIDE COORDINATION BETWEEN FPL/ FPL CONTRACTOR AND AFFECTED FACILITY MANAGEMENT/ OPERATIONS SO THAT REQUIRED OUTAGE ON VFI-83 HAVE MINIMAL IMPACT TO KSC OPERATIONS.
5. ISC GENERATOR SUPPORT MAY BE REQUIRED FOR OUTAGES. PROVIDE GENERATOR SUPPORT TO AFFECTED KSC FACILITIES AS REQUIRED.

NASA PHOTOVOLTAIC FACILITY (JUST SOUTH OF CRF, M7-0777). INTERSECTION OF AVENUE 'D' AND 5TH STREET.

WORK IS REQUIRED TO SUPPORT NASA/FPL CONSTRUCTION OF A 1MEGAWATT PHOTOVOLTAIC FACILITY. EFFECT OF DELAY: IMPACT TO CONSTRUCTION SCHEDULE, IMPACT TO COST OF PROJECT, IMPACT TO

Permit : Map 1



Map Legend



Avoid Verbal Orders								
TO: TA-D2/James D. Nelson FROM: TA-C4/NEPA Compliance SUBJECT: KSC Record of Environmental C	DATE: 4/30/2008 onsideration (REC)							
1. PROJECT INFORMATION Project Title: Construct Photovoltaic Array Project Lead: James D. Nelson, TA-D2, 867-01 EPB Reviewer: LPH	6 Directorate Project No.: 98744 Facility No.: SOUTH OF M7-777							
2. NEPA DETERMINATIONS								
 3. ENVIRONMENTAL REQUIREMENTS a. Non-Permit Requirements ✓ YES b. Permit Requirements ✓ YES 	□ NO □ NO							

The NASA Environmental Management Branch (TA-C4) has assigned Kris Herpich, CHS-200, 867-3540 as the Environmental Point Of Contact (EPOC) for this project. Please add Ms. Herpich's name to any lists or notifications of meetings related to this project. All questions relating to environmental issues should be forwarded to the EPOC section within the NASA Environmental Management Branch.

3.a.1. HAZARDOUS/NON-HAZARDOUS WASTE: All hazardous and non-hazardous wastes generated on KSC must be managed, controlled and disposed of per the KSC Waste Management requirements outlined in KNPR 8500.1. A Process Waste Questionnaire (PWQ), KSC Form 26-551, along with any supporting documentation (MSDS, product formulation, lab analyses) must be submitted to the CHS Waste Management Office for each waste stream generated. That office will then generate a Technical Response Package (TRP) which will give direction on proper handling, storage, and disposal of the waste stream. Please contact CHS Waste Management Services at 867-8640 if assistance is required.

3.a.2. HAZARDOUS AND CONTROLLED WASTE (POLYCHLORINATED BIPHENYLS): There is a potential for this project to encounter PCB contaminated materials/waste (electrical equipment, transformer oil, concrete transformer pad, paint, caulking, etc.). If PCB content is unknown, sampling must be performed. See KNPR 8500.1 Rev. A, Chapter 20 for PCB management guidelines. In addition to electrical equipment, transformer concrete pads and other surrounding materials may contain PCB contamination. To determine if surrounding media and/or surfaces to be disturbed/disposed of have been contaminated with oils containing polychlorinated biphenyls by past actions contact CHS Waste Management. They will determine the applicable regulatory requirements and guidance for the proper management of the waste PCB materials. Please follow the PWQ/TRP process for waste disposal (see item 3.a.1). Contact CHS Waste Management Services at 867-8642 for assistance.

3.a.3. CONCRETE WASHOUT: Water used to rinse out concrete trucks and other equipment used for concrete work must not be allowed to discharge to surface waters. Concrete washout water shall be diverted to a settling pond where suspended material will settle out and the water can percolate into the ground. Concrete residue shall then be removed and disposed of at the KSC Landfill. Call Doug Durham (TA-C3, 867-8429) with any questions on this requirement.

3.a.4. THREATENED AND ENDANGERED SPECIES: This project has the potential to impact protected and/or threatened and endangered species - the Southeastern Indigo snake and the Gopher Tortoise. Measures must be taken to minimize impacts to the habitat. If indications of activity by any protected species are present in the project area, the burrows must be identified and avoided if possible. If identified burrows are within the area of construction, relocation of animal in question will be required. A Biological Survey must be performed prior to commencement of this project. The NASA Environmental Management Branch will schedule a biological survey upon request (John Shaffer, 867-8448). Biological Survey should be requested two weeks prior to start of work.

TO: TA-D2/James D. Nelson

DATE: 4/30/2008

FROM: TA-C4/NEPA Compliance

SUBJECT: KSC Record of Environmental Consideration (REC)

3.a.5. EXTERIOR LIGHTING: The installation/modification of any exterior lighting system must be in compliance with requirements of the KSC Exterior Lighting Guidelines. When possible, the use of low pressure sodium lights must be implemented. Safety and hazardous operations can receive a waiver that allows for non low pressure sodium lighting. These requirements can be found on the EPB Web page at:

http://environmental.ksc.nasa.gov/projects/documents/ExteriorLightingGuidelines.pdf.

3.b.1. DEWATERING: Dewatering effluent may be discharged to grade. Dewatering must be conducted in accordance with the "Noticed General Permit for Short Term Construction Dewatering" Permit #84324 issued by the St. Johns River Water Management District. At least three weeks prior to the beginning of dewatering, the initiating organization must submit the data described in Condition 10 of the permit to the NASA Environmental Program Branch (TA-C3). If the dewatering will be 300,000 gallons per day or less and will not exceed 30 days duration, then the submittal of the data is not required, however, the dewatering activity must comply with all other conditions of the permit. All waters discharged to grade must not enter existing surface waters. Effluent must be discharged to a pervious surface to facilitate infiltration back into the ground. Contact Doug Durham (867-8429) for further assistance if required.

3.b.2. ENVIRONMENTAL RESOURCE PERMIT (STORMWATER): This project will not require a stormwater permit. This facility is within the Region I Stormwater System and will not need to have its own stormwater system. The total impervious surface added for this project must be submitted to the NASA Permitting and Compliance Office (Doug Durham, TA-C3, 867-8429) so notification can be given to the St. Johns River Water Management District to comply with the Region I permit conditions.

3.b.3. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT: This project may require an NPDES Phase II construction permit. If more than 1 acre of land will be disturbed, a National Pollution Discharge Elimination System (NPDES) Permit from the Florida Department of Environmental Protection (FDEP) is required and must be obtained through the Environmental Assurance Branch (Doug Durham, TA-C3, 867-8429). A condition of this permit is to provide a Stormwater Pollution Prevention Plan (SWPPP) detailing erosion and turbidity controls for the site. Information on completing the permit application and development of the SWPPP can be obtained by contacting Doug Durham at 867-8429.

3.b.4. EXCAVATION PERMIT: A KSC Excavation Permit will be required for any digging proposed by this project. Please contact Mission Support at 861-4453 for an underground utility scan.

No other environmental issues were identified based upon the information provided in the KSC Checklist. This Record of Environmental Consideration (REC) does not relinquish the project lead from obtaining and complying with any other internal NASA permits or directives necessary to ensure all organizations potentially impacted by this project are notified and concur with the proposed project.

Due to potential changes in regulations, permit requirements and environmental conditions, statements in this REC are valid for 6 months, and subject to review after this period. It is the responsibility of the project lead to notify EPB if the scope of the project (including the design) has changed since the original checklist was submitted.

cc: J. Nelson/TA-D2

K. Herpich/CHS-200 G.King/TA-C3 H. Plaza/TA-C4

4 Upon evaluation of the subject project, the above determinations have been made and identified. Contact the Environmental Program Office (TA-C3) at 867-8456 for re-evaluation should there be any modifications to the scope of work.

K. Mayuitian

4/30/2008 12:48:27 PM

Kim Manguikian

Date

DATE:

4/30/2008

TO: TA-D2/James D. Nelson

FROM: TA-C4/NEPA Compliance

SUBJECT: KSC Record of Environmental Consideration (REC)

Avoid Verbal Orders TO: **TA-B3B/James D. Nelson DATE:** 6/8/2009 FROM: **TA-B1C/NEPA** Compliance SUBJECT **KSC Record of Environmental Consideration (REC) CHECKLIST #: 7467 1. PROJECT INFORMATION Project Title:** Construct Photovoltaic Array Project Lead: James D. Nelson, TA-B3B, 867-0176 Directorate Project No.: 98744 (REV A)/E1060472 Facility No.: SOUTH OF M7-777 EPB Reviewer: LPH 2. NEPA DETERMINATIONS a. Categorical Exclusion per 14 CFR Part 1216.305(d) ✓ b. Environmental Assessment (EA) Required per KNPR 8500.1 □ c. Environmental Impact Statement (EIS) Required per KNPR 8500.1 d. Project on CCAFS: 3. ENVIRONMENTAL REQUIREMENTS a. Non-Permit Requirements ✓ YES b. Permit Requirements ✓ YES

**** UPDATED REC ISSUED 6/8/2009 No EPOC, permit & PCB info updated, incl WON E1060472****

2.b.1. ENVIRONMENTAL ASSESSMENT (EA): This project could not be categorically excluded (CATEX) from further NEPA review. An Environmental Assessment (EA) was developed for the construction of solar photovoltaic facilities at KSC and has been finalized. For additional information, please contact John Shaffer of the NASA Environmental Management Branch (867-8448).

3.a.1. HAZARDOUS/NON-HAZARDOUS WASTE: All hazardous and non-hazardous wastes generated on KSC must be managed, controlled and disposed of per the KSC Waste Management requirements outlined in KNPR 8500.1. A Process Waste Questionnaire (PWQ), KSC Form 26-551 along with any supporting documentation (MSDS, product formulation, lab analyses) must be submitted to the IHA Waste Management Office for each waste stream generated. That office will then generate a Technical Response Package (TRP) which will give direction on proper handling, storage, and disposal of the waste stream. Please contact IHA Waste Management Services at 867-8640 if assistance is required.

3.a.2. HAZARDOUS AND CONTROLLED WASTE (POLYCHLORINATED BIPHENYLS): Oil-filled equipment with oil containing PCBs >50 ppm must be managed through the PWQ/TRP process. If PCB concentration of paint on the equipment is <50 ppm, and PCBs in the oil are <50 ppm, the equipment and oil may go to the contractor or RRMF for reuse. Oil-filled and grease or oil-contacted equpment is not accepted at the KSC landfill. Non oil-filled equipment with >50 ppm PCBs on the painted surfaces may go to the KSC landfill for disposal. PCBs have been regularly detected in various building materials (such as paints, coatings, caulk, mastic, window glazing, etc.) across KSC and CCAFS. Construction and demolition debris that has not been tested for PCBs or has been found to contain PCBs >50 ppm will be accepted at the KSC landfill but must be managed according to PCB bulk product waste storage regulations until disposal in the landfill. This includes covering the materials and storing them on an impermeable surface for protection against precipitation and prevention of soil contamination. In addition to window caulking, paint coatings, and electrical equipment, transformer concrete pads and other surrounding materials may contain PCB contamination. To determine if surrounding media and/or surfaces to be disturbed/disposed of have been contaminated by past actions with oils containing PCBs, contact IHA Waste Management. They will determine the applicable regulatory requirements and guidance for the proper management of the waste PCB materials. Please follow the PWQ/TRP process for waste disposal. All concrete associated with oil-containing electrical equipment must be disposed through IHA Waste Management as regulated PCB waste. Contact IHA Waste Management Services at 867-8642 for assistance.

3.a.3. CONCRETE WASHOUT: Water used to rinse out concrete trucks and other equipment used for concrete work

TO: TA-B3B/James D. Nelson

FROM: TA-B1C/NEPA Compliance

SUBJECT KSC Record of Environmental Consideration (REC)

must not be allowed to discharge to surface waters. Concrete washout water shall be diverted to a settling pond where suspended material will settle out and the water can percolate into the ground. Concrete residue shall then be removed and disposed of at the KSC Landfill. Call Doug Durham (TA-B1B, 867-8429) with any questions on this requirement.

3.a.4. THREATENED AND ENDANGERED SPECIES: This project has the potential to impact protected and/or threatened and endangered species - the Southeastern Indigo snake and the Gopher Tortoise. Measures must be taken to minimize impacts to the habitat. If indications of activity by any protected species are present in the project area, the burrows must be identified and avoided if possible. If identified burrows are within the area of construction, relocation of animal in question will be required. A Biological Survey must be performed prior to commencement of this project. The NASA Environmental Management Branch will schedule a biological survey upon request (John Shaffer, 867-8448). Biological Survey should be requested two weeks prior to start of work.

3.a.5. EXTERIOR LIGHTING: The installation/modification of any exterior lighting system must be in compliance with requirements of the KSC Exterior Lighting Guidelines. When possible, the use of low pressure sodium lights must be implemented. Safety and hazardous operations can receive a waiver that allows for non low pressure sodium lighting. These requirements can be found on the Enviornmental Management Branch Web page at: http://environmental.ksc.nasa.gov/projects/documents/ExteriorLightingGuidelines.pdf.

3.a.6. AFFIRMATIVE PROCUREMENT (AP): Federal agencies and their contractors are required to purchase products made from recycled or recovered materials and other environmentally preferable products whenever possible. Detailed information on EPA approved products is available at http://www.epa.gov/cpg/products. A Request for Waiver Form (KSC 28-825 NS) must be submitted for the purchase of items that are on the Comprehensive Procurement Guidelines (CPG) list but were replaced with non AP approved items. Also, a list of bio-based preferred products is available at http://www.biopreferred.gov/DesignationItemList.aspx. Contact Alice Smith (867-8454) with any questions on this requirement.

3.b.1. DEWATERING: Dewatering effluent may be discharged to grade. Dewatering must be conducted in accordance with the "Noticed General Permit for Short Term Construction Dewatering" Permit #84324 issued by the St. Johns River Water Management District. At least three weeks prior to the beginning of dewatering, the initiating organization must submit the data described in Condition 10 of the permit to the NASA Environmental Assurance Branch (TA-B1B). If the dewatering will be 300,000 gallons per day or less and will not exceed 30 days duration, then the submittal of the data is not required, however, the dewatering activity must comply with all other conditions of the permit. All waters discharged to grade must not enter existing surface waters. Effluent must be discharged to a pervious surface to facilitate infiltration back into the ground. Contact Doug Durham (867-8429) for further assistance if required.

3.b.2. ENVIRONMENTAL RESOURCE PERMIT (STORMWATER): The proposed site in the Industrial Area will not require a stormwater permit. This facility is within the Region I Stormwater System and will not need to have its own stormwater system. The total impervious surface added for this project must be submitted to the NASA Permitting and Compliance Office (Doug Durham, TA-B1B, 867-8429) so notification can be given to the St. Johns River Water Management District to comply with the Region I permit conditions.

The 10 MW facility on SR3 will require a separate ERP for a stormwater treatment system as outlined in Chapter 40C-4 FAC. The application should be completed by the 90% Design Review phase and seven (7) copies of the application and one electronic version in PDF format submitted to Doug Durham, NASA Environmental Assurance Branch (TA-B1B, 867-8429).

**Note: ERP #4-009-117974-1 has been received. The USACE Nationwide permit has also been obtained.

3.b.3. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT: This project may require an NPDES Phase II construction permit. If more than 1 acre of land will be disturbed, a National Pollution Discharge Elimination System (NPDES) Permit from the Florida Department of Environmental Protection (FDEP) is required and must be obtained through the Environmental Assurance Branch (Doug Durham, TA-B1B). A condition of this permit is to provide a Stormwater Pollution Prevention Plan (SWPPP) detailing erosion and turbidity controls for the site. Information on completing the permit application and development of the SWPPP can be obtained by contacting Doug Durham at 867-8429.

DATE: 6/8/2009

CHECKLIST #:

6/8/2009

7467

TO: TA-B3B/James D. Nelson

FROM: TA-B1C/NEPA Compliance

SUBJECT KSC Record of Environmental Consideration (REC)

3.b.4. EXCAVATION PERMIT: A KSC Excavation Permit will be required for any digging proposed by this project. Please contact Mission Support at 861-4453 for an underground utility scan.

No other environmental issues were identified based upon the information provided in the KSC Checklist. This Record of Environmental Consideration (REC) does not relinquish the project lead from obtaining and complying with any other internal NASA permits or directives necessary to ensure all organizations potentially impacted by this project are notified and concur with the proposed project.

Due to potential changes in regulations, permit requirements and environmental conditions, statements in this REC are valid for 6 months, and subject to review after this period. It is the responsibility of the project lead to notify the Environmental Management Branch if the scope of the project has changed since the original checklist was submitted.

Cc: J. Nelson/TA-D2 R. Traylor/ISC-8200

K. Chamberland/ISC-8200

***** Approved 4/30/2008 12:48:27 PM, Manguikian, Kim ***** ***** Deapproved 7/14/2008 10:55:20 AM, LPH *****

4 Upon evaluation of the subject project, the above determinations have been made and identified. Contact the Environmental Program Office (TA-B1C) at 867-8448 for re-evaluation should there be any modifications to the scope of work.

6/8/2009 12:49:01 PM

Lynne Phillips

Date

DATE: 6/8/2009

CHECKLIST #: 7467