Final Licensing Conditions
PSC Case No. 9127
UniStar Nuclear Energy, LLC

General

1. a. Except as otherwise provided for in the following provisions, the application for the Certificate of Public Convenience and Necessity (CPCN) by Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC (owner and operator, respectively and collectively "UniStar") is considered to be part of this CPCN for the Calvert Cliffs Unit 3 Project (Calvert Cliffs Unit 3). The application consists of the original application received by the Maryland Public Service Commission (PSC) in November 2007 and subsequent amendments that have been filed with the Commission prior to the issuance of this CPCN. Except as provided in paragraphs (b) and (c) below, construction of the facility shall be undertaken in accordance with the CPCN application and subsequent amendments. If there are any inconsistencies between the conditions specified below and the application, the conditions in this CPCN shall take precedence. If CPCN conditions incorporate federal or state laws or regulations through paraphrased language, where there is any inconsistency between the paraphrased language and the actual state or federal laws or regulations being paraphrased, the applicable federal or state laws or regulations shall take precedence.

   b. In addition to the requirements set forth in the following provisions of this CPCN, the construction of the facility may be subject to requirements or conditions imposed by the U.S. Nuclear Regulatory Commission (NRC) in its licensing process. To the extent that the NRC provision: (1) is required to ensure the radiological protection of public health and safety, or provide for defense and security concerns and (2) conflicts with the conditions specified in the CPCN, the NRC provision shall take precedence subject to this Commission's review and determination that: (1) the NRC requirement takes precedence and (2) is in conflict with the conditions imposed by this CPCN. The Commission shall revise a condition to be consistent with the NRC requirement(s) only after consultation with the appropriate State agency or agencies whose conditions are affected by this determination.

   c. In the application, estimates of dimensions, volumes, emission rates, operating rates, feed rates, and hours of operation are not deemed enforceable numeric limits except to the extent that they are necessary to make a determination of compliance with applicable statutes and regulations. To the extent that the terms and conditions set forth herein rely upon the information contained in the application to develop conditions deemed necessary to ensure compliance with applicable regulatory requirements, the dimensions, volumes, emission rates, operating rates, feed rates, and hours of operation are deemed enforceable limits necessary to comply with applicable statutes and regulations.

d. Prior to the beginning of any site clearing or construction pursuant to this CPCN, UniStar shall develop a proposed protocol for access and inspection of the site by State and local agencies for both the construction and operation of the facility. UniStar shall submit the proposed protocol to the Commission for approval. The Commission shall consult with affected agencies before approving the protocol. UniStar may revise the protocol as necessary to ensure compliance with NRC requirements, but shall submit any revisions to the Commission for review and approval.

2. If any provision of this CPCN shall be held invalid for any reason, the remaining provisions shall remain in full force and effect and such invalid provision shall be considered severed and deleted from this CPCN.

3. Representatives of the Maryland PSC shall be afforded escorted access to the Calvert Cliffs Unit 3 Project location at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN in accordance with the protocol pursuant to Condition 1(d) above. Subject to any applicable confidentiality and security requirements set forth in the approved protocol, UniStar shall provide such assistance as may be necessary to conduct such inspections and evaluations by representatives of the PSC effectively and safely.

4. In accordance with the protocol approved pursuant to Condition 1(d), representatives of the Maryland Department of the Environment (MDE) and the Calvert County Health Department shall be afforded escorted access to the Calvert Cliffs Unit 3 Project location at any reasonable time to conduct inspections and evaluations necessary to assure compliance with the CPCN requirements. Subject to any applicable confidentiality and security requirements set forth in the approved protocol, UniStar shall provide such assistance as reasonably may be necessary to conduct such inspections and evaluations effectively and safely, which may include but need not be limited to the following:

   a. Inspecting construction authorized under this CPCN;
   b. Sampling any materials stored or processed on site, or any waste or discharge into the environment;
   c. Inspecting any monitoring or recording equipment required by this CPCN or applicable regulations;
   d. Having access to or copying any records required to be kept by UniStar pursuant to this CPCN or applicable regulations;
   e. Obtaining any photographic documentation and evidence; and
   f. Determining compliance with the conditions and regulations specified in the CPCN.

5. In the event that UniStar commences site preparation/preconstruction activities and subsequently either (a) the NRC does not issue an operating license, or (b) UniStar decides not to proceed with construction and operation of Calvert Cliffs Unit 3, UniStar shall be responsible for returning the site to a long-term environmentally stable condition. If either (a) or (b) occurs, UniStar shall inform the PSC within sixty

(60) days and at the same time will describe specific measures that will be taken to stabilize the site. Such measures will depend upon the status of site preparation or preconstruction that has already occurred; however, at a minimum, UniStar must consider appropriate actions to address the following areas:

- Stormwater management measures and erosion/sediment control as required by Conditions 40 and 54;
- Wetlands mitigation and buffering as required by Conditions 44 and 46, and as specified in the joint federal/State wetlands permit;
- Revegetation and reforestation as required by Conditions 47 and 48, and as specified in the approved Forest Conservation Plan;
- Protection for species and habitats as required by Conditions 45, 49, 50, 51, 52, and 53, and as specified by the Chesapeake Bay Critical Area Commission and the joint federal/State wetlands permit; and
- Mitigation for cultural resource impacts as required by Condition 57, and as specified in the Memorandum of Agreement (MOA) with Maryland Historical Trust (MHT).

UniStar shall work with the Maryland Power Plant Research Program (PPRP) to obtain PSC approval of its site stabilization plan and shall complete implementation of the approved plan on the schedule outlined in the plan.

Water Supply

I. Surface Water Supply for Operations

6. This CPCN authorizes UniStar to appropriate and use surface waters of the State. Appropriation means a withdrawal, movement, or diversion of water from its source of natural occurrence. The appropriation shall be tracked under MDE Water Management Administration (WMA) permit number CAXXXXXXX. The surface water appropriation shall be subject to the following conditions:

   a. Allocation – The surface water withdrawal granted by this appropriation is limited to a daily average of 63,000,000 gallons on a yearly basis and a maximum daily withdrawal of 72,000,000 gallons;

   b. Use – The water shall be used for cooling water and operational uses for the new unit designated Calvert Cliffs Nuclear Power Plant Unit 3, and may be used for operational uses at the Calvert Cliffs Units 1 and 2 in accordance with Condition 36;

   c. Source – The water shall be withdrawn from the Chesapeake Bay; and

d. Location – The point of withdrawal shall be a new intake on the Chesapeake Bay adjacent to the south side of the Units 1 and 2 intake structure.

7. Initiation of Withdrawal – UniStar shall notify MDE WMA by certified mail when withdrawals for the uses specified in this appropriation have been initiated. This appropriation shall expire if water withdrawal is not commenced within seven (7) years after the Combined Operating License (COL) is issued by the U.S. Nuclear Regulatory Commission (NRC) for Calvert Cliffs Unit 3. The time limit has been established based on the anticipated construction schedule and necessary review and approval of the project by the NRC. The time limit may be extended for good cause, at the discretion of MDE WMA, upon written request to MDE WMA prior to the expiration of the seven-year period. If dispute arises as to a requested extension, petition may be filed to the Public Service Commission (PSC). Withdrawal associated with operating the desalination plant for generation of fresh water for construction or operation qualifies as initiation.

8. Change of Operations – UniStar shall report any anticipated change in appropriation, which may result in a new or different withdrawal, quantity, source, or place of use of water, to MDE WMA by submission of a new application.

9. Permit Review – UniStar shall be queried every three years (triennial review) regarding water withdrawal under the terms and conditions of this appropriation. Failure to return the triennial review query may result in suspension or revocation of this appropriation.

10. Appropriation Renewal – This appropriation will be reviewed and eligible for renewal 12 years from the date that the COL is issued. In order to renew the appropriation, UniStar shall file a renewal application with MDE WMA no later than 45 days prior to the expiration.

11. Right of Entry – UniStar shall allow authorized representatives of MDE WMA and the PSC staff escorted access to the Unit 3 facility to conduct inspections and evaluations necessary to assure compliance with the conditions of this appropriation. Subject to any applicable confidentiality and security requirements set forth in the approved protocol, UniStar shall provide such assistance as may be necessary to conduct such inspections and evaluations effectively and safely.

12. Appropriation Suspension or Revocation – MDE WMA may suspend or revoke this appropriation upon violation of the conditions of this appropriation, or upon violation of any regulation promulgated pursuant to Title 5 of the Environment Article, Annotated Code of Maryland (2007 replacement volume) as amended, subject to UniStar's right to an evidentiary hearing and rights of appeal.

13. Non-Transferable – This initial appropriation encompassed in this CPCN is only transferable to a new owner if the new owner acquires prior authorization to continue this appropriation by filing a new application with the PSC and obtaining authorization from the PSC. The new application must include documentation of the

previous owner's consent to the transfer. The PSC shall notify MDE WMA of the transfer of ownership.

14. Additional Permit Conditions—MDE WMA may at any time (including at triennial review or when a change application is submitted) revise any condition of this appropriation or add additional conditions concerning the character, amount, means and manner of the appropriation or use, which may be necessary to properly protect, control and manage the water resources of the State. Condition revisions and additions will be accompanied by issuance of a revised appropriation.

15. UniStar shall conduct the following monitoring activities in support of the appropriation:

    a. Flow Measurement— UniStar shall measure all water used under this authorization by a method which shall be approved by MDE WMA;

    b. Withdrawal Reports—Submit water withdrawal records to MDE WMA semi-annually (for July-December, no later than January 31 and for January-June, no later than July 31). These records shall show the total quantity of water withdrawn each month under this appropriation, and the total quantity of water consumed.

16. Emergency Backup Supply - Within one year after the issuance of this CPCN, UniStar shall submit to MDE the results of an analysis of alternatives to address the potential need for an emergency backup supply for the desalination plant. The analysis shall consider additional intake locations, treatment equipment and sources of water other than ground water for the non-potable emergency backup water supply needs. The analysis shall describe the type of emergencies under consideration for which a backup supply is needed and evaluate a suite of remedies for each condition. The analysis shall also consider the relative suitability of different aquifers, in light of arsenic levels above drinking water standards in nearby Aquia aquifer users' wells, and to minimize potential short-term impacts on other users. Any appropriations request shall be contained within the analysis and shall include an explanation of the need for the water, the desired volume and duration of the withdrawal and the specific location(s) of the proposed withdrawal(s). MDE shall evaluate the requested appropriation(s) and alternative analysis. MDE may direct UniStar to conduct any field studies or water quality analyses that MDE determines to be needed to determine aquifer or water course characteristics, potential impacts to the resource and potential impacts to other users of the resource.

II. Ground Water Supply for Construction

17. This CPCN authorizes UniStar to appropriate and use ground waters of the State from the Aquia aquifer. The appropriation will be tracked under MDE WMA permit number CAXXXXXXX. The ground water appropriation will be subject to the following conditions:

a. Allocation – The ground water withdrawal granted by this appropriation is limited to a daily average of 100,000 gallons on a yearly basis and a daily average of 180,000 gallons for the month of maximum use;

b. Use – The water is to be used to support the construction of Calvert Cliffs Nuclear Power Plant Unit 3. Uses for the water will be for construction activities, including, but not limited to, sanitary and potable use by the construction workforce, dust suppression, hydrostatic testing of pipes and tanks, concrete mixing and curing, and wash waters;

c. Source – The water shall be withdrawn from up to two production wells completed in the Aquia aquifer. UniStar shall identify to MDE WMA the final number of wells to be installed prior to use;

d. Location – The point of withdrawal shall be located at the site of the Calvert Cliffs Nuclear Power Plant Unit 3. UniStar shall identify to MDE WMA the final locations of the wells prior to use.

18. Initiation of Withdrawal – UniStar shall notify MDE WMA by certified mail when withdrawals for the uses specified in this appropriation have been initiated. This appropriation shall expire if water withdrawal is not commenced within two years after the issuance of the COL. The time limit may be extended based on a delay in the construction schedule or necessary review and approval of the project by the NRC or for other good cause, at the discretion of MDE WMA, upon written request to MDE WMA prior to the expiration of the two-year period. If dispute arises as to a requested extension, petition may be filed to the PSC.

19. Change of Operations – UniStar shall report any anticipated change in appropriation, which may result in a new or different use, quantity, source, or place of use of water, to MDE WMA by submission of a new application.

20. Permit Review – UniStar shall be queried every three years (triennial review) regarding water withdrawal under the terms and conditions of this appropriation. Failure to return the triennial review query may result in suspension or revocation of this appropriation.

21. Appropriation Duration and Renewal – The appropriation will expire in eight (8) years from the issuance of the COL. In the event that the construction schedule for Unit 3 is extended, and ground water will continue to be needed to support construction, a one-year extension or renewal of the appropriation shall be granted if UniStar provides written documentation to MDE WMA within six months of the expiration date demonstrating that the construction schedule will be extended and ground water will continue to be needed. If dispute arises as to a requested extension of the initial appropriation, petition may be filed to the PSC.

22. Additional Permit Conditions – MDE WMA may at any time (including triennial review or when a change application is submitted) revise any condition of this

appropriation or add additional conditions concerning the character, amount, means and manner of the appropriation or use, which may be necessary to properly protect, control and manage the water resources of the State. Condition revisions and additions will be accompanied by issuance of a revised appropriation.

23. Right of Entry – UniStar shall allow authorized representatives of MDE WMA and the PSC staff escorted access to the Unit 3 facility to conduct inspections and evaluations necessary to assure compliance with the conditions of this appropriation. Subject to any applicable confidentiality and security requirements set forth in the approved protocol, UniStar shall provide such assistance as may be necessary to effectively and safely conduct such inspections and evaluations.

24. Appropriation Suspension or Revocation – MDE WMA may suspend or revoke this appropriation upon violation of the conditions of this appropriation, or upon violation of any regulation promulgated pursuant to Title 5 of the Environmental Article, Annotated Code of Maryland (2007 replacement volume) as amended, subject to UniStar's right to an evidentiary hearing and rights of appeal.

25. Drought Period Emergency Restrictions – If MDE WMA determines that a drought period or emergency exists requiring preservation of the Aquia aquifer, UniStar may be required under MDE WMA's direction to reduce ground water withdrawal subject to the continuation of nuclear safety-related, water dependent construction activities or continuation of continuous concrete pours. Any reduction of water withdrawal must continue until MDE WMA directs UniStar that water withdrawal under standard appropriation conditions may be resumed, but in no event longer than the duration of the drought or emergency.

26. Non-Transferable – This initial appropriation encompassed in this CPCN is only transferable to a new owner if the new owner acquires prior authorization to continue this appropriation by filing a new application with the PSC and obtaining authorization from the PSC. The new application must include documentation of the previous owner's consent to the transfer. The PSC shall notify MDE WMA of the transfer of ownership.

27. UniStar shall conduct the following monitoring activities in support of the ground water appropriation:

    a. Flow Measurement – UniStar shall measure all water used under this authorization by a method which shall be approved by MDE WMA.

    b. Water Level Measurements – Pumping equipment shall be installed in the production well so that water levels can be measured during withdrawal and non-withdrawal periods without dismantling any equipment. Any opening for tape measurements of water levels shall have a minimum inside diameter of 0.5 inch and be sealed by a removable cap or plug. UniStar shall provide a tap for taking raw ground water samples before water enters a treatment facility, pressure tank, or storage tank.

c. Withdrawal Reports—Submit withdrawal records to MDE WMA semi-annually (for July-December, no later than January 31; for January-June, no later than July 31). These records shall show the total quantity of ground water withdrawn each month under this appropriation.

III. Construction Dewatering

28. This CPCN authorizes UniStar to appropriate and use ground waters of the State from the Surficial aquifer. The appropriation will be tracked under MDE WMA permit number CAXXXXXXX. The ground water appropriation will be subject to the following conditions:

a. Allocation—The ground water withdrawal granted by this appropriation is limited to a daily average of 75,000 gallons on a yearly basis and a daily average of 100,000 gallons for the month of maximum use;

b. Use—The water is to be used for construction dewatering to facilitate excavation for foundations, and water generated from the construction dewatering will be used to the extent practicable for dust control and other miscellaneous construction activities;

c. Source—The water shall be withdrawn from the excavations completed in the Surficial aquifer; and

d. Location—The points of withdrawal shall be located at sites associated with the construction of the Calvert Cliffs Nuclear Power Plant Unit 3.

29. Change of Operations—UniStar shall report any anticipated change in appropriation, which may result in a new or different use, quantity, source, or place of use of water, to MDE WMA by submission of a new application.

30. Appropriation Duration and Renewal—The appropriation will expire in six (6) years from the issuance of the COL. In order to renew the permit for a period of one year, UniStar shall file for an extension or a renewal application with MDE WMA no later than 45 days prior to expiration. If dispute arises as to a requested extension of the initial appropriation, petition may be filed to the PSC.

31. Additional Permit Conditions—MDE WMA may at any time (including review or when a change application is submitted) revise any condition of this appropriation or add additional conditions concerning the character, amount, means and manner of the appropriation or use, which may be necessary to properly protect, control and manage the water resources of the State. Condition revisions and additions will be accompanied by issuance of a revised appropriation.

32. Right of Entry—UniStar shall allow authorized representatives of MDE WMA and the PSC staff escorted access to the Unit 3 facility to conduct inspections and evaluations

necessary to assure compliance with the conditions of this appropriation. Subject to any applicable confidentiality and security requirements set forth in the approved protocol, UniStar shall provide such assistance as may be necessary to effectively and safely conduct such inspections and evaluations.

33. Appropriation Suspension or Revocation—MDE WMA may suspend or revoke this appropriation upon violation of the conditions of this appropriation, or upon violation of any regulation promulgated pursuant to Title 5 of the Environmental Article, Annotated Code of Maryland (2007 replacement volume) as amended, subject to UniStar's right to an evidentiary hearing and rights of appeal.

34. Non-Transferable—This initial appropriation encompassed in this CPCN is non-transferable to a new owner. A new owner may acquire authorization to continue this appropriation by filing a new application with the PSC and obtaining authorization from the PSC. The new application must include documentation of the previous owner's consent to the transfer. The PSC shall notify MDE WMA of the transfer of ownership.

35. UniStar shall conduct the following monitoring activities in support of the ground water appropriation:

    a. Flow Measurement and/or Estimation of Flow—UniStar shall report all ground water used under this authorization by a method which shall be approved by MDE WMA.

    b. Withdrawal Reports—Submit withdrawal records to MDE WMA semi-annually (for July-December, no later than January 31; for January-June, no later than July 31). These records shall show the total quantity of ground water withdrawn each month under this appropriation.

IV. Other Water Supply Conditions

36. UniStar shall ensure that the desalination treatment system installed at Unit 3 has at least the capacity indicated in Table 2.3-1 Rev. 1 of the August 8, 2008 version of the UniStar Technical Report and shall make available water in excess of the requirement of Calvert Cliffs Unit 3 for use by Calvert Cliffs Nuclear Power Plant, Inc. at Units 1 and 2.

37. UniStar shall provide a letter of commitment to Calvert Cliffs Nuclear Power Plant, Inc., with copies provided to MDE WMA and PPRP, indicating their intent to make available to Calvert Cliffs Nuclear Power Plant, Inc. water treated in the desalination plant that exceeds the requirements of Calvert 3. The letter of commitment shall be provided within six (6) months of the issuance of the CPCN. Until such time as MDE WMA notifies UniStar that such updates are no longer required, UniStar shall provide written updates to MDE WMA beginning one year after issuance of the CPCN and annually thereafter describing the status of the desalination plant construction and the availability of water for use by Calvert Cliffs Nuclear Power Plant, Inc.

38. UniStar shall not haul fresh ground water to Calvert Cliffs Unit 3 until UniStar notifies MDE WMA of the name and contact information of the hauler, the water source (if known), a maximum estimate of the amount of water to be hauled, and the approximate period of time that the water will be hauled to the Unit 3 site. The notification shall occur at least one week in advance of the commencement of water hauling. Nothing in this condition shall limit or prevent UniStar from hauling water to Unit 3 in the event of an emergency where the construction or operation of Calvert Cliffs Unit 3 is jeopardized by the temporary unavailability of a fresh water supply. In the event of an emergency requiring UniStar to haul water to Unit 3, UniStar shall notify MDE WMA as soon as practicable, but no later than 24 hours from the commencement of water hauling to the Unit 3 site.

Water Discharge

39. The CPCN is not an authorization to discharge wastewater to waters of the State. UniStar shall obtain a new discharge permit from MDE under the National Pollutant Discharge Elimination System (NPDES) for the Calvert Cliffs Unit 3 facility. This permit shall incorporate the USEPA Phase I regulations implementing Section 316(b) of the Federal Clean Water Act for Cooling Water Intake Structures.

40. UniStar shall prepare a Stormwater Management Plan for review and approval by the local authority. The Stormwater Management Plan shall be prepared in accordance with the Stormwater Management Subtitle, COMAR 26.17.02, applicable county or municipal ordinance, and the Maryland Stormwater Design Manual, including any new provisions adopted as a result of the Stormwater Management Act of 2007, which requires Environmental Site Design (ESD) practices to be used to the maximum extent practical.

41. If treated effluent is used for dust control, UniStar needs to submit an application for a Ground Water Discharge Permit to the MDE WMA Wastewater Permits Program in accordance with the requirements set forth in COMAR 26.08, and obtain MDE WMA approval for the use of treated effluent for dust control. Treated effluent sources to be used for dust control shall be identified to MDE WMA in writing no later than six (6) months after issuance of the CPCN.

42. If dewatering occurs from an excavation and the water requires discharge in excess of 10,000 gallons per day to a surface water body, UniStar shall obtain authorization from MDE in accordance with COMAR 26.08 to discharge dewatering water in excess of 10,000 gallons per day to a surface water body that is not used for dust control.

Terrestrial and Aquatic Ecology

43. Construction and operation of the Calvert Cliffs Unit 3 power facility and all its appurtenant features shall comply with all applicable local, State, and Federal regulations, including but not limited to the following:

a. Nontidal Wetlands – COMAR 26.23 applies to activities conducted in nontidal wetlands.

b. Waterway Construction – COMAR 26.17.04 applies to activities in State waterways.

c. Water Quality and Water Pollution Control – COMAR 26.08.01 through COMAR 26.08.04 apply to discharges to surface water and maintenance of surface water quality.

d. Erosion and Sediment Control – COMAR 26.17.01 applies to the preparation, submittal, review, approval, and enforcement of erosion and sediment control plans.

44. UniStar shall obtain applicable State and federal dredge-and-fill and waterway construction permits for the Chesapeake Bay intake and discharge facilities and for the barge facility modifications. UniStar shall not commence construction of any aspect of the project that is under the jurisdiction of Section 404 of the Clean Water Act covered by the *Joint Federal/State Application for the Alteration of Any Floodplain Waterway, Tidal or Nontidal Wetland in Maryland*, until such application has been approved by the U.S. Army Corps of Engineers and MDE. Appropriate time-of-year dredging restrictions will apply to the project to minimize impacts to Natural Oyster Bar (NOB) 19-2.

45. UniStar shall not commence construction on any aspect of the project under the jurisdiction of the Chesapeake Bay Critical Area Commission (CAC) until it has received approval of the proposed Unit 3 project from the CAC. All site preparation, preconstruction, and construction activities at the site shall be implemented in accordance with the CAC-approved plans.

46. Portions of the Calvert Cliffs Unit 3 construction footprint adjacent to existing forested nontidal wetlands shall comply with Best Management Practices for Nontidal Wetlands of Special State Concern and Expanded Buffers, COMAR 26.23.06.03, which provides for stringent best management practices in the vicinity of very sensitive nontidal wetlands sites. These practices and techniques may include, but are not limited to, use of adequately sized temporary sediment traps, as needed, as well as super silt fencing, berms, and other specialized techniques specifically needed for limiting the quantity of sediment entering existing forested wetlands and streams during the power facility construction process.

47. All portions of the power plant and rights-of-way disturbed during construction shall be stabilized after the cessation of construction activities within that portion of the footprint and right-of-way, followed by seed application, except in actively cultivated lands, in accordance with the best management practices presented in the current edition of the *Maryland Standards and Specifications for Soil Erosion and Sediment Control*, and as approved by Calvert County. In wetlands and wetland buffers, seed application shall consist of the following species: annual ryegrass (*Lolium multiflorum*), millet (*Setaria italica*), barley (*Horedum spp.*), oats (*Uniola spp.*), and/or rye (*Secale*

cereale). Other non-persistent vegetation may be acceptable, but must be approved by the MDE Water Management Administration. Kentucky 31 fescue shall never be used in wetlands or buffers.

48. UniStar shall construct the facilities for Calvert Cliffs Unit 3 in accordance with an approved DNR Forest Conservation Plan (FCP). To minimize forest losses, cleared areas that are no longer in use and not anticipated to be in use following project construction shall be replanted with tree species appropriate for the area. Tree planting and maintenance should be conducted in accordance with the State Forest Conservation Technical Manual, 3rd edition, 1997 and COMAR 08.19.04.05B(4)(a). Areas not replanted with trees shall be vegetated with grasses. Grasses will be planted along streams and other open areas where acceptable. If the areas along streams are wetlands or wetland buffers, only grasses listed in Condition 47, or others approved by MDE WMA, shall be used. If areas along streams are uplands, the following grass species may be used: blue joint grass (*Calamagrostis canadensis*), switchgrass (*Panicum virgatum*), little bluestem (*Schizachyrium scoparium*), or Indian grass (*Sorghastrum nutans*). Other non-persistent vegetation may be acceptable, but must be approved by DNR or MDE WMA. Kentucky 31 fescue shall never be used. Prior to the commencement of tree clearing associated with site preparation, pre-construction, or construction activities, a forest conservation easement shall be granted to Maryland DNR Forestry Division, or another State or county agency, in accordance with the provisions of the FCP.

49. For the protection of bald eagles (*Haliaeetus leucocephalus*) at the project site, UniStar shall comply with the terms of the Endangered Species Permit Number 45135, as may be amended or revised, issued September 8, 2008 by Maryland DNR Wildlife and Heritage Service. It should be understood that acquiring a State permit for take of a bald eagle does not carry any authority for take under the federal Bald and Golden Eagle Protection Act as administered by the USFWS.

50. For the protection of showy goldenrod (*Solidago speciosa*), UniStar should take steps to avoid habitat alteration during the proposed construction activities. Mitigation for impacts to this population through transplanting individuals is discouraged. Transplanting of threatened or endangered plants is not considered a substitute for the protection of existing populations and may result in limited or no conservation value. However, since threatened and endangered plants are the property of the landowner, transplanting such species is not illegal provided the plants are not transported off the property. If such an action is pursued, UniStar shall adhere to DNR's guidelines for the reintroduction of rare plants. Prior to construction, DNR Heritage botanists shall be afforded escorted access to the site to confirm the identity of the showy goldenrod.

51. For the protection of the two species of State endangered, federally threatened tiger beetles (northeastern beach tiger beetle and Puritan tiger beetle) that are known to occur along the Chesapeake Bay shoreline and proximal to the project site, no construction activities shall occur within 500 feet of currently suitable habitat for either species, with the exception of those activities (a) occurring within the designated Intensively Developed Area, (b) associated with the demolition of the Eagle's Den

building and removal of related impervious surfaces, and (c) associated with any Forest Interior Dwelling Species habitat restoration or wetlands mitigation. Activities undertaken in these areas will be conducted, to the greatest extent practicable, to minimize impacts to any adjacent cliff or beach habitats that are suitable for either species. Administrative controls that restrict personnel access to beaches shall be implemented. DNR shall be afforded escorted access to the shoreline as requested to conduct surveys to examine the health of tiger beetle populations.

52. To compensate for impacts to the American eel (*Anguilla rostrata*), UniStar shall design the stream restoration and enhancement portion of the proposed compensatory wetlands mitigation plan in a manner that will not prohibit the passage of migratory fish species and, more specifically, the catadromous American eel. Stream restoration and enhancement activities shall incorporate known habitat needs of the American eel, such as vegetative or substrate cover, and shall address the physiological needs of the American eel, other migratory fish species, and the remaining resident fish and benthic macroinvertebrate populations. Habitat needs such as base flow hydraulic regimes, appropriate depth, and substrate shall also be addressed.

53. UniStar shall pay $5,000 to DNR (by December 31, 2008) to be applied to the cost of mapping the substrate of NOB 19-2 in the vicinity of the Project. UniStar shall also fund, up to a capped amount of $45,000 per acre (2008 dollars), the cost of moving, creating, or restoring oyster habitat equal to the area of bottom in NOB 19-2 that would be directly, adversely impacted by UniStar's new dredging or filling of tidal wetlands within NOB 19-2 pursuant to Condition 44. This effort will be completed within two (2) years of the completion of USACE/MDE authorized work in tidal wetlands.

Stormwater Management/Erosion and Sediment Control

54. Sediment/erosion control during construction of all aspects of this project shall be in accordance with the Best Management Practices presented in the current edition of the *Maryland Standards and Specifications for Soil Erosion and Sediment Control*, and as approved by Calvert County. Best Management Practices may include construction of earth dikes and retaining walls in appropriate locations, sediment traps, use of super silt fences, stabilizing disturbed areas as quickly as possible, and converting silt traps to permanent features as soon as practicable.

Noise

55. UniStar shall monitor noise levels at the boundaries of the facility, after the plant is operational, to demonstrate that Calvert Cliffs Unit 3 will operate in compliance with the noise limits specified in COMAR 26.02.03. The scope of work for the noise monitoring shall be provided to PPRP for review within one year after the issuance of the CPCN. The noise study shall include monitoring at facility site boundaries in closest proximity to residentially zoned land. Measurements will be taken while the plant is operating at full load, to represent maximum noise emissions. Results shall be provided to PPRP within six months after Unit 3 begins commercial operation. If the

results of the noise monitoring indicate that Unit 3 operation is creating an exceedance of the Maryland noise standards, UniStar shall take corrective action in consultation with the PSC and PPRP.

Socioeconomics

56. Prior to construction, UniStar shall submit to the Maryland Historical Trust (MHT) a copy of training programs, or guidelines provided to applicant inspectors or contractors, to identify and/or protect unforeseen archeological sites that may be revealed during construction of the project. If such relics are identified in the project area, UniStar, in consultation with and as approved by MHT, shall develop and implement a plan for avoidance and protection, data recovery, or destruction without recovery of the properties adversely affected by the project.

57. Prior to construction, UniStar shall execute an MOA with MHT to mitigate the adverse effects of site preparation and construction upon on-site cultural resources that are eligible for the National Register of Historic Places. No site preparation activities (such as clearing or grading) or construction activities having the potential to affect historic properties will take place within the limits of National Register-eligible archeological or structural resources, and no removal or demolition of eligible structures will take place until an MOA has been executed.

58. Prior to construction, UniStar shall revise its Phase II Traffic Study to address Maryland State Highway Administration (SHA) comments contained in its letter dated 26 June 2008 from Steven D. Foster, Chief, Engineering Access Permits Division to Susan Gray, PPRP. The revised study must determine the extent of traffic impacts caused by the anticipated workforce and the roadway improvements necessary to mitigate those impacts. UniStar shall submit eight copies to SHA for review, comments, and acceptance of the report to SHA satisfaction.

59. UniStar shall execute an MOA with SHA for the planning, engineering, and construction of roadway improvements necessary to mitigate the power plant generated traffic impacts. Benchmarks for the permitting, construction, and completion of the required roadway improvements will be part of the MOA.

60. Prior to construction, UniStar shall consult with the Calvert County Department of Public Safety regarding the adequacy of technical resources, including personnel, within the Department and other County agencies to manage the additional burden associated with emergency planning, pursuant to NRC and Federal Emergency Management Administration (FEMA) requirements, for the construction and operation of Calvert Cliffs Unit 3. UniStar shall assist the Calvert County Department of Public Safety through contributions, training, and/or general support in accordance with UniStar's obligations under NRC and FEMA requirements.

61. Prior to construction, UniStar shall contact the Calvert County Department of Public Safety to establish a relationship with fire departments and emergency response agencies under this Department to address site safety/EMS coverage during

construction, and to establish timely response options and facilitate emergency vehicle access throughout the site in case of an accident or injury as may be required by NRC and FEMA requirements. UniStar shall assist the Calvert County Department of Public Safety through contributions, training, and/or general support in accordance with UniStar's obligations under NRC and FEMA requirements.

62. UniStar shall develop a lighting distribution plan that will mitigate intrusive night lighting and avoid undue glare onto adjoining properties, subject to the requirements of the NRC, the Federal Aviation Administration, and, to the extent practical, consistent with Article 6-6 of the Calvert County Zoning Ordinance. UniStar shall submit the plan to PPRP and the PSC for review with the PSC to approve the plan prior to operation of the facility.

Air Quality

I. General Air Quality Requirements

63. MDE Air and Radiation Management Administration (MDE-ARMA) shall have concurrent jurisdiction with the PSC to enforce the air quality conditions of this CPCN.

64. The CPCN serves as the Prevention of Significant Deterioration (PSD) approval and air quality construction permit for the Calvert Cliffs Unit 3 Project.

65. For air permitting purposes, the facility shall be comprised of the following equipment:

    a. One circulating water system (CWS) cooling tower;

    b. Four essential service water system (ESWS) cooling towers;

    c. Four 10,130-kilowatt (kWe) emergency diesel generators (EDGs);

    d. Two 5,000-kWe station black out generators (SBOs); and

    e. Up to 15 fuel oil storage tanks.

66. Definition: "Commence" as applied to the construction of the Project means that the owner or operator either has begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time.

67. In accordance with COMAR 26.11.02.04B, the air quality provisions expire if, as determined by MDE-ARMA:

    a. Construction is not commenced within 18 months after the date of issuance of a final CPCN;

b. Construction is substantially discontinued for a period of 18 months or more after it has commenced; or

c. Construction is not completed within a reasonable period of time after the issuance of a final CPCN.

68. At least 60 days prior to the anticipated date of start-up of the facility, UniStar shall submit to MDE-ARMA an application for a temporary permit to operate.

69. All requirements pertaining to air quality that apply to UniStar shall apply to all subsequent owners and/or operators of the facility. In the event of any change in control or ownership, UniStar shall notify the succeeding owner/operator of the existence of the requirements of this CPCN pertaining to air quality by letter and shall send a copy of that letter to the PSC and MDE-ARMA.

II. Applicable Air Quality Regulations

Facility-wide Requirements

70. The Calvert Cliffs Unit 3 Project is subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following regulations:

a. COMAR 26.11.01.04A-C Testing and Monitoring – Requires UniStar to follow test methods described in §C of this regulation to determine compliance. MDE-ARMA may require UniStar to install, use, and maintain monitoring equipment or employ other methods as specified by MDE-ARMA to determine the quantity or quality, or both, of emissions discharged into the atmosphere and to maintain records and make reports on these emissions to MDE-ARMA in a manner and on a schedule approved by MDE-ARMA or the control officer.

b. COMAR 26.11.01.07C Malfunctions and Other Temporary Increase of Emissions – Requires UniStar to report the onset and the termination of the occurrence of excess emissions, expected to last or actually lasting for one hour or more to MDE-ARMA by telephone;

c. COMAR 26.11.06.12 – Prohibits UniStar from constructing, modifying, or operating, or causing to be constructed, modified, or operated, a New Source Performance Standard source as defined in COMAR 26.11.01.01C, which results or will result in violation of the provisions of 40 CFR Part 60; and

d. COMAR 26.11.06.14 - Prohibits UniStar from construction, modifying or operating a PSD source which will result in violation of 40 CFR 52.21.

71. The Calvert Cliffs Unit 3 Project is subject to all applicable State-only enforceable air quality requirements including, but not limited to, the following regulations:

a. COMAR 26.11.02.13A(50) - UniStar shall not operate or cause to operate Calvert Cliffs Unit 3 without first obtaining, and having in current effect, a State Permit to Operate. A complete application for an initial State permit to operate shall be submitted to MDE ARMA not later than 60 days before the source is to commence operation;

b. COMAR 26.11.02.19A Fee Schedule – Requires UniStar to pay annual Title V operating permit fees;

c. COMAR 26.11.02.19D Emission Certification – Requires UniStar to certify, as provided at Regulation .02F of this chapter, the actual emissions of regulated air pollutants from all installations at the plant or facility. Certification shall be on a form obtained from MDE-ARMA and shall be submitted to MDE-ARMA not later than April 1 of the year following the year for which certification is required. An emission certification submitted pursuant to this section and which contains all information required by COMAR 26.11.01.05-1, for NOx and VOC, satisfies the requirements of COMAR 26.11.01.05-1;

d. COMAR 26.11.03.17 – Requires UniStar to update the Calvert Cliffs Part 70 Operating Permit to include applicable Calvert Cliffs Unit 3 project requirements;

e. COMAR 26.11.06.08 – Prohibits UniStar from operating or maintaining any source in such a manner that a nuisance is created; and

f. COMAR 26.11.06.09 – Prohibits UniStar from causing or permitting the discharge into the atmosphere of gases, vapors, or odors beyond the property line in such a manner that a nuisance or air pollution is created.

Emergency Diesel Generators (EDGs) and Station Blackout Generators (SBOs)

72. The EDGs and SBOs for the Unit 3 Project are each subject to all applicable federally enforceable State air quality requirements including, but not limited to, the following regulations:

a. COMAR 26.11.09.05A(1) – Prohibits UniStar from discharging emissions greater than 20 percent opacity from fuel burning equipment associated with Unit 3, other than water in an uncombined form. This limitation does not apply to emissions during load changing, soot blowing, startup, or adjustments or occasional cleaning of control equipment if:

i. The visible emissions are not greater than 40 percent opacity; and

ii. The visible emissions do not occur for more than 6 consecutive minutes in any 60-minute period.

b. COMAR 26.11.09.07A(1)(c) – Prohibits UniStar from burning, selling or making available for sale any fuel with a sulfur content by weight in excess of or which otherwise exceeds 0.3 percent for distillate fuel oils;

c. COMAR 26.11.09.05B(2)-(4) Visible Emissions Stationary Internal Combustion Engine Powered Equipment – Prohibits UniStar from causing or permitting the discharge of emissions from any engine:

   i. Operating at idle at an opacity greater than 10 percent; or

   ii. At conditions other than idle at an opacity greater than 40 percent.

d. COMAR 26.11.09.08E(1-5) – Requires UniStar to do the following for each piece of fuel burning equipment with a rated heat input capacity of 100 MMBTU per hour or less:

   i. Submit to MDE-ARMA (for each installation) an identification, information on the rated heat input capacity of the unit, and the type of fuel burned;

   ii. Perform a combustion analysis at least once each year;

   iii. Maintain the results of the combustion analysis for at least 2 years;

   iv. Once every 3 years, require an operator to attend operator training programs on combustion optimization; and

   v. Prepare and maintain a record of training program attendance.

73. The EDGs and SBOs are each subject to New Source Performance Standards (NSPS) 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and the associated fuel, monitoring, compliance, testing, notification, reporting, and recordkeeping requirements (40 CFR §60.4200 *et seq.*), and related applicable provisions of 40 CFR §60.7 and §60.8.

a. The EDGs shall each meet the following standards:

   i. Reduce PM emissions by 60 percent or more, or limit emissions of PM to 0.15 grams per kilowatt-hour (g/kW-hr) (0.11 grams per horsepower-hr); and

   ii. Reduce NOx emissions by 90 percent or more, or limit emissions of NOx to 1.6 g/kW-hr (1.2 grams per horsepower-hour).

b. Emissions from each SBO shall not exceed the following:

   i. 0.5 g/kW-hr of PM;

   ii. 11.0 g/kW-hr of total hydrocarbons plus nitrogen oxides (THC+NOx); and

iii. 5.0 g/kW-hr of CO.

Cooling Towers

74. The cooling towers associated with the Calvert Cliffs Unit 3 Project are subject to all applicable federally enforceable State air quality requirements including, but not limited to, COMAR 26.11.06.02(C)1 – Prohibits UniStar from discharging emissions from any installation or building, other than water in an uncombined form, which is greater than 20 percent opacity.

III. Best Available Control Technology (BACT)

75. Particulate matter (PM, PM10, and PM2.5) emissions from the emergency diesel generators (EDGs) associated with Unit 3 shall not exceed 0.15 g/kW-hr on a 3-hour average basis. These limits will be achieved by exclusively burning diesel fuel with a maximum sulfur content of 0.05 percent by weight and limiting hours of operation to no more than 600 hours during any consecutive 12-month period for all EDGs combined, except that the EDGs shall be allowed to operate unrestricted during non-normal conditions associated with a Loss of Offsite Power (LOOP) event at the plant in order to provide power to Unit 3 for safe operations and shutdown.

76. The station blackout generators (SBOs) associated with Unit 3 shall be designed so that particulate matter (PM, PM10, PM2.5) emissions shall not exceed 0.5 g/kW-hr. These limits will be achieved by exclusively burning ultra-low sulfur diesel fuel with a maximum sulfur content of 0.0015 percent by weight and limiting hours of operation to no more than 200 hours during any consecutive 12-month period for all SBOs combined, except that the SBOs shall be allowed to operate unrestricted during non-normal conditions associated with a Loss of Offsite Power (LOOP) event at the plant in order to provide power to Unit 3 for safe operations and shutdown.

77. Emissions from the CWS cooling tower shall not exceed 1,782 pounds per day (325.2 tons per year) of PM, 1,426 pounds per day (260.2 tons per year) of PM10, and 231 pounds per day (42.2 tons per year) of PM2.5. These emissions shall be achieved through the use of high efficiency drift eliminators designed to achieve a drift loss rate not to exceed 0.0005 percent of recirculating water flow.

78. Emissions from each of the ESWS cooling towers shall not exceed 45 pounds per day (8.2 tons per year) of PM, 44 pounds per day (8.0 tons per year) of PM10, and 14 pounds per day (2.6 tons per year) of PM2.5. These emissions shall be achieved through the use of high efficiency drift eliminators designed to achieve a drift loss not to exceed 0.005 percent of recirculating water flow.

IV. Testing

79. Within 60 days of the initial start-up date, UniStar shall provide MDE-ARMA with a Performance Test Plan. The Plan shall describe the proposed methods for conducting

initial performance tests to demonstrate compliance with the NSPS Subpart IIII standard, as applicable.

80. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, UniStar shall conduct performance tests outlined in UniStar's Performance Test Plan.

81. In accordance with COMAR 26.11.01.04A, UniStar may be required by MDE-ARMA to conduct additional stack tests to determine compliance with COMAR Title 26, Subtitle 11. This testing will be done at a reasonable time.

V. Monitoring, Recordkeeping, and Reporting

82. UniStar shall determine compliance with the BACT limits as follows:

    a. For the EDGs and the SBOs, UniStar shall conduct initial performance tests or provide the manufacturer's certification to demonstrate compliance with the BACT limitations in accordance with the New Source Performance Standards for Compression Ignition Internal Combustion Engines under 40 CFR 60, Subpart IIII.

    b. For the CWS cooling tower and the ESWS cooling towers, UniStar shall monitor:

        i. the conductivity of the circulating water to determine the concentrations of total dissolved solids (TDS), and

        ii. the flow rate of the circulating water.

    c. at least 90 days prior to the anticipated startup of each of the units subject to BACT, UniStar shall submit a detailed monitoring plan to MDE-ARMA for approval. MDE-ARMA shall approve the plan prior to startup of any of these emissions units.

83. In accordance with 40 CFR §60.4209, UniStar shall install non-resettable hour meters prior to the start up of the EDGs and the SBOs.

84. UniStar shall submit to MDE-ARMA and U.S. EPA written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in applicable NSPS within 60 days of completion of the tests.

85. UniStar shall prepare and submit reports to MDE-ARMA that summarize emissions and other parameters necessary to calculate particulate matter emissions determined according to Condition 82.

86. UniStar shall furnish written notification to MDE-ARMA and U.S. EPA of the following events related to the EDGs and SBOs:

a. Date construction commenced of each EDG and each SBO within 30 days after such date;
b. Anticipated startup date, not more than 60 or less than 30 days prior to such date;

c. Actual startup date within 15 days after such date; and

d. Anticipated date of compliance stack testing at least 30 days prior to such date.

87. UniStar shall furnish written notification to MDE-ARMA of the following events related to the cooling towers:

a. Date construction commenced of each ESWS cooling tower and the CWS cooling tower within 30 days after such date;

b. Anticipated startup date, not more than 60 or less than 30 days prior to such date;

c. Actual startup date within 15 days after such date.

88. UniStar shall submit a certified emissions statement for Unit 3 to MDE-ARMA.

a. Certification shall be on a form obtained from MDE-ARMA and shall be submitted to MDE-ARMA no later than April 1 of the year following the year for which certification is required.

b. The individual making the certification shall certify that the information is accurate to the individual's best knowledge. The certifying individual shall be:

i. Familiar with each source for which the certification form is submitted; and

ii. Responsible for the accuracy of the emission information.

89. all records and logs required by this CPCN shall be maintained at the facility for at least 5 years after the completion of the calendar year in which they were collected. These data shall be readily available for inspection by representatives of MDE-ARMA.

90. All air quality notifications and reports required by this CPCN shall be submitted to:

Administrator, Compliance Program
Air and Radiation Management Administration
1800 Washington Boulevard
Baltimore, Maryland 21230

91. All notifications and reports required by 40 CFR 60 Subpart IIII provisions, unless specified otherwise, shall be submitted to:

Regional Administrator, U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

VI. General and Miscellaneous Provisions

92. Except as otherwise provided herein, neither UniStar nor any other entity or entities that subsequently become the owner and/or operator of Calvert Cliffs Unit 3 (hereafter referred to as "owner") shall transfer ownership or control of the facility so as to divest the owner of its ability to control the construction or operation of the facility without the written consent of the PSC. In the event of any such proposed transfer, the owner shall notify the proposed successor of the existence of the requirements of this CPCN by letter and shall send a copy of that letter to the Secretary of the PSC, the Director, Air and Radiation Management Division of the Maryland Department of the Environment, and the Director of the Power Plant Research Program of the Maryland Department of Natural Resources. Any such successor shall be subject to the CPCN and all applicable requirements and obligations therein. Prior to the commencement of its operation of the facility, any such successor shall provide appropriate assurances required by the PSC that the facility will be operated in compliance with this CPCN and its conditions. The approval of the PSC shall not be required if (i) the owner sells a minority interest in the facility to a third-party investor that does not result in a transfer of majority ownership or control of the facility, (ii) the owner transfers a collateral security interest in the facility, or (iii) the owner sells its interest in the facility to a person or entity that becomes a passive owner of the facility solely for financing purposes, nor shall such transferee or purchaser be subject to the CPCN and the requirements and obligation therein solely by virtue of acquiring and holding such interests. In the event that an entity holding a collateral security interest in the facility or passive ownership for financing purposes acquires ownership or control of the facility so as to divest the owner of its ability to control the construction or operation of the facility, such entity shall be subject to this CPCN and its conditions.

93. Informational copies of the reports required regarding change of ownership, air quality requirements, cultural resources, and traffic, as described in Conditions 57, 58, 68, 69, 71a, 79, 82, 84, 86, and 87 shall be sent to the Power Plant Research Program at the following address:

Director
Power Plant Assessment Division
Department of Natural Resources
Tawes State Office Bldg., B-3
580 Taylor Avenue
Annapolis, Maryland 21401

Staff Conditions

94. Prior to putting any portion of the project in service, UniStar shall file with the Commission a listing of the transmission system improvements required by PJM prior to putting that portion of the project in service and certification that the improvements have been completed.

95. Prior to putting any portion of the project in service, UniStar shall file with the Commission a listing of the interconnection requirements of the interconnecting transmission line owner prior to putting that portion of the project in service and certification that the interconnection requirements have been met.